

International Journal of Research Studies in

Education



2026 Volume 15 Number 19



ISSN: 2243-7703
Online ISSN: 2243-7711

International Journal of Research Studies in Education

Volume 15, Issue Number 19

2026

<http://consortiacademia.org/ijrse/>



Abstracted & Indexed by: CrossRef, Google Scholar, Index Copernicus, NewJour, OALster, OCLC, Open Archives Initiatives, Open J-Gate, Open Journal System, PKP Open Archives Harvester, Ulrichs Database, and WorldCat

Editor-in-Chief

Dr. Porfiria Ferrer, Philippines

Editorial Board Members

Dr. Sheilla Trajera, University of St. La Salle, Philippines

Dr. Teodorico Micua Jr., Colegio de Sta. Teresa de Avila, Philippines

Dr. Fides del Castillo, De La Salle University (NPPE President)

Prof. Cristina Macascas, Philippine Normal University (NPPE Vice- President)

Dr. Muthmainnah, Universitas Al Asyariah, Indonesia (NPPE International and Linkages Coordinator)

Mr. Brent Roi Gutierrez, Batangas State University (NPPE International and Linkages Coordinator)

Dr. Lita A. Bacalla, Cebu Normal University (NPPE National Coordinator – Public Sector)

Dr. Noelah Mae D. Borbon, First Asia Institute of Technology and Humanities (NPPE National Coordinator – Private Sector)

Dr. Irene M. Ycoy, Spring Lake Middle School, North Carolina, USA (NPPE Luzon Coordinator)

Eng. Jennette J. Lozano (NPPE, NCR Coordinator)

Mr. Jonathan James Canete, De La Salle University/ Ateneo de Manila University (NPPE NCR Coordinator)

Dr. Rizalina Truya, Visayas State University (NPPE Visayas Coordinator)

Dr. Radji A. Macatabon, University of Southern Mindanao (NPPE Mindanao Coordinator)

Dr. Norma Menez, Lyceum of the Philippines University (NPPE Board of Adviser)

Dr. Felisa Marbella, Sorsogon State University (NPPE Board of Adviser)

Dr. Cris Zita, First Asia Institute of Technology and Humanities (NPPE Board of Adviser)

Mr. Jefferson Marcelo, University of Makati (NPPE Luzon Coordinator)

Mr. Clarence Darro del Castillo, President, Lumina Foundation

For a complete list of editorial board reviewers, please refer to <http://consortiacademia.org/editor/>

International Journal of Research Studies in Education

2026 Volume 15, Issue Number 19

- From foundation to expansion: A descriptive fifteen-year report on the International Journal of Research Studies in Education 2011-2026
Ching, Gregory S.
- Examining teachers' cognitive attitudes and barriers toward inclusive education implementation in the Philippine setting
Saladaga, Queenie M.; Albarico, Analiza L.; Nabua, Mechelle T.; Cataluña, Janet E.;
Ylanan Mellenie Rose P.; Tenerife- Cañete, Janine Joy; Pinili, Lilibeth C.; Espina, Raymond C.;
Capuno, Reylan G.; Añero, Marjorie, B.; Añora, Honorio C.; Peteros, Emerson D.
- Developing camias–mango cookies through experiential culinary entrepreneurship education: A mixed-methods product-innovation study in Camarines Sur
Riva, Cherry A.
- Organizational happiness of public elementary schools in an indigenous learning community: Its role in determining teacher empowerment
Kidmano, Clinton B.; Vadil, Carlo F.; Agustin, Arnel A.
- Peer tutors' experiences in tutoring and teaching language on learners with special needs
Alpanta, Annie R.
- Lived experiences of ARAL tutors: A narrative literature review on social-emotional learning in learning recovery programs
Alcantara, Mark Raymon
- Proposed enhanced community extension plan of Sta. Teresa College
Alday, Audree; Cruzat, Rita; Marquez, Suzeth
- Antas ng pagkatuto sa asignaturang Filipino ng mga mag-aaral sa Baitang 12: Isang kwantitatibong pananaliksik
De Mesa, Alvin R.; Cinco, Stephen P.

- Academic performance of Grade 10 students in Araling Panlipunan: Pre-test and post-test as a measuring tool
De Mesa, Alvin R.; Superable, Lorica C.

- Language of instruction and content mastery: A quantitative assessment of Grade 10 students in Filipino-mediated Araling Panlipunan classes on Mga Kontemporaryong Isyu
De Mesa, Alvin R.; Añoover, Hazel J.

- Male teachers in home economics education: A systematic review in instructional practices, gender norms, and students' perceptions
Manuel, Vivian V.

- Students' preferences for assessment methods and academic performance in Araling Panlipunan 10: A descriptive-correlational research
De Mesa, Alvin R.; Ramirez, Jonathan Jr. R.

- Evaluation of the Alternative Learning System Senior High School Program in the Schools Division of Candon City, Ilocos Sur, Philippines: Basis for a development plan
Mangay-Ayam, Reynaldo V. Jr.

- Antas ng kakayahang pagbasa at pag-unawa ng mga mag-aaral sa Baitang 10 batay sa PISA Reading Literacy Framework
De Mesa, Alvin R.; Pedotera, Aldrin M.

- Learning Activity Packet: Pagpapaunlad ng kaalaman ng mga mag-aaral sa panitikang Pilipino
De Mesa, Alvin R.; Padiwan, Ray Vincent R.

- Teaching methods and creative motivation among nursing students: Implications for pedagogical competencies in nursing education
Popovska Nalevska, Gorica; Ristevska Dimitrovska, Gordana

- Multigrade teaching strategies and teacher performance in rural elementary schools in the Schools Division of Ilocos Sur
Cabotage, Desiree M.

- Evaluating ChatGPT-4 as an automated essay scoring tool: A comparative study with human raters in Greek upper secondary education
Koskinas, Emmanouil; Dosi, Ifigeneia; Chadjipapa, Elina; Gavriilidou, Zoe

- Tactile learning approach for better cognitive understanding in solving problems with exponents among Grade VI learners
Mendol, Madelyn G.

- Digital leadership practices of secondary school heads in Santa Fe District and its relationship with teachers' digital citizenship skills
Apiado, Allan S.; Naui, Jesusa L.; Agustin, Arnel A.

International Journal of Research Studies in Education

Volume 15, Issue Number 19

2026

International Journal of Research Studies in Education (IJRSE) is sponsored by **Consortia Academia**; a non-profit organization which aims to provide an avenue for novice and experts scholars and researchers to publish and share their work to the academe through an open access environment. Starting 2019, in line of expanding its mission and vision, Consortia Academia partnered with **Network of Professional Researchers and Educators** (NPRE), which is a non-stock, non-profit organization committed to the professional growth of professional researchers and educators in the ASEAN region.

The scope of IJRSE is deliberately broad in terms of both topics covered and disciplinary perspective. IJRSE is an open access international peer reviewed multidisciplinary journal that publishes quality studies related to education. IJRSE is interdisciplinary in approach, and includes but not limited to reports of qualitative case studies, quantitative experiments and surveys, mixed method studies, action researches, meta-analyses, and discussions of conceptual and methodological issues. Topics of interests include but not limited to studies that furthers our understanding of learning in pre-primary, primary, high school, college, university, adult education and to contribute to the improvement of educational processes and outcomes. Furthermore, IJRSE seeks to promote cross-national and international comparative educational research by publishing findings relevant to the scholarly community, as well as to practitioners and others interested in education. Lastly, IJRSE would like to thank all the authors and reviewers who worked hand in hand throughout the entire process of this issue.

Executive Editor
ijr.edu@gmail.com

For inquiries and submissions please email the editor (ijr.edu@gmail.com).

Abstracted & Indexed by:

CrossRef, Google Scholar, Scilit, Index Copernicus, Microsoft Academic Search, NewJour, OAIster, OCLC, Open Archives Initiatives, Open J-Gate, Open Journal System, PKP Open Archives Harvester, Ulrichs Database, and WorldCat

IJRSE website:

<https://consortiacademia.org/ijrse/>

Review guidelines:

<https://consortiacademia.org/review/>

Author submission guidelines:

<https://consortiacademia.org/author/>

From foundation to expansion: A descriptive fifteen-year report on the International Journal of Research Studies in Education 2011-2026

Ching, Gregory S. 
National Chengchi University, Taiwan



ISSN: 2243-7703
Online ISSN: 2243-7711

Received: 15 June 2026
Available Online: 1 August 2026

Revised: 29 July 2026
DOI: 10.5861/ijrse.2026.26188

Accepted: 30 July 2026

OPEN ACCESS

Abstract

The International Journal of Research Studies in Education (IJRSE) has provided a publication venue for educational research since 2011. This editorial report examines the development of the journal from its establishment to its present position using publication, authorship, citation, disciplinary-classification, Sustainable Development Goal, and network data available through July 30, 2026. Two article-level publication exports were merged, resulting in 1,635 unique DOI-identified publications issued between November 2011 and July 2026. Descriptive analyses examined annual publication output, citation visibility, authorship patterns, productive contributors, highly cited publications, Fields of Research (ANZSRC) classifications, Sustainable Development Goal alignment, and citation and co-authorship networks. IJRSE developed through three broad periods: a *foundation and internationalization* period from 2011 to 2019, a *transition and accelerated-growth* period from 2020 to 2023, and a *period of substantial expansion* from 2024 to July 2026. Annual output increased from 10 publications in 2011 to 310 in 2025, while 329 publications had already appeared by July 30, 2026. The complete corpus had accumulated 2,352 citations in the source database, although citations were highly affected by publication age. Education, curriculum and pedagogy, education systems, language and communication, management, psychology, and human society were prominent areas of coverage. Among publications assigned a Sustainable Development Goal, Quality Education was dominant. The findings portray IJRSE as an expanding and increasingly diverse journal, while also identifying priorities involving metadata quality, author-name disambiguation, controlled growth, editorial quality assurance, and continued internationalization.

Keywords: IJRSE, journal development, bibliometric report, educational research, publication growth, VOSviewer, scholarly communication

From foundation to expansion: A descriptive fifteen-year report on the International Journal of Research Studies in Education 2011-2026

1. Introduction

Academic journals are not static publication outlets. Their identities develop over time through the studies they publish, the scholars they engage, the communities they connect, and the educational and social problems to which they respond (Jandrić & Forsler, 2026). A retrospective examination of a journal's publication record can therefore provide more than a numerical summary (Diodato, 1994). It can document the journal's history, identify changes in its scholarly orientation, recognize the contributions of its authors, and clarify priorities for its future development. The International Journal of Research Studies in Education (IJRSE) was established in 2011 as a venue for research addressing education across cultural, disciplinary, institutional, and national contexts. Over its first years, the journal published studies on teaching and learning, language education, higher education, educational administration, student development, curriculum, assessment, and educational change. Its subsequent publication record expanded to include research conducted in a wider range of school systems and educational settings.

1.1 Journal Mission, Scope, and Development

The IJRSE is an international, open-access, peer-reviewed, and multidisciplinary journal that publishes research addressing education across different levels, settings, disciplines, and methodological traditions. The journal welcomes qualitative case studies, quantitative experiments and surveys, mixed-method studies, action research, systematic and scoping reviews, meta-analyses, and scholarly discussions of conceptual, theoretical, methodological, and policy issues (<https://consortiacademia.org/ijrse/>). IJRSE was established not only as a venue for established scholars, but also as an inclusive publication platform for *emerging* researchers. This mission is particularly relevant in contexts where graduate students, early-career academics, classroom teachers, and institutionally based researchers may have limited access to established international publication networks. The journal consequently seeks to combine accessibility and developmental support with expectations concerning originality, ethical integrity, methodological rigor, and educational relevance.

Its scope includes teaching and learning; curriculum and assessment; educational leadership, administration, policy, and governance; teacher education and professional development; educational psychology, guidance, counseling, and student well-being; educational technology, digital learning, and artificial intelligence in education; inclusive, special, Indigenous, and multicultural education; language education, literacy, multilingual education, and language policy; comparative and international education; and educational research methodology and evaluation. Importantly, the journal also recognizes *Filipino* as a language of scholarly knowledge production. It accepts manuscripts written in either English or Filipino, subject to the same standards of academic quality, peer review, originality, and ethical integrity. Filipino-language manuscripts are encouraged to provide English titles, abstracts, and keywords to improve international discoverability and indexing. This policy supports the development of scholarly knowledge in Filipino, while connecting locally grounded research with wider national and international academic communities.

The journal's support for Filipino-language scholarship is consistent with Article XIV, Section 6 of the 1987 Philippine Constitution and Republic Act No. 7104, which encourage the continuing development and scholarly use of Filipino and other Philippine languages. Within this context, IJRSE provides a peer-reviewed and permanently identifiable publication platform through which scholarship written in Filipino can be disseminated beyond its immediate institutional setting.

The journal's development also occurred during a period of substantial change in education and scholarly

communication. Educational institutions experienced expanding internationalization, rapid technological development, intensified attention to quality assurance and student well-being, and, beginning in 2020, the worldwide disruption caused by the COVID-19 pandemic (Stracke et al., 2022). More recently, artificial intelligence, digital learning, sustainability, institutional resilience, and concerns about equitable access have become increasingly prominent (Lund et al., 2023). Journals in education have had to respond not only to changing research topics, but also to increasing submission volumes, evolving publication technologies, and heightened expectations concerning research integrity and peer-review quality (Farber, 2025).

Against this background, the present report documents IJRSE's development from its first publications in 2011 through the publications available on July 30, 2026. The report is primarily descriptive and historical. It does not seek to rank IJRSE against other journals or to claim that citation counts alone represent research quality. Instead, it uses the available publication data to portray how the journal has grown, what areas of knowledge it has represented, which publications and contributors have achieved visibility, and what the available evidence suggests about the journal's future direction.

1.2 Purpose of the Report

The general purpose of this report is to describe the development of IJRSE from its foundation to the present. Specifically, it addresses the following questions:

1. How has IJRSE's annual publication output changed between 2011 and July 2026?
2. What citation patterns are visible in the available publication records?
3. What authorship and collaboration patterns characterize the journal?
4. Which authors and publications have been especially productive or visible?
5. What disciplinary fields and Sustainable Development Goals are represented in the available classification data?
6. What broad stages can be identified in the journal's historical development?
7. What implications do these patterns have for the future editorial development of IJRSE?

2. Data and Methods

2.1 Data sources and coverage

The analysis used two article-level publication exports obtained from the journal's records in the Scilit database (<https://www.scilit.com/>). The two files contained 635 and 1,000 records, respectively. After the files were combined, 1,635 publication records remained. All records contained a (Digital Object Identifier) DOI, and no duplicate DOI was found between the two datasets. The records covered publications dated from November 16, 2011, to July 30, 2026. Variables available in the publication exports included publication title, authors, source title, publisher, volume, open-access designation, citation count, DOI, publication date, and Scilit publication-page link. Abstracts and affiliations were unavailable in the article-level exports, while keywords were present for only a minority of records. The two original publication exports served as the master source for calculating annual output and article-level indicators.

Supplementary files provided aggregated author productivity and citation information from Dimensions.AI (<https://www.dimensions.ai/>), Australian and New Zealand Standard Research Classification 2020 Fields of Research (ANZSRC 2020) assignments, Sustainable Development Goal assignments, and network data generated for visualization. The author-level dataset contained 867 database author profiles. These profiles should not

necessarily be interpreted as 867 fully disambiguated individuals, because the same researcher could appear under different name forms or institutional affiliations.

2.2 Data preparation

The two publication datasets were merged using the DOI as the principal record identifier. Publication years were extracted from the date-published field. Author names separated by line breaks within each record were counted as individual author appearances. Blank entries in the “*Times of Cited*” field were operationally treated as zero citations for the descriptive calculations. This decision reflects the structure of the exported records, in which uncited publications were generally represented by blank citation fields. Citation counts should nevertheless be understood as database-specific and time-dependent. The 2026 figures cover only publications available through *July 30, 2026*. Comparisons between 2026 and complete calendar years should therefore be interpreted carefully. At the same time, the partial-year total provides an important indication of the current scale of the journal’s publication activity.

2.3 Analyses

The following descriptive analyses were conducted:

- number of publications by calendar year and cumulative publication output;
- total citations, mean citations, and the percentage of publications with at least one recorded citation;
- number of authors per publication and the proportions of single-authored and co-authored publications;
- leading publications by citation count and leading authors by publication and citation counts;
- distribution of Fields of Research classifications and Sustainable Development Goal assignments; and
- descriptive examination of researcher citation and co-authorship networks using the supplied VOSviewer exports.

The network figures retain the researcher nodes, links, coordinates, link strengths, and cluster assignments contained in the exported VOSviewer files. VOSviewer is a software environment developed for constructing and visualizing bibliometric networks (Van Eck & Waltman, 2010). Because the exact export thresholds were not documented in the files, the network results are interpreted as descriptions of the supplied thresholded maps rather than of every author appearing in the full journal corpus. Lastly, a supplementary title-term examination was also conducted to identify broad changes in the subjects represented during three periods: 2011-2019, 2020-2022, and 2023-July 2026. Because abstracts and comprehensive author keywords were unavailable, these observations are treated as indicative rather than as a formal science-mapping or thematic-evolution analysis.

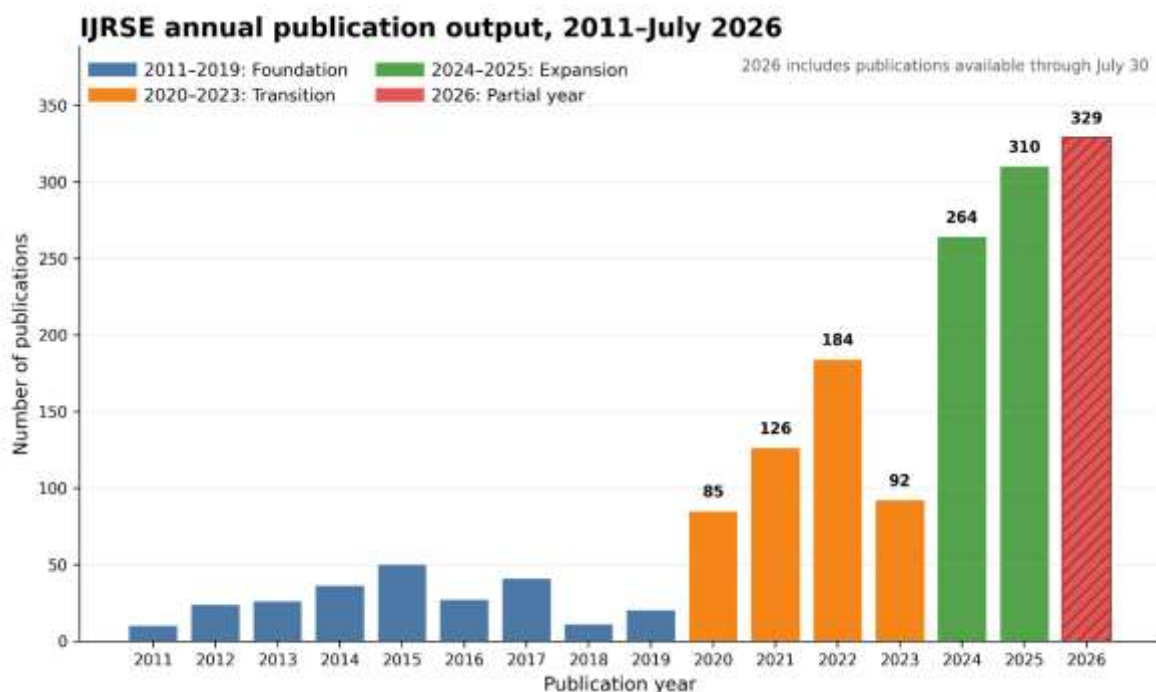
3. Results

3.1 Growth in publication output

A total of 1,635 publications were identified between 2011 and July 2026. Annual output increased considerably across the period, although the growth was not linear. The first nine years, from 2011 to 2019, accounted for 245 publications, or approximately 15.0% of the complete corpus. The seven years beginning in 2020 accounted for 1,390 publications, representing 85.0% of all publications identified in the dataset. The scale of the recent expansion is especially apparent in the period from 2024 to July 2026. These two complete years and one partial year accounted for 903 publications, or 55.2% of all publications issued since the journal began. The 329 publications recorded by July 30, 2026, already exceeded the 310 publications issued during the complete 2025 calendar year.

Table 1*Annual publication output of IJRSE, 2011-July 2026*

Year	Publications
2011	10
2012	24
2013	26
2014	36
2015	50
2016	27
2017	41
2018	11
2019	20
2020	85
2021	126
2022	184
2023	92
2024	264
2025	310
2026 (through July 30)	329
Total	1,635

*Figure 1. IJRSE annual publication output, 2011-July 2026.*

Note. Colors distinguish the three historical phases proposed in the report. The hatched 2026 bar represents publications available only through July 30, 2026.

The annual record suggests three broad developmental periods.

Foundation and internationalization, 2011-2019 - The first period was characterized by modest but generally developing annual output. Publications increased from 10 in 2011 to 50 in 2015, followed by fluctuations from 2016 to 2019. During these years, IJRSE established its international educational orientation and published research from different national and cultural contexts.

Transition and accelerated growth, 2020-2023 - The second period began with a substantial increase to 85 publications in 2020, followed by 126 in 2021 and 184 in 2022. The decrease to 92 publications in 2023 interrupted the upward trend but did not return the journal to its pre-2020 publication scale. The growth during this period coincided with increased educational research activity surrounding online learning, distance education, teaching

during emergencies, school adaptation, educational technology, and the effects of the COVID-19 pandemic.

Large-scale expansion, 2024-July 2026 - The third period was marked by pronounced expansion. Annual output reached 264 publications in 2024 and 310 in 2025. By July 30, 2026, 329 publications had already been recorded. This growth indicates a substantial increase in the journal's capacity and attractiveness as a publication venue. It also introduces significant editorial responsibilities involving peer-review capacity, publication consistency, metadata management, ethical screening, and quality assurance.

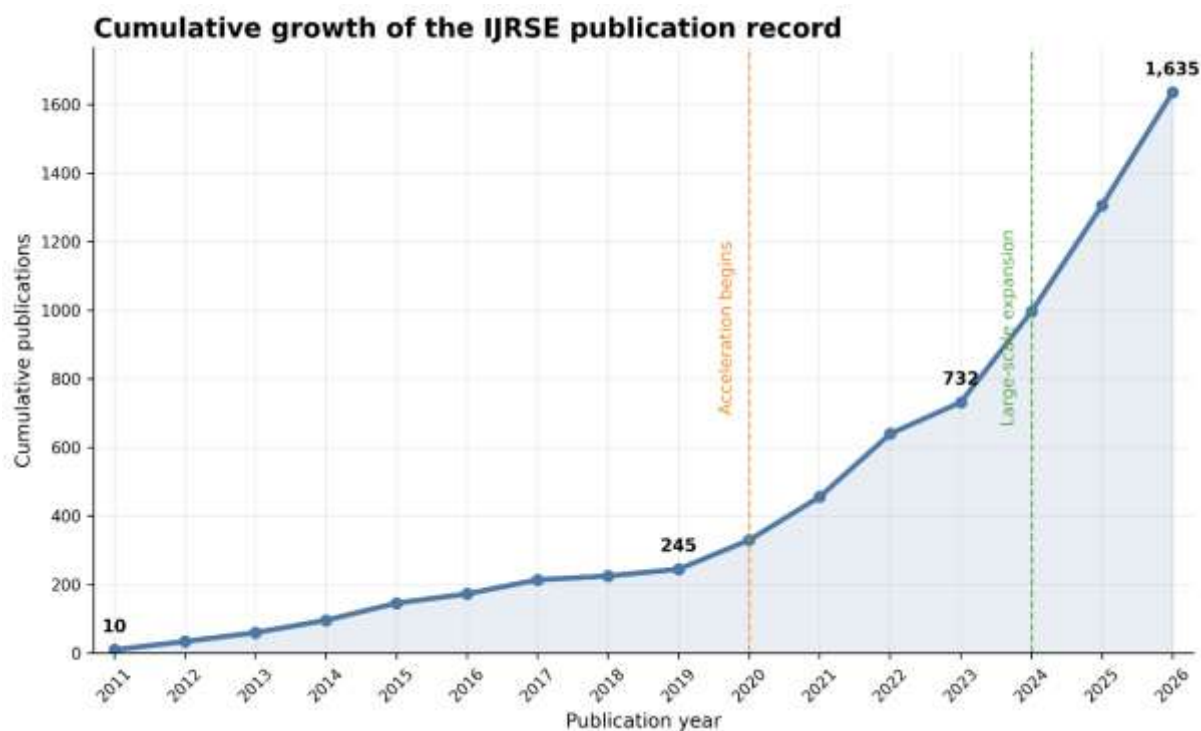


Figure 2. Cumulative growth of the IJRSE publication record.

Note. The cumulative series contains 1,635 DOI-identified publications. Dashed lines indicate the beginning of accelerated growth in 2020 and large-scale expansion in 2024.

3.2 Citation patterns and scholarly visibility

The 1,635 publications had accumulated 2,352 citations in the source records by the data cutoff. When blank citation fields were treated as zero, the corpus had an average of 1.44 citations per publication. A total of 597 publications, or approximately 36.5%, had received at least one recorded citation. These overall figures should not be interpreted without considering publication age. Articles published during the journal's earlier years have had substantially more time to be discovered and cited. In contrast, many publications from 2025 and 2026 had been available for only a few months when the data were collected.

Table 2

Leading IJRSE publications by recorded citation count

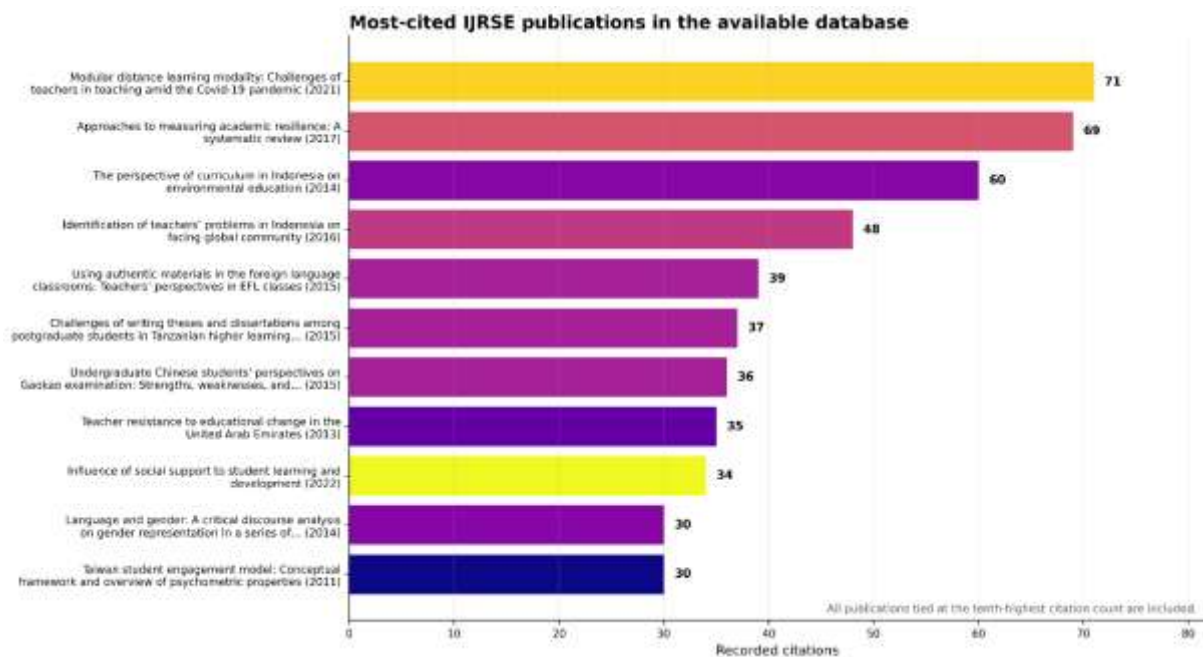
Rank	Year	Publication title	Citations
1	2021	Modular distance learning modality: Challenges of teachers in teaching amid the Covid-19 pandemic	71
2	2017	Approaches to measuring academic resilience: A systematic review	69
3	2014	The perspective of curriculum in Indonesia on environmental education	60
4	2016	Identification of teachers' problems in Indonesia on facing global community	48
5	2015	Using authentic materials in the foreign language classrooms: Teachers' perspectives in EFL classes	39
6	2015	Challenges of writing theses and dissertations among postgraduate students in Tanzanian higher learning institutions	37

Table 2 ...continued

7	2015	Undergraduate Chinese students' perspectives on Gaokao examination: Strengths, weaknesses, and implications	36
8	2013	Teacher resistance to educational change in the United Arab Emirates	35
9	2022	Influence of social support to student learning and development	34
10	2011	Taiwan student engagement model: Conceptual framework and overview of psychometric properties	30
10	2014	Language and gender: A critical discourse analysis on gender representation in a series of international ELT textbooks	30

Note. All publications tied at the tenth-highest citation count are included. Citation counts are specific to the source database and data-collection date.

The highly cited publications represent several recurring areas in the journal: teacher challenges, curriculum, resilience, educational change, language learning, postgraduate education, student support, assessment systems, and responses to educational disruption. The presence of the 2021 modular-distance-learning article at the top of the list also demonstrates the scholarly relevance of research addressing urgent educational conditions.

**Figure 3.** Most-cited IJRSE publications in the available database.

Note. All publications tied at the tenth-highest citation count are included. Citation counts are database- and date-specific and should be interpreted with attention to publication age.

Citation accumulation was concentrated among older publications, as expected. Publications issued between 2011 and 2015 generally had higher average citation counts than those issued after 2022. The low citation rates of recent volumes should, therefore, not be interpreted as evidence of low quality or limited future influence. They primarily reflect the limited period during which these publications have been available.

3.3 Authorship and collaboration

The complete publication corpus contained 3,513 author appearances. The mean number of authors was 2.15 per publication, and the median was two authors. A total of 741 publications, or 45.3%, were single-authored. The remaining 894 publications, or 54.7%, involved two or more authors. These figures suggest that IJRSE has accommodated both individually conducted studies and collaborative research. The author-level data show different forms of contribution. Some researchers were characterized by high publication volume, while others had fewer publications, but comparatively high citation visibility. The database also recorded several contributors with smaller numbers of publications, but high mean citation rates.

Table 3*Leading authors by publication count in the available database*

Author	Publications	Citations
Marbella, F. D.	29	15
Galay-Limos, J. A.	28	4
Vadil, C. F.	24	6
Agustin, A. A.	20	0
Ocampo, I. S.	20	4
Azarias, R. A.	19	20
Ching, G. S.	14	77
Mauhay, R. C. A.	13	2
Moron, B. M.	11	0
Uusiautti, S.	11	70

Note. Author names and counts follow the exported database profiles and have not been completely disambiguated.

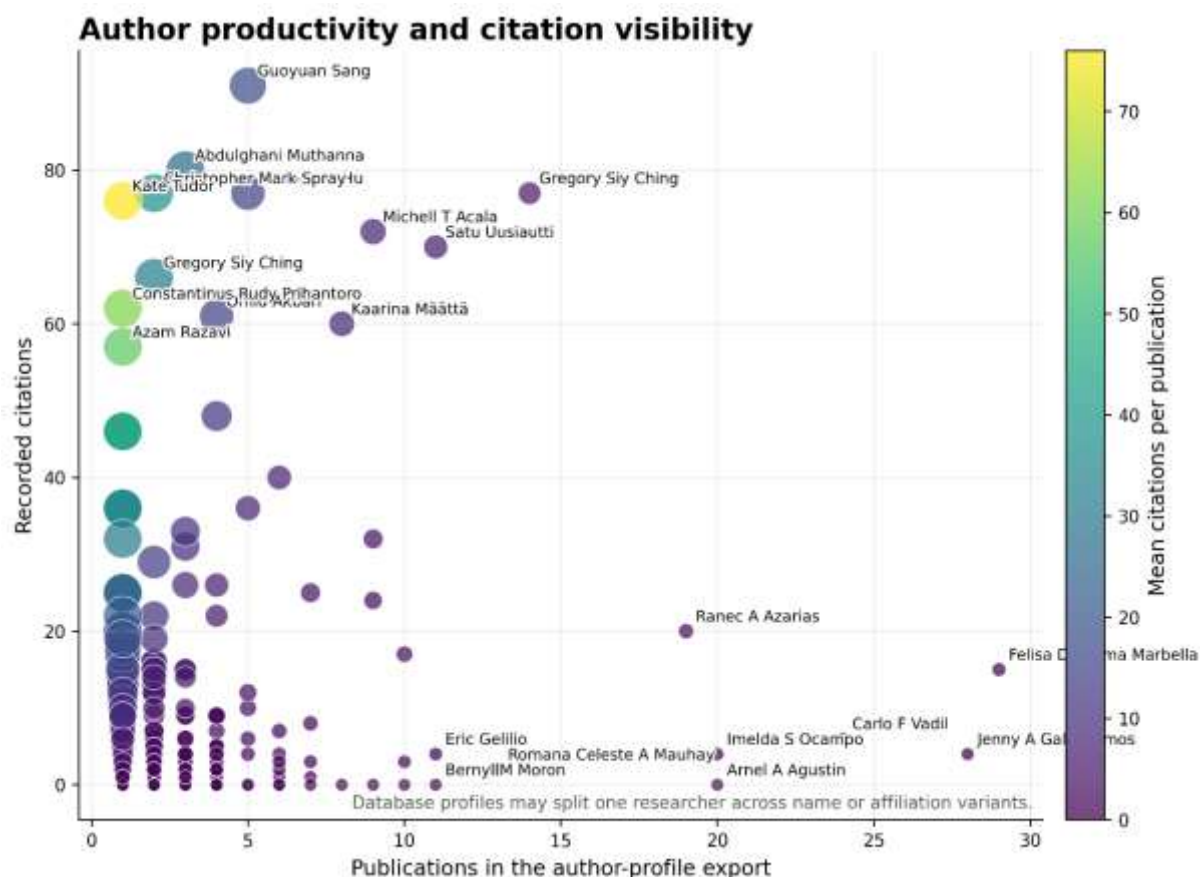


Figure 4. Author productivity and citation visibility.

Note. Each point represents one exported author profile. Point size and shading reflect mean citations per publication. Profiles may contain unresolved name and affiliation variants.

These results must be treated cautiously, because the database occasionally separated the same author into multiple profiles. Changes in *institutional affiliation*, the *use of middle names or initials*, *spelling differences*, and *name-order variations* could cause a single researcher's output to be divided among different entries. Author-name standardization and ORCID integration would improve future analyses.

3.4 Citation and co-authorship networks

Figure 5 presents the researcher citation network generated from the supplied VOSviewer export. The network contained 66 researcher nodes, 128 citation links, and 10 clusters. All displayed researchers belonged to one connected network, although the map showed several visually distinguishable communities. Node size represents

the number of publications associated with a researcher profile, node color represents cluster membership, and line thickness represents the strength of citation relationships.

IJRSE researcher citation network

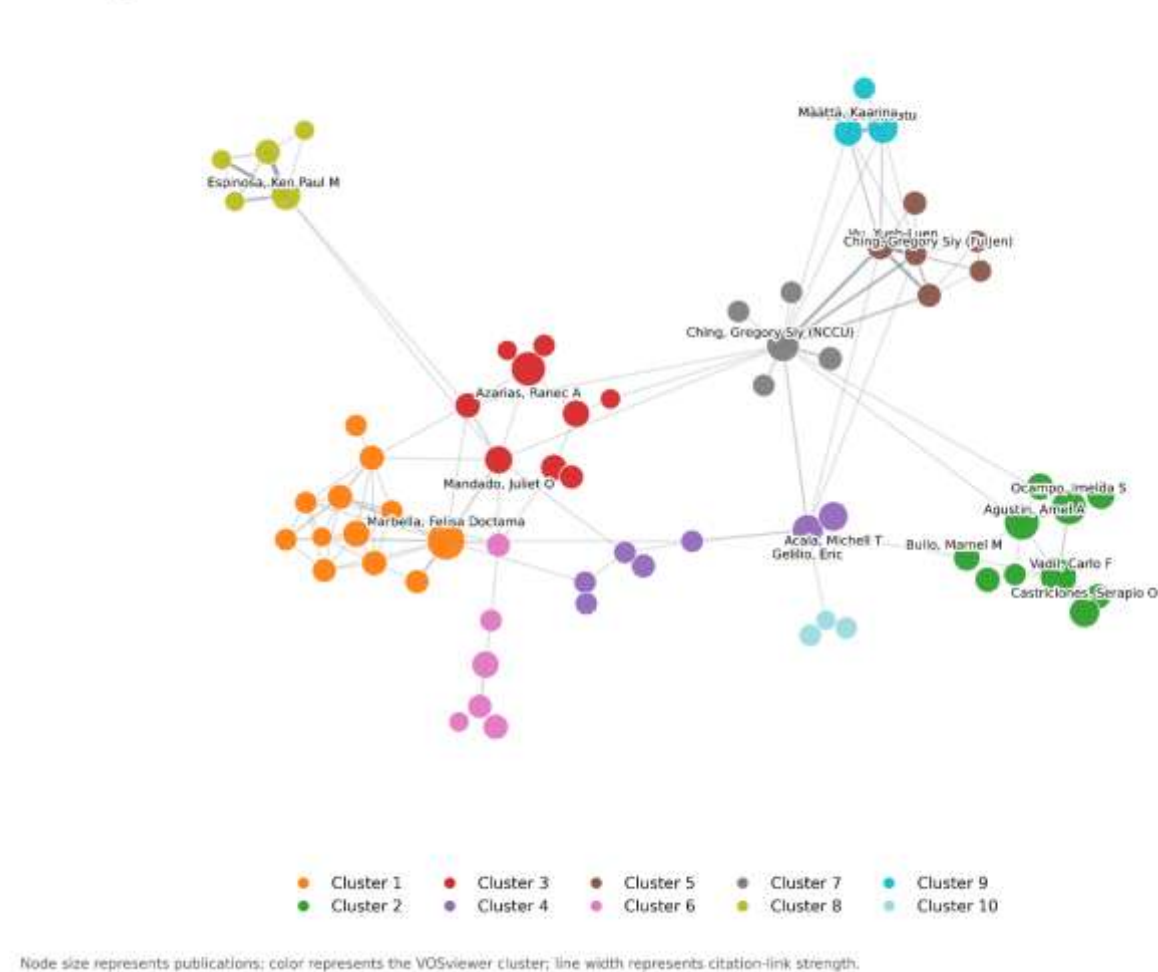


Figure 5. IJRSE researcher citation network.

Note. The supplied VOSviewer export contains 66 researchers, 128 citation links, and 10 clusters. Node size represents publication count; color reproduces the exported cluster assignment; line width represents citation-link strength.

Note that the citation map also reflects different periods in the journal's development. Some clusters contain contributors whose publications appeared mainly during the journal's earlier international-development period, while other clusters contain authors associated with the substantial increase in publications after 2022. The relationships between these groups suggest that IJRSE's current scholarly structure includes both established citation communities and newly developing contributor networks.

Figure 6 presents the researcher co-authorship network. Under the thresholds represented in the supplied VOSviewer export, the map contained 19 researcher nodes, 24 co-authorship links, and five clusters. The network was connected, but it consisted primarily of relatively compact author teams rather than one densely interconnected community. As noted in the figure, *B. M. Moron* occupied a central bridging position in the displayed network, while *D. A. Palmiano*, *J. I. U. Felezmiño*, and several profiles attributed to *M. N. Nolasco* were prominent within collaboration groups. The co-authorship clusters appear to reflect recurring research teams and institutional relationships. One cluster included researchers connected with *Central Bicol State University of Agriculture*, while other clusters represented separate collaborating groups. These patterns suggest that collaboration within the journal is developing through institutionally or project-based teams. Future expansion of cross-institutional and international co-authorship could strengthen exchanges among these currently distinguishable communities.

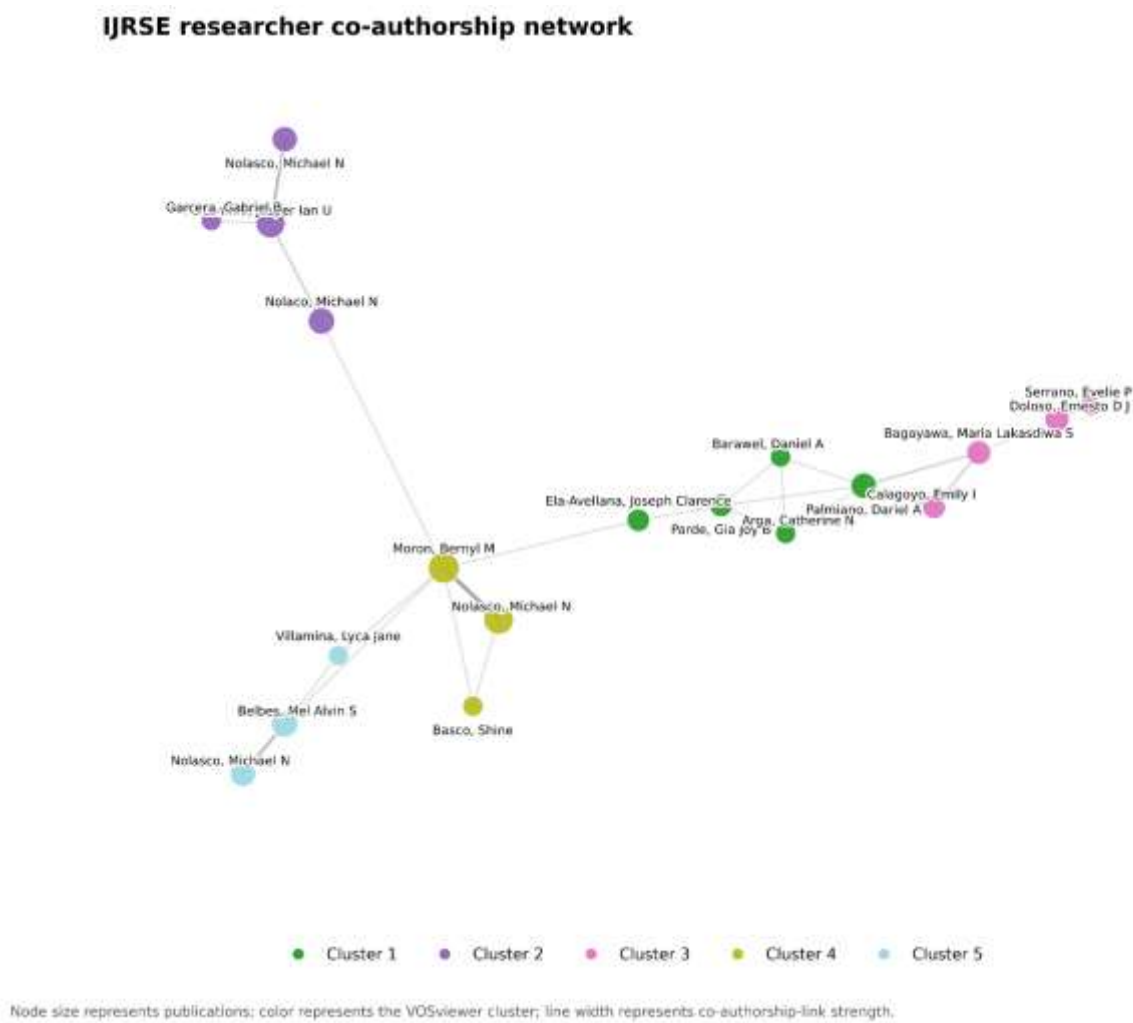


Figure 6. IJRSE researcher co-authorship network.

Note. The supplied VOSviewer export contains 19 researchers, 24 co-authorship links, and five clusters. Node size represents publication count; color reproduces the exported cluster assignment; line width represents co-authorship-link strength.

3.5 *Disciplinary scope*

The Fields of Research classifications demonstrate that IJRSE is centered on education but also extends into language, management, psychology, society, religion, health, the creative arts, information sciences, environmental studies, and other areas. The dominance of Education, Curriculum and Pedagogy, and Education Systems is consistent with the journal's title and purpose. At the same time, the substantial representation of language and communication reflects the journal's history of publishing studies of English-language learning, multilingual education, Filipino-language education, discourse, literacy, and classroom communication.

Management and organizational-behavior classifications indicate that the journal has also become a venue for studies of educational administration, leadership, human-resource practices, institutional performance, and organizational conditions. Psychology, human society, philosophy, and religious studies further demonstrate the journal's openness to educational research involving well-being, values, identity, culture, social relationships, and human development. Note that these classification counts should not be added together to estimate the number of unique articles because individual publications can receive more than one classification. They indicate the breadth of fields associated with the classified publications rather than mutually exclusive categories.

Table 4
Leading Fields of Research classifications represented in IJRSE

Field of Research	Code	Publications	Citations
Education	39	427	629
Curriculum and Pedagogy	3901	287	377
Education Systems	3903	186	268
Language, Communication and Culture	47	112	222
Commerce, Management, Tourism and Services	35	105	50
Human Society	44	77	118
Education Policy, Sociology and Philosophy	3902	77	81
Linguistics	4704	74	170
Language Studies	4703	70	167
Strategy, Management and Organisational Behavior	3507	62	37
Philosophy and Religious Studies	50	44	58
Psychology	52	37	90

Note. ANZSRC classifications can overlap; counts are assignments rather than mutually exclusive publication groups.

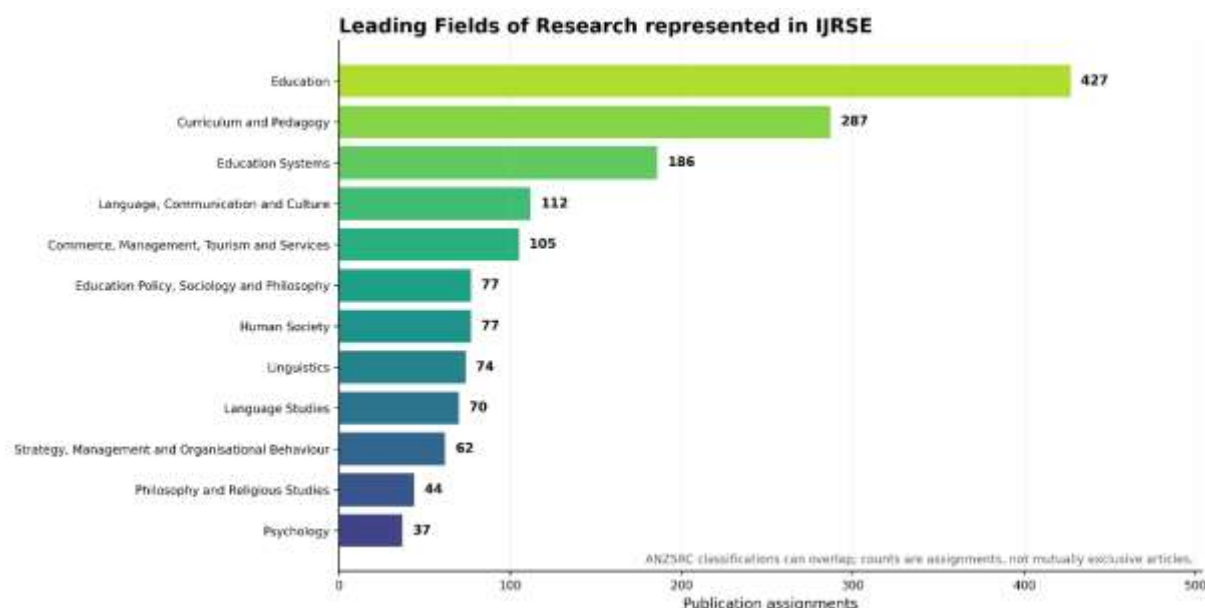


Figure 7. Leading Fields of Research represented in IJRSE.

Note. The figure reports ANZSRC 2020 classification assignments. Categories may overlap and should not be interpreted as mutually exclusive publication groups.

3.6 Sustainable Development Goal alignment

The available SDG classification data contained 192 publication assignments distributed across 15 Sustainable Development Goals. Quality Education was by far the most prominent category, accounting for 132 assignments, or 68.8% of all SDG assignments in the dataset.

Table 5
Sustainable Development Goal classifications represented in the available data

Sustainable Development Goal	Publications	Citations
4 Quality Education	132	200
3 Good Health and Well Being	22	16
2 Zero Hunger	5	0
8 Decent Work and Economic Growth	5	9
11 Sustainable Cities and Communities	5	10
5 Gender Equality	4	39
12 Responsible Consumption and Production	4	20
16 Peace, Justice and Strong Institutions	4	0
13 Climate Action	3	0

Table 5 ... continued

9 Industry, Innovation and Infrastructure	2	20
15 Life on Land	2	0
6 Clean Water and Sanitation	1	0
10 Reduced Inequalities	1	0
14 Life Below Water	1	0
17 Partnerships for the Goals	1	0

Note. Only publications assigned an SDG classification by the source database are represented.

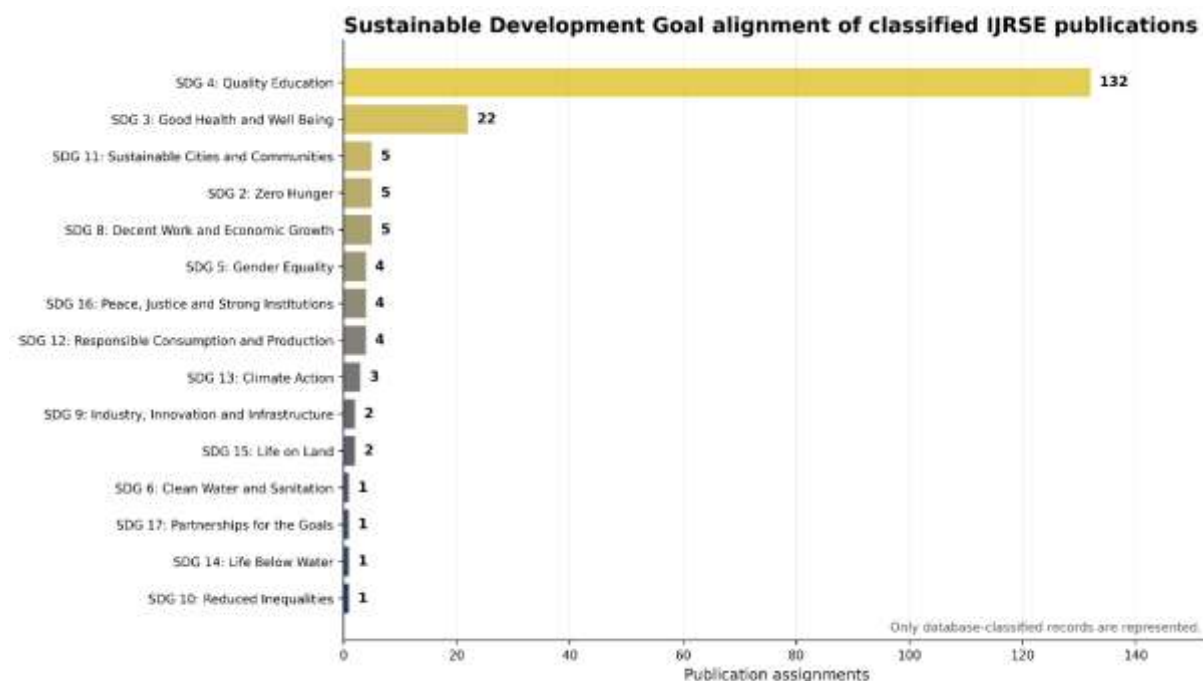


Figure 8. Sustainable Development Goal alignment of classified IJRSE publications.

Note. Only publications assigned an SDG classification by the source database are included.

The prominence of Quality Education is expected, but the representation of health and well-being, gender equality, decent work, sustainability, community development, and institutional integrity demonstrates the wider social relevance of the journal's publications. The comparatively high citation averages recorded for some SDGs with only a few publications, such as Gender Equality or Industry, Innovation and Infrastructure, should be interpreted cautiously. A single highly cited publication can substantially affect the mean when the category contains only a small number of records.

3.7 Changes in research emphasis

2011-2019: Foundation period - During the foundation period, recurring title terms included English as a foreign language, academic achievement, mathematics, higher education, classroom instruction, curriculum, and critical thinking. These patterns reflect the journal's early international orientation and its strong engagement with language learning, classroom studies, curriculum, and student achievement.

2020-2022: Educational disruption and adaptation - Titles increasingly referred to online learning, modular distance learning, the COVID-19 pandemic, the "new normal," senior high school, Filipino-language education, teacher challenges, and the implementation of emergency educational arrangements. This period demonstrates the journal's capacity to provide an outlet for research responding to immediate disruptions in educational systems.

2023-July 2026: Expansion and contextual diversification - There was continued attention to classroom and student concerns, accompanied by growth in studies of management, organizational practices, public school districts, Chinese colleges and universities, institutional performance, professional skills, leadership strategies, and

locally situated educational programs. Filipino-language titles also became increasingly visible. These patterns should not be interpreted as a complete thematic map because the analysis was limited to titles. Nevertheless, they show a movement from a relatively concentrated early portfolio toward a larger and more contextually diverse body of educational, organizational, cultural, and interdisciplinary research.

4. Discussion

4.1 From a small international journal to a large publication platform

The most visible finding is the scale of IJRSE's growth. The journal began with 10 publications in 2011 and maintained a relatively modest publication volume during much of its first decade. Beginning in 2020, its output increased rapidly. By July 2026, the journal had published more than six times as many articles in approximately seven months as it had published during the complete 2015 calendar year. This growth can be interpreted as evidence of expanding recognition, increased submission demand, and the development of publication communities that regard IJRSE as an accessible outlet for educational research. The journal has become particularly visible among researchers working in schools, colleges, universities, and educational organizations in Asian contexts, while continuing to include contributors from other regions. *Growth*, however, is not an end in itself. The editorial challenge is to ensure that increased volume is accompanied by dependable peer review, clear methodological expectations, ethical research practices, transparent editorial decisions, and accurate publication metadata. The journal's future reputation will depend not only on how much it publishes but also on how consistently it protects the credibility of its scholarly record.

4.2 Expanding Participation in Research Publication

The increase in IJRSE publications, particularly after 2020, should be interpreted in relation to changes in the wider educational and research environment. Philippine higher education institutions have placed increasing emphasis on research production, dissemination, and publication among faculty members and graduate students. Graduate-program expectations, faculty evaluation systems, institutional research targets, accreditation processes, and professional advancement requirements have contributed to growing demand for credible publication venues. This environment has increased the number of novice and emerging scholars seeking opportunities to communicate their research. Many of these authors possess valuable locally grounded evidence, but may have limited prior experience with international journal submission, academic writing conventions, peer-review responses, publication ethics, and manuscript revision. IJRSE has sought to respond to this need by providing an inclusive scholarly platform, while maintaining peer-review and editorial requirements. Its role is not to guarantee publication to inexperienced authors, but to provide an opportunity for suitable manuscripts to undergo scholarly evaluation and constructive development. Editorial guidance and reviewer feedback can help authors improve the clarity, organization, methodology, interpretation, and presentation of their work. The journal's recent expansion may therefore reflect both increased publication demand and a widening community of researchers seeking international scholarly participation. Nevertheless, support for novice scholars must not be understood as a *relaxation of academic standards*. Inclusiveness is sustainable only when it is accompanied by ethical screening, meaningful peer review, methodological scrutiny, responsible revision, and transparent editorial decision-making. The rapid increase in publication volume also creates an important institutional challenge for IJRSE. As the number of submissions and publications grows, the journal must ensure that its editorial capacity, reviewer pool, quality-control procedures, and publication infrastructure expand accordingly. Future development should therefore balance accessibility and author support with selectivity, quality assurance, and protection of the journal's scholarly credibility.

4.3 Artificial Intelligence, Disclosure, and Scholarly Responsibility

The widespread availability of generative artificial intelligence has changed how researchers prepare

manuscripts. AI-assisted technologies are now commonly used for language editing, translation, idea organization, summarization, coding assistance, literature searching, and the preparation of tables and figures. In multilingual academic settings, the use of such tools for improving written English is becoming increasingly common and may be difficult to separate from ordinary digital writing support. IJRSE does not treat all uses of AI as inherently unacceptable. The journal recognizes that responsible AI assistance may support language accessibility and manuscript preparation. However, the increasing ubiquity of these technologies makes transparency more important rather than less important. Authors are therefore required to declare whether AI or AI-assisted technologies were used and, when applicable, to identify the tool, its purpose, the stage at which it was used, and the extent to which its outputs were checked and revised.

Disclosure does not remove author responsibility. Human authors remain accountable for the originality, factual accuracy, reference integrity, methodological validity, interpretation, and ethical compliance of everything submitted under their names. AI tools cannot be listed as authors because they cannot approve a manuscript, accept accountability, disclose conflicts of interest, or enter into publication agreements. This policy is particularly relevant for a journal that supports novice and multilingual scholars. Responsible assistance should help authors communicate genuine scholarship more clearly; it should not replace intellectual contribution, fabricate references, conceal plagiarism, generate unverified findings, or misrepresent the authors' actual research activities. The journal's approach therefore combines recognition and accountability. It acknowledges that AI-assisted writing and language support are becoming widespread, while maintaining that responsible scholars must disclose material use, verify all outputs, and accept complete responsibility for the final manuscript. This position seeks to preserve trust without adopting an unrealistic assumption that contemporary scholarly writing occurs without technological assistance.

4.4 Responsiveness to changing educational conditions

The publication history indicates that IJRSE has responded to changes in educational practice. Earlier volumes emphasized enduring concerns involving language learning, classroom instruction, academic achievement, curriculum, student engagement, teacher development, and educational systems. The rapid appearance of publications on distance learning, the COVID-19 pandemic, modular instruction, and the new normal from 2020 onward demonstrates the journal's responsiveness to urgent educational circumstances. More recent publications show widening interest in organizational management, school leadership, institutional functioning, well-being, sustainability, multilingual education, and technological change. This responsiveness is a significant strength. Educational research is valuable not only when it contributes to theory but also when it documents how students, educators, and institutions experience and respond to changing conditions.

4.5 Internationalization and contextual diversity

The journal's publication record contains studies from numerous educational settings and cultural contexts. The early highly cited articles include research addressing Indonesia, Iran, Tanzania, China, the United Arab Emirates, Taiwan, and other settings. More recent years show particularly strong participation from Philippine educational institutions and growing contributions concerning Chinese colleges and universities. This contextual diversity can contribute to a more inclusive international literature by providing evidence from institutions and educational systems that may be underrepresented in highly selective mainstream journals. At the same time, internationalization should not be measured only by the number of countries represented. It also involves the diversity of editorial-board participation, peer reviewers, theoretical perspectives, research methods, and international scholarly conversations in which the published work participates.

4.6 Citation impact and the importance of time

The citation analysis shows that IJRSE has produced publications with sustained scholarly visibility. Articles concerning academic resilience, environmental education, educational change, EFL teaching, postgraduate

research, student engagement, and pandemic-related distance learning have been cited by later researchers. However, citation performance is uneven and strongly associated with publication age. The journal's rapid recent expansion means that a large proportion of the complete corpus consists of articles too new to have accumulated many citations. Therefore, the current overall mean should not be used as a final judgment of the influence of the recent volumes. Future evaluations could calculate citations per year, compare articles within publication-year cohorts, and examine citations after fixed windows such as two, three, or five years. These indicators would provide fairer comparisons between older and newer publications.

4.7 The journal's interdisciplinary identity

The Fields of Research results indicate that IJRSE remains anchored in education while extending into other fields. Curriculum, pedagogy, educational systems, language, communication, management, psychology, sociology, religion, health, and the creative arts all appear in the classification record. This breadth is consistent with the complexity of education. Educational problems rarely belong to only one academic discipline. Research on student well-being draws on psychology and health sciences; leadership studies connect education with organizational behavior and policy; language education draws on linguistics and communication; and sustainability education intersects with environmental and social sciences. The journal may therefore be understood not simply as a general education journal but as a platform for interdisciplinary studies that retain a meaningful educational connection. Maintaining that connection is important as the journal's scope expands.

4.8 Collaboration as an emerging institutional structure

The two VOSviewer maps add a relational dimension to the journal's history. The citation network suggests that earlier internationally visible contributors and more recent high-volume contributor groups are connected within one broad structure, although their positions remain clustered. The co-authorship map, by contrast, shows collaboration developing mainly through compact teams and institutional groupings. These patterns imply that IJRSE has already developed recognizable scholarly communities, but has opportunities to deepen relationships among them. The journal could encourage cross-institutional special issues, international co-authored research, methodological collaborations, and thematic collections that bring together authors from currently separate clusters. Such initiatives could broaden the journal's research conversations without requiring collaboration merely for its own sake.

4.9 Implications for the Future Development of IJRSE

Preserve a clear educational identity. Manuscripts from management, psychology, language, technology, health, religion, or social sciences should articulate their contribution to education, learning, teaching, institutional development, or educational policy.

Strengthen metadata quality. Complete author affiliations, ORCID identifiers, abstracts, keywords, funding information, and consistent name formats are essential for indexing, discoverability, bibliometric analysis, and appropriate attribution.

Improve author disambiguation. The current records contain name variants and profiles separated by institutional affiliation. Encouraging or requiring ORCID identifiers would help prevent the division of a researcher's publication record across multiple database profiles.

Support discoverability responsibly. High-quality English abstracts, informative titles, appropriate keywords, accurate references, stable DOIs, responsible online dissemination, and indexing in relevant databases can help publications reach their intended audiences without treating citations as an end in themselves.

Continue strengthening the peer-review community. Rapid publication growth requires a sufficiently large and diverse reviewer pool. Reviewer expertise should correspond to the disciplines, methods, languages, and

national contexts represented in submissions.

Monitor growth and quality together. Publication volume should remain aligned with editorial capacity. Turnaround time, reviewer availability, correction rates, withdrawals, geographic diversity, article quality, and reader engagement should be monitored alongside the number of publications.

Use the journal's network structure strategically. Citation and co-authorship clusters can help identify established communities, emerging contributors, and opportunities for cross-institutional dialogue, special issues, reviewer recruitment, and international collaboration.

4.10 Limitations

1. The article-level records did not contain complete abstracts, affiliations, or keywords. Consequently, the report could not conduct a comprehensive keyword co-occurrence analysis, institutional productivity analysis, country-level analysis, or abstract-based thematic evolution study.

2. Citation counts were obtained from one database and represent a specific data-collection date. Counts may differ across Scilit, Crossref, Google Scholar, Dimensions, Scopus, Web of Science, and other sources.

3. Blank citation fields were treated as zero. Although this is consistent with the apparent structure of the export, future analyses should confirm this convention directly with the database provider.

4. The year 2026 is incomplete. Its publication total should not be interpreted as directly comparable to complete years when calculating annual growth rates.

5. The author data contain duplicate or variant profiles. Counts associated with individual researchers may consequently be underestimated or divided across more than one profile.

6. Fields of Research and Sustainable Development Goal classifications were available only for database-classified publications. The categories can overlap, and their totals should not be interpreted as counts of mutually exclusive articles.

7. The title-term examination was descriptive and was not equivalent to formal topic modelling, co-word analysis, or thematic-evolution analysis.

8. The exact inclusion thresholds used when the VOSviewer maps were exported were not documented in the supplied files. The network results therefore describe the supplied thresholded maps rather than the entire population of authors and relationships in the full publication corpus.

9. The author of this report serves in a member of the editorial team in IJRSE. This position provides knowledge of the journal's development, but also creates the possibility of favorable interpretation. The report therefore emphasizes transparent descriptive results and avoids using publication volume or citation counts as direct measures of research quality.

5. Conclusion

The publication record of the IJRSE documents a substantial transformation from a small journal founded in 2011 to a large and diverse publication platform in 2026. Across its first fifteen years, IJRSE published 1,635 DOI-identified articles covering teaching, learning, curriculum, language, educational systems, administration, leadership, psychology, student development, institutional management, sustainability, and related fields. The journal's history can be understood through three stages: foundation and internationalization from 2011 to 2019, transition and accelerated growth from 2020 to 2023, and large-scale expansion from 2024 to July 2026. Its publications have addressed both enduring educational concerns and urgent developments, including pandemic-related distance learning, student resilience, educational change, well-being, organizational development, and

emerging technological and social challenges. The available evidence demonstrates growth, contextual diversity, an expanding scholarly community, and several developing citation and collaboration clusters. It also emphasizes the responsibility accompanying that growth. The future of IJRSE will depend on its capacity to combine openness and accessibility with methodological rigor, ethical publication practices, effective peer review, accurate metadata, and a clear educational mission. The journal's first fifteen years represent not only a record of publications but also a record of the educators, researchers, institutions, and communities whose work has contributed to understanding and improving education. The next stage should build upon this foundation by strengthening quality, international engagement, research visibility, responsible collaboration, and the journal's contribution to educational knowledge.

Data Availability Statement - The analyses were based on publication, author, citation, disciplinary-classification, Sustainable Development Goal, and VOSviewer network files exported in July 2026. The article-level data contained DOI and publication metadata for IJRSE publications issued from November 2011 through July 30, 2026.

Editorial Positionality and Conflict of Interest - The author serves as a member of the editorial team of the International Journal of Research Studies in Education and has also published articles in the journal. This position provided access to and familiarity with the journal's history, policies, and editorial development, but may also create the possibility of favorable interpretation. The author's publication and citation records were retained in the analysis, because they formed part of the complete database export. Removing them solely because of the author's editorial role would have altered the underlying dataset. All results concerning the author are therefore reported descriptively and are not presented as an independent assessment of scholarly quality, editorial performance, or personal influence. To improve transparency, the report distinguishes database-derived findings from editorial interpretation, acknowledges limitations in the available records, and avoids treating publication volume, network position, or citation counts as direct measures of research quality.

Declaration of AI and AI-Assisted Technology Use - During the preparation of this manuscript, the author used ChatGPT, developed by OpenAI, to assist with grammar and language checking and to generate the visual charts based on the data provided by the author. The author independently reviewed and verified the data, numerical results, figures, interpretations, and revised text. The author accepts full responsibility for the accuracy, originality, integrity, and final content of the manuscript.

6. References

- Diodato, V. (1994). *Dictionary of bibliometrics*. Routledge.
- Farber, S. (2025). Comparing human and AI expertise in the academic peer review process: Towards a hybrid approach. *Higher Education Research & Development*, 44(4), 871-885. <https://doi.org/10.1080/07294360.2024.2445575>
- Jandrić, P., & Forsler, I. (2026). Knowledge and writing: Tinkering with the scholarly article. *Postdigital Science and Education*, Advance online publication. <https://doi.org/10.1007/s42438-026-00652-6>
- Lund, B. D., Wang, T., Mannuru, N. R., Nie, B., Shimray, S., & Wang, Z. (2023). ChatGPT and a new academic reality: Artificial Intelligence-written research papers and the ethics of the large language models in scholarly publishing. *Journal of the Association for Information Science and Technology*, 74(5), 570-581. <https://doi.org/10.1002/asi.24750>
- Stracke, C. M., Burgos, D., Santos-Hermosa, G., Bozkurt, A., Sharma, R. C., Swiatek Cassafieres, C., dos Santos, A. I., Mason, J., Ossiannilsson, E., Shon, J. G., et al. (2022). Responding to the initial challenge of the COVID-19 pandemic: Analysis of international responses and impact in school and higher education. *Sustainability*, 14(3), 1876. <https://doi.org/10.3390/su14031876>
- Van Eck, N. J., & Waltman, L. (2010). Software survey: VOSviewer, a computer program for bibliometric mapping. *Scientometrics*, 84(2), 523-538. <https://doi.org/10.1007/s11192-009-0146-3>

Examining teachers' cognitive attitudes and barriers toward inclusive education implementation in the Philippine setting

Saladaga, Queenie M. ✉

Cebu Technological University-Main Campus, Philippines (queeniesaladaga.102486@gmail.com)

Albarico, Analiza L.; Nabua, Mechelle T.; Cataluña, Janet E.;

Ylanan, Mellenie Rose P.; Tenerife-Cañete, Janine Joy;

Pinili, Lilibeth C.; Espina, Raymond C.; Capuno, Reylan G.;

Añero, Marjorie B.; Añora, Honorio C.; Peteros, Emerson D.



ISSN: 2243-7703
Online ISSN: 2243-7711

OPEN ACCESS

Received: 16 July 2026

Revised: 31 July 2026

Accepted: 1 August 2026

Available Online: 2 August 2026

DOI: 10.5861/ijrse.2026.26367

Abstract

This study examined the influence of cognitive attitudes and the concurrent challenges encountered by teachers in handling inclusive education classrooms at Tabunan National High School, Tabunan, Borbon, Cebu Province during the school year 2025–2026. A descriptive correlational research design was utilized, employing an adapted questionnaire as the primary data collection instrument, with forty (40) teachers participating as respondents. Statistical tools, including weighted mean, simple percentage, and Pearson product-moment correlation coefficient, were applied. The overall mean indicated that respondents held positive cognitive attitudes toward handling inclusive education classrooms. The overall weighted means for barriers related to students' self-efficacy, self-help skills, social skills, and academic skills were all interpreted as moderate, resulting in a grand mean also classified as moderate. The findings indicated that there was no significant relationship between teachers' cognitive attitudes and the concurrent challenges they faced, as the null hypothesis could not be rejected. Based on these results, the development and implementation of a training workshop program is recommended.

Keywords: special education, inclusive classroom, cognitive attitude, concurrent struggles, descriptive method, Borbon, Cebu

Examining teachers' cognitive attitudes and barriers toward inclusive education implementation in the Philippine setting

1. Introduction

Inclusive classrooms are essential for educational equity, providing all students regardless of ability or background with meaningful learning opportunities. However, while teachers' positive attitudes toward inclusion are important, research shows that practical barriers such as limited training, scarce resources, and insufficient institutional support often persist and impede effective inclusive practices (Singh, 2023). The success of inclusive education depends not only on teachers' attitudes but also on their readiness to address specific student needs. Key areas such as self-efficacy, self-help skills, social skills, and academic skills demand advanced teaching strategies and adaptability, yet many teachers feel unprepared due to inadequate training and support (Vantieghem et al., 2023; Palei, 2024). Teachers also cite difficulties in promoting peer acceptance, minimizing bullying, developing individualized learning plans, and managing large class sizes, often without adequate administrative support (Dewi, 2024; Jardinez & Natividad, 2024). While collaborative teaching and professional development are proposed solutions, their implementation is inconsistent (Monteiro & Ikegami, 2023; Poly & Harishma, 2023).

Despite extensive literature on inclusive education, little research examines the specific challenges Filipino teachers face, especially in local contexts such as the Borbon District. There is limited evidence on how teachers in these settings develop self-efficacy and address barriers to inclusion. The interaction between these challenges and limitations in professional development and technical support remains underexplored, and few studies translate findings into practical solutions for local needs. This study aims to provide actionable insights into the barriers and needs of teachers in Borbon, Cebu, to inform effective and evidence-based intervention programs. The results have important implications for teachers, policymakers, and stakeholders in inclusive education. Thus, the study examined the influence of cognitive attitudes and the concurrent challenges in terms of students' self-efficacy, self-help skills, students' social skills, and academic skills faced by teachers in handling inclusive education classrooms at Tabunan National High School, Tabunan, Borbon, Cebu Province during the school year 2025–2026. The findings will guide the development of a targeted intervention and training program, directly addressing the practical barriers faced by teachers in this context.

Overall, the study addresses a literature gap concerning the relationship between teachers' cognitive attitudes toward inclusive education and the actual classroom barriers they experience. Previous studies have commonly examined teachers' attitudes, readiness, competencies, or challenges as separate concerns. However, fewer studies have investigated whether teachers' positive or negative cognitive attitudes are significantly associated with the practical difficulties they encounter in supporting students' self-efficacy, self-help skills, social skills, and academic skills. The novelty of the present study lies in examining these two dimensions concurrently. Rather than assuming that positive attitudes automatically lead to fewer classroom difficulties, the study empirically tested the relationship between teachers' cognitive attitudes and the barriers they experienced. The findings showed that teachers generally held positive attitudes toward inclusive education, but these attitudes were not significantly related to the level of practical barriers they encountered. This finding is important, because it demonstrates that teachers' philosophical support for inclusion does not necessarily reduce the operational challenges of inclusive teaching. Even teachers who believe strongly in the rights and benefits of inclusive education may continue to experience difficulties when adequate training, resources, specialist support, and appropriate classroom structures are unavailable.

The study also contributes context-specific evidence from Tabunan National High School in Borbon, Cebu. Research on inclusive education in the Philippines has often focused on broader regional or national conditions, while evidence from smaller public-school settings remains limited. The study therefore provides locally grounded information that may be used to develop a targeted teacher-training and intervention program responsive to the

actual needs of the participating school.

2. Methods

A descriptive-correlational research design was utilized to determine the influence of cognitive attitudes and the concurrent difficulties experienced by teachers in handling inclusive education classrooms at Tabunan National High School, Tabunan, Borbon, Cebu, during the 2025–2026 academic year. Tabunan National High School has been progressively implementing inclusive education in response to national mandates and the increasing recognition of the need to support all learners, including those with disabilities and diverse learning needs. The study population comprised 40 High School teachers at Tabunan National High School, selected through purposive sampling. Data were collected using a research-based questionnaire adapted from Mabanag et al. (2024) and Legrain et al. (2024). The instrument assessed the respondents' cognitive attitudes toward managing inclusive education settings, utilizing a five-point Likert scale comprising ten statements. It also measured the concurrent difficulties encountered by respondents in handling inclusive education settings, using a five-point Likert scale with ten statements for each sub-variable. Statistical analysis incorporated both descriptive and quantitative methods. The study utilized statistical tools including weighted mean, simple percentage, and Pearson product-moment correlation coefficient r in examining significant relationships and analyzing the data.

The teacher participants were informed about the purpose of the study, the nature of their participation, the procedures involved, and the intended use of the collected data. Participation was voluntary. The participants were informed that they could decline to participate or withdraw from the study without penalty or negative consequences. Informed consent was obtained from each participant before the questionnaire was administered. The participants were also assured that their responses would be treated confidentially. No personally identifying information was included in the analysis or presentation of the findings. The collected data were used solely for research purposes and were reported only in aggregate form.

Also prior to data collection, permission was obtained from the school administration and relevant educational authorities. The participants were informed about the purpose, procedures, voluntary nature, possible benefits, and confidentiality provisions of the study. Informed consent was obtained from each participant before the administration of the questionnaire. Participants were informed that they could decline participation or withdraw at any time without penalty. No personally identifying information was collected or reported, and all responses were analyzed and presented in aggregate form.

3. Results and Discussion

This section presents the gathered data on the respondents' level of cognitive attitudes and the level of concurrent barriers faced by the respondents in handling inclusive education classrooms.

Table 1 presents the teacher respondents' level of cognitive attitudes in handling inclusive education classrooms. The data indicates an overall positive cognitive attitude among respondents toward managing inclusive education classrooms, as demonstrated by an aggregate weighted mean of 3.41. High ratings were consistently recorded for fundamental human rights and social-developmental benefits, including the belief that students with special educational needs (SEN) have a right to learn in regular classrooms and that inclusion promotes independence and acceptance of diversity among peers, with a weighted mean of 3.53. Nevertheless, this philosophical support is counterbalanced by pragmatic skepticism. Respondents strongly agreed that inclusion necessitates extensive organizational and pedagogical changes and expressed doubts regarding its practical implementation, while remaining neutral on whether SEN students' complicate classroom management (weighted mean of 3.13) or increase teacher workload (weighted mean of 3.23).

These findings have significant operational implications for educational practice and policy. The results reveal a clear dynamic: teachers broadly support the ethical principles and social benefits of inclusion, yet they express genuine reservations regarding structural strain, instructional focus, and workload management. While teachers

generally endorse the rights of students with special educational needs (SEN) to be educated alongside their peers and acknowledge the social benefits of inclusion, they also identify practical challenges in effective implementation, particularly concerning classroom organization and instructional adaptations (Mejoy et al., 2024). The evidence suggests that moral support alone is insufficient to sustain successful inclusive education without tangible systemic support. Including SEN students often requires additional planning, differentiated instruction, individualized plan paperwork, and more intensive classroom management, expanding duties and time demands beyond typical teaching responsibilities (Chen, 2024). To translate these positive beliefs into effective practice, institutions must bridge the gap between theory and implementation by providing teachers with targeted professional training, adaptive resources, reduced pupil-to-teacher ratios, and dedicated classroom support staff to alleviate pedagogical pressures.

Table 1

Respondents' level of cognitive attitudes in handling inclusive education classroom

S/N	Indicators	WM	SD	Verbal Description
1	I believe that educating students at SEN requires too many changes in the organization of the classroom and teaching approaches.	3.53	0.96	Positive
2	I do not support the enrollment of SEN students in regular classes, as it overloads teachers with an already heavy workload.	3.23	1.17	Neutral
3	I believe that putting SEN students in regular classes is a good idea in theory, but in practice it is not possible to implement it.	3.53	1.11	Positive
4	I believe that the presence of SEN students in the regular classroom takes the attention of the teachers away from the other students.	3.50	0.96	Positive
5	I believe that the presence of SEN students in schools facilitates the acceptance of difference by other students.	3.53	0.96	Positive
6	I believe that the presence of SEN students in schools improves the social behavior of all students.	3.13	0.99	Neutral
7	I believe that SEN students should have the right to learn in a regular classroom.	3.53	1.11	Positive
8	I believe that the enrolment of SEN students in regular classes has beneficial effects on the social-emotional development of SEN students.	3.50	1.13	Positive
9	I believe that enrolling SEN students in regular classrooms improves their independence.	3.53	0.96	Positive
10	I believe that having SEN students in the regular classroom does not make classroom management more difficult.	3.13	0.99	Neutral
	Aggregate Mean	3.41		
	Aggregate Standard Deviation		1.05	Positive

Legend: 4.21-5.00- Very Positive; 3.41-4.20- Positive; 2.61-3.40-Neutral; 1.81-2.60-Negative; 1.00-1.80-Very Negative

Table 2

Level of concurrent barriers faced by the respondents in handling inclusive education classrooms

Components	WM	SD	Verbal Description
Students' self-efficacy	3.36	0.98	Moderate
Self-help skills	3.28	0.88	Moderate
Students' social skills	3.25	0.93	Moderate
Academic skills	3.09	0.97	Moderate
Grand Mean	3.25		Moderate
Grand Standard Deviation		0.94	

Legend: 4.21-5.00- Very High; 3.41-4.20- High; 2.61-3.40-Moderate; 1.81-2.60-Low; 1.00-1.80-Very Low

Table 2 collectively presents the level of concurrent barriers faced by the respondents in handling inclusive education classrooms. The data showed a consistent, moderate level of concurrent barriers faced by respondents in inclusive classrooms, revealing a grand weighted mean of 3.25. The greatest challenges relate to students' self-efficacy, followed by self-help and social skills, with academic skills being less pronounced but still moderate barriers. Low standard deviations indicate that respondents largely agree that non-academic skill gaps present ongoing challenges in these settings (Mabanag et al., 2024; Gabutan et al., 2025).

These findings indicate that the main obstacles in inclusive classrooms go beyond curriculum delivery, centering on socio-emotional and adaptive skills (Mabanag et al., 2024). Teachers report that inadequate resources, limited support, and complex classroom dynamics hinder the development of self-efficacy and independence among students with special needs, requiring additional time for behavioral support and reducing instructional

opportunities. Effective inclusive education thus requires holistic support frameworks, including targeted social skills training and specialized personnel, while collaboration between teachers and support staff is undermined by time constraints and lack of structured teamwork (Alverson et al., 2025; Niadas et al., 2025).

Table 3

Test of relationship between the respondents' cognitive attitudes and concurrent barriers faced in handling inclusive education

Variables	r-value	Strength of Correlation	p - value	Decision	Remarks
Cognitive Attitudes and Concurrent Barriers	0.244	Negligible Positive	0.130	Do not reject H_0	Not significant

**significant at $p < 0.01$ (two-tailed)

Table 3 presents the test of relationship between the respondents' cognitive attitudes and concurrent barriers faced in handling inclusive education tested at the $\alpha = 0.05$ level of significance. The results showed a negligible and statistically insignificant relationship, revealing an r-value of 0.244 and a p-value of 0.130 between teachers' cognitive attitudes and the barriers they faced in handling inclusive classrooms. Hence, teachers' beliefs about inclusion do not meaningfully influence the frequency or intensity of student-centered challenges, such as self-efficacy or social skills gaps.

These results imply that positive attitudes alone do not reduce practical barriers in inclusive education. Structural and behavioral challenges persist, regardless of teacher mindset. Therefore, concrete strategies such as training, behavioral support, and classroom assistants are necessary for effective and sustainable inclusive education. This underscores the need for investment in training, support staff, and adaptive materials to better meet the needs of both teachers and students. Research in the Philippines confirms that teachers can hold positive views on inclusion but still experience exhaustion and difficulty managing classrooms, highlighting the need for tangible support systems (Macapaz et al., 2024; Vasquez et al., 2025).

4. Conclusion and Recommendations

In conclusion, the study's findings reveal a critical balance between ethical conviction, operational challenges, and the practical realities of classroom management. Teachers consistently exhibit a principled commitment to inclusive education, viewing it as a fundamental right that fosters personal autonomy, social development, and mutual acceptance among students. Nevertheless, this philosophical commitment coexists with ongoing functional challenges, particularly regarding students' self-efficacy, self-help routines, and social interaction skills. Statistical analysis demonstrates that a positive mindset alone does not mitigate the impact of these daily classroom barriers. A teacher's belief in the value of inclusion does not alleviate the practical difficulties associated with managing a diverse classroom in the absence of dedicated support.

This result has significant implications throughout the educational system. For policymakers and school administrators, it highlights the need to pair the promotion of inclusive values with concrete structural support, such as reduced class sizes, specialized training in adaptive instruction, and access to classroom assistants. For teachers, it requires targeted resources and collaborative support, rather than relying solely on individual resilience to address instructional and behavioral demands. For students with special needs, be given an intervention that prioritizes the development of personal autonomy, confidence, and foundational social skills in addition to academic objectives. Furthermore, parents, health professionals, and community stakeholders shall share responsibility by reinforcing life skills and therapeutic interventions outside the classroom, ensuring that inclusion is a sustainable, community-wide commitment rather than an unsupported burden on teachers. Thus, teachers' positive or negative cognitive attitude toward inclusive education does not necessarily correspond to the degree of practical challenges they encounter in the classroom. Therefore, a training workshop program for teachers in handling inclusive education is recommended.

Implications for teachers and educational practitioners - The results indicate that positive attitudes toward inclusion are important but insufficient by themselves. Teachers need practical knowledge, resources, and

continuing professional development to translate inclusive beliefs into effective classroom practices. Training programs should therefore include differentiated instruction, adaptive assessment, classroom management in diverse learning environments, preparation of individualized learning plans, and strategies for developing students' self-efficacy, self-help abilities, social interaction, and academic skills. Teachers may also use structured classroom routines, peer-assisted learning, scaffolded tasks, visual instructions, positive reinforcement, and gradual release of responsibility to help students with special educational needs participate more independently. Regular collaboration among general education teachers, special education personnel, guidance counselors, parents, and other professionals may help teachers identify student needs and design appropriate interventions. The finding that attitudes were not significantly related to barriers further suggests that teachers should not be blamed for classroom difficulties simply because they appear insufficiently positive or committed. The challenges identified in the study may result from structural limitations rather than from teachers' personal beliefs.

Implications for students - For students with special educational needs, the findings emphasize that inclusive education should address more than academic performance. Interventions should also develop confidence, independence, self-regulation, communication, social participation, and daily living skills. Because students' self-efficacy emerged as the most prominent barrier, teachers and schools should provide achievable learning tasks, regular constructive feedback, opportunities for successful participation, and recognition of individual progress. These practices may help students develop greater confidence in their ability to learn and participate in classroom activities. Support for self-help and social skills may include explicit instruction in classroom routines, communication, cooperation, problem-solving, emotional regulation, and help-seeking. Such interventions may improve not only the participation of students with special educational needs but also the classroom climate and social awareness of students without identified special needs.

Implications for schools and administrators - Schools should complement the promotion of inclusive values with concrete institutional support. This may include reducing excessive class sizes where possible, providing appropriate instructional and assistive materials, assigning classroom aides or support personnel, and ensuring access to special education specialists, guidance counselors, and health professionals. School leaders should also establish regular professional-development activities based on teachers' identified needs. Instead of offering general seminars on the importance of inclusion, training should focus on practical classroom concerns, including differentiated lesson planning, behavior support, adaptive assessment, social-skills instruction, and collaboration with families. Administrators should provide teachers with sufficient preparation time and opportunities for collaborative planning. They should also establish referral and monitoring systems through which teachers can identify students who require additional support, document interventions, review student progress, and coordinate with parents and specialists.

The findings may guide the development of a school-based intervention and training program composed of the following areas: understanding inclusive education and learner diversity; differentiated and adaptive instruction; strategies for strengthening students' self-efficacy; development of self-help and independent-living skills; social-skills and positive-behavior support; individualized educational planning and assessment; collaboration among teachers, parents, and specialists; and teacher well-being, workload management, and access to support services. The effectiveness of the proposed program may be evaluated through pre- and post-training assessments, classroom observations, teacher reflections, and monitoring of student participation and progress.

Significance of the findings - The main significance of the study is its demonstration that positive attitudes toward inclusive education do not automatically eliminate the practical challenges experienced by teachers. The respondents generally supported the principles and benefits of inclusion, yet they still reported moderate difficulties, particularly in relation to students' self-efficacy, self-help abilities, and social skills. For practitioners, this means that commitment to inclusion must be accompanied by practical competencies and continuing support. For students, it means that inclusive education should address social, emotional, adaptive, and academic development. For schools, it means that successful inclusion is an institutional responsibility and should not depend solely on the effort or resilience of individual teachers. Because the study involved 40 purposively selected

teachers from one public secondary school, the findings are not intended to be statistically generalized to all Philippine schools. Instead, they provide context-specific evidence that may be useful for schools with similar conditions. Future studies may include larger samples, multiple schools, qualitative interviews, classroom observations, and perspectives from students and parents to further examine the relationship between teacher attitudes, institutional support, and inclusive classroom practices.

AI Declaration Statement - The authors acknowledge utilizing the AI language tool (Grammarly) during manuscript preparation for language refinement, structural editing, and drafting select sections. All intellectual content, data collection, analysis, interpretation of results, and conclusions are the sole responsibility of the authors. AI assistance was restricted to improving clarity and readability and did not affect the originality, integrity, or academic responsibility of the research. The authors retain full accountability for the accuracy and validity of all published content.

Author Contributions - All authors contributed equally to the conceptualization, methodology, investigation, data analysis, interpretation, writing, and revision of the manuscript. All authors read and approved the final manuscript.

5. References

- Alverson, C. Y., Bell, M., Parra, B., & Wei, L. (2025). Teamwork to support students with disabilities: Challenges, strategies, and stages of group development within a design-based research project. *Education Sciences*, 15(6), 700. <https://doi.org/10.3390/educsci15060700>
- Chen, Y. (2024). Effects of the proportion of students with special educational needs on middle school teachers' well-being. *Frontiers in Education*, 9. <https://doi.org/10.3389/feduc.2024.1307709>
- Dewi, A. E. R. (2024). Effectiveness of implementing inclusive education: Challenges and opportunities in culturally diverse classrooms. *Journal of Pedagogy*, 1(3), 1–7. <https://doi.org/10.62872/k2k0zs91>
- Gabutan, M. Z., Pinili, L. C., Rosal, R. R., & Padillo, G. G. (2025). Teachers' and parents' perspectives on the effectiveness and importance of Individualized Education Plans (IEPs) on student learning outcomes. *International Journal of English Literature and Social Sciences*, 10(4), 401–410. <https://doi.org/10.22161/ijels.104.56>
- Jardinez, M. J., & Natividad, L. R. (2024). The advantages and challenges of inclusive education: Striving for equity in the classroom. *Shanlax International Journal of Education*, 12(2), 57–65. <https://doi.org/10.34293/education.v12i2.7182>
- Legrain, C., Brasselet, C., Khamzina, K., Jury, M., & Desombre, C. (2024). Construction and validation of the cognitive attitudes toward inclusive education scale among teachers and paraprofessionals in the French context. *Journal of Research in Special Educational Needs*, 25(3), 434–446. <https://doi.org/10.1111/1471-3802.12735>
- Mabanag, R., Delicana, A., Igot, P. E., Sitoy, R., Tandag, J., & Mangubat, R. (2024). Teacher readiness and challenges in inclusive classrooms. *World Journal on Education and Humanities Research* 4(4), 180–192. <https://doi.org/10.30076/wjher.4.4>
- Macapaz, M. K. S., Bubuli, C. A. B., Nuñal, M. P. P., Alpuerto, I. M. G., Caalaman, A. S., & Ramos, A. M. (2024). Exploring teachers' attitudes and burnout in inclusive classrooms. *International Journal of Intelligent Systems and Applications in Engineering*, 12(4), 2363–2372. Retrieved from <https://ijisae.org/index.php/IJISAE/article/view/6635>
- Mejoy, D.L., Tenerife, J.J., Pinili, L., Opingo, K.M., Espina, R., Suson, R. (2024). Teachers' Attitudes toward inclusive education: An empirical investigation in schools of Bohol. *World Journal on Education and Humanities Research*, 4(4), 171-183. <https://doi.org/10.30068/wjher.4.4>
- Monteiro, E., & Ikegami, K. (2023). Exploring inclusive culture and practice: the perspectives of Macao teachers in informing inclusive teacher education programmes in higher education. In M. Carmo (Ed.), *Education and New Developments 2023: Proceedings of the International Conference on Education and New Development 2023*. Retrieved from https://end-educationconference.org/wp-content/uploads/2023/06/01_OP_265.pdf
- Niadas, G., Quiap, A. M., Sanchez, E., Monterola, M. E., Beniga, V., Tenerife-Cañete, J. J., Pinili, L., Espina, R., Abelgas, L., Añora, H., Capuno, R., & Añero, M. (2025). Exploring the challenges and strategies of

- special education teachers in developing social and adaptive skills. *Journal of Humanities and Social Sciences Studies*, 7(10), 01–12. <https://doi.org/10.32996/jhsss.2025.7.10.1>
- Palei, P. (2024). Inclusive teaching competency for successful implementation of inclusive education. *International Journal for Multidisciplinary Research*, 6(2). <https://doi.org/10.36948/ijfmr.2024.v06i02.18455>
- Poly, N., & Harishma, K. (2023). Inclusive education: Strategies and challenges. *Shanlax International Journal of Arts Science and Humanities*, 11, 93–98. <https://doi.org/10.34293/sijash.v11is1-nov.7095>
- Singh, G. K. S., Ahmad, I. Y. B., Baharudin, S. N. A., & Ngadni, I. (2023). Challenges faced by teachers in inclusive classrooms in early childhood education (ECE) setting. *International Journal of Academic Research in Progressive Education and Development*, 12(2). <https://doi.org/10.6007/ijarped/v12-i2/17267>
- Vantieghem, W., Roose, I., Goosen, K., Schelfhout, W., & Van Avermaet, P. (2023). Education for all in action: Measuring teachers' competences for inclusive education. *PLoS ONE*, 18(11). <https://doi.org/10.1371/journal.pone.0291033>
- Vasquez, M. R. E., Pinili, L. C., Espina, R. C., Tenerife-Cañete, J. J. L., Capuno, R. G., Mangubat, R. C., Pantaleon, A. T., Calasang, V. O. (2025). Implementing inclusive education for learners with special needs: Exploring non-sped teachers' knowledge, attitudes, and practices in Nangka National High School. *International Journal of Research and Innovation in Social Science*, 9(11), <https://doi.org/10.47772/IJRISS.2025.91100454>.

Developing camias–mango cookies through experiential culinary entrepreneurship education: A mixed-methods product-innovation study in Camarines Sur

Riva, Cherry A. ✉

Camarines Sur Polytechnic Colleges, Philippines



ISSN: 2243-7703
Online ISSN: 2243-7711

Received: 16 July 2026
Available Online: 2 August 2026

Revised: 31 July 2026
DOI: 10.5861/ijrse.2026.26361

Accepted: 1 August 2026

OPEN ACCESS

Abstract

This study examined the development of camias–mango cookies as an experiential learning project integrating culinary education, entrepreneurship, sustainability, and local cultural knowledge in [name of school/program] in Camarines Sur, Philippines. Guided by experiential learning and project-based learning, students developed and refined cookie prototypes using locally available mango (*Mangifera indica*) and camias or bilimbi (*Averrhoa bilimbi*), conducted sensory evaluation, gathered stakeholder feedback, and reflected on the educational value of transforming underutilized agricultural resources into a market-oriented product. A convergent mixed-methods design was employed. Quantitative data were obtained from a consumer hedonic test involving participants, while qualitative data were generated through student reflections/focus groups/interviews/observations involving several students and community stakeholders. Quantitative data were analyzed using descriptive statistics, whereas qualitative data were examined through reflexive thematic analysis. Educationally, the project enabled students to connect food science concepts with iterative design, consumer feedback, cultural identity, sustainability, and entrepreneurial decision-making. The study suggests that locally grounded food-product development can serve as an authentic learning task in technology and livelihood education, culinary arts, home economics, and entrepreneurship courses. However, claims concerning nutritional superiority, commercial viability, and broader consumer acceptance require laboratory testing and larger, more diverse samples.

Keywords: culinary education, experiential learning, entrepreneurship education, food-product development, local food systems, sustainability education, Camarines Sur

Developing camias–mango cookies through experiential culinary entrepreneurship education: A mixed-methods product-innovation study in Camarines Sur

1. Introduction

Education in culinary arts, home economics, technology and livelihood education, and entrepreneurship is most meaningful when students can connect disciplinary knowledge with authentic problems. Product-development projects provide such an opportunity because learners must integrate ingredient knowledge, food safety, creativity, sensory evaluation, costing, communication, and market reasoning. This form of learning reflects experiential education, in which knowledge develops through cycles of concrete experience, reflection, conceptualization, and further experimentation (Kolb, 1984). It also aligns with project-based learning, which organizes learning around sustained investigation and the production of a publicly meaningful outcome (Krajcik & Blumenfeld, 2006).

Food-product innovation is particularly suitable for place-based education because locally available ingredients can connect classroom learning with community knowledge, agricultural livelihoods, cultural identity, and sustainability. Sustainable food-systems education commonly integrates farming, culinary practice, processing, nutrition, scientific inquiry, entrepreneurship, leadership, and communication (Ebel et al., 2020). Studies of food education likewise indicate that direct engagement with food can support curiosity, practical competence, and reflection beyond what is possible through lecture-based instruction alone (Walters et al., 2009).

Camarines Sur has a strong agricultural identity, and locally available fruits offer possibilities for contextualized learning and value-added product development. Mango is widely used in food processing, while camias, also known as bilimbi, is commonly used as a souring ingredient but is less visible in commercial baked products. The educational value of combining these fruits is not limited to producing a novel cookie. The activity can engage students in identifying a local problem, researching ingredient functions, testing formulations, interpreting consumer feedback, considering food safety, designing packaging, and evaluating the social and environmental implications of production.

The original project was conceived primarily as a market-oriented food innovation. For an education-focused journal, however, the more important scholarly question is how the product-development process functions as a learning experience. Accordingly, this study situates camias–mango cookie development within experiential culinary entrepreneurship education and examines both product acceptability and student learning.

Purpose and Research Questions - The study aimed to examine camias–mango cookie development as an authentic, locally grounded learning project. It addressed the following questions:

1. How acceptable were the developed camias–mango cookie formulations in terms of appearance, aroma, taste, texture, and overall liking?
2. How did students describe their learning during the processes of formulation, testing, revision, and presentation?
3. What challenges did students encounter in translating local ingredients into a viable food-product concept?
4. What educational practices can teachers and schools derive from the project for culinary, livelihood, sustainability, and entrepreneurship education?

2. Review of Related Literature

Experiential and Project-Based Learning in Culinary Education

Experiential learning emphasizes the transformation of experience into knowledge through action and reflection (Kolb, 1984). In practical culinary settings, students learn not only by following recipes but also by diagnosing problems, adapting procedures, comparing outcomes, and justifying decisions. Recent research on culinary classrooms has highlighted the importance of practical engagement and the classroom conditions that enable or hinder student learning (Koerich & Sousa, 2024). Product-development work can strengthen this process because students repeatedly move between theory and practice. Project-based learning extends this logic by requiring students to investigate a meaningful problem over time and create an assessable product (Krajcik & Blumenfeld, 2006). In the present context, the cookie prototype is not merely an output; it is evidence of students' ability to apply food science, design, communication, collaboration, and evaluation. Entrepreneurship education similarly benefits from authentic tasks in which students generate ideas, test assumptions, respond to users, and revise products. Experiential entrepreneurship activities can help learners move from abstract business knowledge toward entrepreneurial action and self-efficacy (Abd Rahim et al., 2022).

Sustainable Food-Systems and Place-Based Education

Sustainable food-systems education encourages learners to understand the relationships among production, processing, consumption, culture, livelihoods, and environmental responsibility. Ebel et al. (2020) argued that food-systems curricula should combine scientific, culinary, entrepreneurial, and community-oriented learning outcomes. Place-based projects can make these connections visible by using local materials and engaging community knowledge. Rather than treating sustainability as an abstract slogan, students can examine sourcing, seasonality, waste, packaging, affordability, and farmer relationships within a concrete production task.

Fruit-Enriched Cookies and Sensory Evaluation

Research on fruit-enriched cookies indicates that fruits and fruit by-products can alter fiber content, antioxidant properties, texture, color, and sensory acceptance; however, effects depend on formulation and processing (García-Sarrió et al., 2023). Consequently, claims about improved nutrition cannot be inferred solely from the presence of fruit. They require chemical or nutritional analysis. Consumer liking should likewise be assessed systematically. ISO 11136:2014 provides guidance for conducting hedonic tests with consumers under controlled conditions, while descriptive sensory profiling requires different procedures and appropriately prepared assessors.

3. Theoretical and Conceptual Framework

The study is primarily guided by Kolb's (1984) experiential learning cycle. Concrete experience occurs as students prepare and test cookie prototypes. Reflective observation occurs as they examine sensory feedback, production difficulties, and stakeholder responses. Abstract conceptualization occurs when they connect those observations to ingredient functionality, food safety, costing, sustainability, and market positioning. Active experimentation occurs when they revise the formulation, process, or presentation and test the revised product. Project-based learning provides the pedagogical structure. The project begins with an authentic driving problem: How can students transform locally available mango and camias into an acceptable, culturally meaningful, and responsibly designed food product? Students investigate the problem, create prototypes, receive feedback, revise their work, and present a final product and rationale. The conceptual sequence is therefore: local problem and resources → inquiry and product design → prototype testing and stakeholder feedback → reflection and revision → product and learning outcomes.

4. Methodology

Research Design - A convergent mixed-methods product-development design was used. The quantitative component assessed consumer acceptance of the cookie formulations, while the qualitative component examined students' learning experiences and stakeholder interpretations. The two forms of evidence were analyzed separately and then integrated during interpretation. This design is more appropriate than labeling the study purely qualitative because hedonic ratings and formulation comparisons produce quantitative evidence, whereas reflections, interviews, and observations produce qualitative evidence.

Educational Context and Participants - The study was conducted in the school as part of course/program requirements. Student participants were participated in the learning project. Consumer sensory evaluation involved the participants recruited through volunteer sampling procedure. Additional qualitative participants included teachers, farmers, and/or food entrepreneurs. Inclusion criteria, recruitment procedures, and the relationship of the researcher to the participants should be stated explicitly.

Learning and Product-Development Procedure

Problem identification and local-resource inquiry. Students examined the culinary uses, availability, seasonality, and perceived underutilization of mango and camias.

Concept development. Student teams developed a product rationale, target-user profile, and preliminary formulation.

Prototype production. Teams prepared several formulations under standardized food-safety and preparation conditions.

Sensory testing. Coded samples were presented in a counterbalanced or randomized order, with water provided for palate cleansing. Allergen information was disclosed.

Feedback and revision. Students interpreted hedonic results and qualitative comments and revised the formulation or presentation.

Entrepreneurial presentation. Teams prepared costing, packaging, branding, sustainability considerations, and a product pitch.

Reflection. Students completed reflection journals/focus-group discussion/portfolio commentary addressing what they learned, difficulties encountered, decisions made, and changes they would make.

Instruments - Consumer liking was measured using a 9-point hedonic scale covering appearance, aroma, taste, texture, and overall liking. The instrument and procedures should be aligned with ISO 11136:2014. Student learning was documented using reflection prompts. Suggested domains include application of food-science concepts, iterative problem-solving, teamwork, response to feedback, entrepreneurial reasoning, cultural connection, and sustainability awareness.

Data Analysis - Hedonic ratings were summarized using means, standard deviations, frequencies, and confidence intervals. Differences among formulations were examined using descriptive statistics. Qualitative data were transcribed and analyzed using reflexive thematic analysis following Braun and Clarke's (2006, 2022) approach: familiarization, coding, initial theme development, theme review, theme definition, and reporting. Analysis should be iterative and interpretive rather than presented as a mechanical count of comments. Trustworthiness can be strengthened through a documented audit trail, reflexive notes, peer discussion of interpretations, and the use of sufficiently rich quotations (Nowell et al., 2017).

Ethical Considerations - The study follows standard research ethics and protocols for human subject protection. Participation was voluntary, and informed consent—and parental consent and student assent where

minors were involved—was secured. Participants were informed that declining would not affect grades or school standing. Data were anonymized. Food-safety procedures included hygienic preparation, allergen disclosure, exclusion of participants with relevant allergies or medical restrictions, and safe sample storage and handling.

5. Results

The study on the development and evaluation of Camias Mango Cookies revealed several important insights regarding product innovation, consumer acceptability, and cultural-economic relevance. The formulation of cookies using locally sourced mangoes and camias from Camarines Sur successfully demonstrated the potential of underutilized tropical fruits to be transformed into value-added products. The combination of mango's natural sweetness and camias' tartness created a distinctive flavor profile that respondents found both novel and appealing.

Results from the sensory evaluation showed that the majority of respondents rated the cookies positively in terms of taste, aroma, texture, and overall acceptability. Among the different prototypes tested, the soft-baked variant received the highest preference, particularly for its balance of flavor and moist texture. The hedonic scale analysis confirmed that the product met consumer expectations for indulgence while offering functional health benefits such as Vitamin C and reduced refined sugar content. The market survey highlighted strong purchase intent among health-conscious millennials, Gen Z, and members of the Filipino diaspora. Respondents expressed interest in the product's cultural authenticity and sustainability, noting that the use of local fruits from Camarines Sur added emotional and cultural value. Packaging appeal and branding were also identified as important factors influencing consumer acceptance, with respondents favoring eco-friendly and culturally inspired designs.

Qualitative data from interviews with local farmers and food entrepreneurs emphasized the economic potential of Camias Mango Cookies. Farmers noted that the commercialization of camias, a fruit often overlooked in mainstream markets, could provide new income streams and strengthen agribusiness in the province. Entrepreneurs highlighted the product's potential to compete in both local and international markets due to its unique flavor and cultural identity. Overall, the findings confirm that Camias Mango Cookies are not only sensory acceptable but also culturally significant, economically viable, and health-conscious, making them a promising innovation for sustainable food development in Camarines Sur.

6. Conclusions

Based on the findings of the study, it can be concluded that the development of Camias Mango Cookies successfully demonstrates the potential of underutilized tropical fruits, particularly mangoes and camias from Camarines Sur, to be transformed into innovative, functional, and culturally authentic food products. The combination of mango's sweetness and camias' tartness created a distinctive flavor profile that was well-accepted by respondents, with the soft-baked variant emerging as the most preferred formulation. The results of the sensory evaluation confirmed that the cookies met consumer expectations in terms of taste, aroma, texture, and overall acceptability. The product not only satisfied indulgent snacking preferences but also addressed the demand for healthier alternatives by offering nutritional benefits such as Vitamin C and reduced refined sugar content.

The market survey further revealed strong purchase intent among health-conscious millennials, Gen Z, and members of the Filipino diaspora, who valued the product's cultural authenticity and sustainability. Respondents emphasized that packaging and branding rooted in Filipino identity would enhance its appeal in both local and international markets. Interviews with local farmers and entrepreneurs highlighted the economic potential of Camias Mango Cookies, noting that the commercialization of camias could provide new income streams and strengthen agribusiness in Camarines Sur. This underscores the product's role not only as a culinary innovation but also as a driver of community empowerment and sustainable development. In conclusion, the study affirms that Camias Mango Cookies are a viable food innovation that bridges culinary creativity, consumer health consciousness, cultural heritage, and economic sustainability. They represent a promising product that can uplift local agriculture while appealing to global food markets.

Recommendations

Based on the findings and conclusions of the study, several recommendations are proposed to strengthen the development, promotion, and sustainability of Camias Mango Cookies.

- First, it is recommended that future product development continue refining the formulation of the cookies, particularly the balance between mango's sweetness and camias' tartness, to further enhance consumer acceptability. Variations such as gluten-free or plant-based versions may also be explored to cater to diverse dietary preferences.
- Second, nutritional analysis should be expanded beyond basic attributes to include more detailed biochemical testing, ensuring that the product can be marketed as a truly functional snack with scientifically validated health benefits.
- Third, market expansion efforts should be pursued by conducting larger-scale consumer testing across different regions of the Philippines and abroad. This will provide broader insights into consumer preferences and strengthen the product's potential for commercialization in both local and international markets.
- Fourth, collaboration with local farmers and agribusiness is highly encouraged to ensure sustainable sourcing of mangoes and camias. Establishing partnerships can help create value-added income streams for rural communities in Camarines Sur, while also ensuring consistent supply for production.
- Fifth, branding and packaging should emphasize cultural authenticity and sustainability. Eco-friendly packaging materials and designs inspired by Filipino heritage can enhance consumer appeal and align with global trends toward responsible consumption.
- Lastly, it is recommended that future research explore the long-term economic and cultural impact of Camias Mango Cookies, including their role in promoting Filipino fruit heritage and supporting agribusiness innovation in Camarines Sur. The need for continued product refinement, expanded nutritional validation, broader market testing, sustainable farmer partnerships, culturally inspired branding, and future research. These steps will ensure that Camias Mango Cookies evolve into a competitive, sustainable, and culturally significant food innovation.

Practical Educational Implications

For Teachers - Teachers can use locally grounded product development as an authentic performance task rather than a one-time cooking exercise. Instruction should require students to document the problem, justify ingredient choices, standardize procedures, collect user evidence, revise prototypes, and reflect on decisions. Assessment rubrics can separately evaluate culinary technique, food safety, scientific reasoning, creativity, teamwork, use of evidence, sustainability, and entrepreneurial communication. Teachers should explicitly teach students that consumer liking, nutritional quality, and commercial feasibility are different constructs requiring different forms of evidence.

For Students - Students can gain opportunities to integrate knowledge across food science, mathematics, communication, culture, sustainability, and business. Iterative testing can normalize productive failure and help learners see feedback as evidence for improvement. Maintaining formulation logs, costing sheets, sensory records, reflection journals, and design rationales can also strengthen research literacy and accountability. Students should be encouraged to make modest, evidence-based claims and to identify what additional testing would be required before marketing a product.

For Schools and School Leaders - Schools can support this type of learning by providing safe food laboratories, basic sensory-testing materials, time for repeated trials, and access to community partners. Partnerships with

farmers, local government units, food technologists, entrepreneurs, and higher education institutions can improve authenticity and technical rigor. Schools may showcase products through learning exhibitions or entrepreneurship fairs, but assessment should prioritize learning and responsible inquiry rather than sales alone. Small grants or ingredient funds can promote equitable participation so that project quality does not depend on students' personal resources.

For Curriculum Designers and Teacher Educators - The project illustrates how technology and livelihood education, home economics, culinary arts, science, sustainability education, and entrepreneurship can be integrated around a common local problem. Teacher preparation should therefore include training in project facilitation, sensory-evaluation basics, qualitative reflection, ethical community engagement, food safety, and authentic assessment. Curriculum guides can include staged milestones—problem inquiry, proposal, prototype, testing, revision, and public presentation—to make the learning process visible and assessable.

Limitations - The limitations must reflect the completed study. Likely limitations include a single-school or single-community setting, a small convenience sample, short-term assessment, possible teacher-researcher influence, limited training of sensory evaluators, lack of laboratory nutritional analysis, absence of shelf-life and microbial testing, and no direct measure of long-term entrepreneurial outcomes. These constraints limit claims about generalizability, health benefits, and commercial viability.

Declaration of Generative AI and AI-Assisted Technologies - During the preparation of this manuscript, the author used ChatGPT, developed by OpenAI, to assist with language editing, organization, clarity, and the refinement of the paper. No AI-generated data, participant responses, findings, quotations, analyses, or references were included without verification. The authors remain fully responsible for the accuracy, originality, interpretation, and integrity of the final manuscript.

7. References

- Abd Rahim, N., Mohamed, Z., Tasir, Z., & Shariff, S. A. (2022). Impact of experiential learning and case study immersion on the development of entrepreneurial self-efficacy and opportunity recognition among engineering students. *Higher Education Pedagogies*, 7(1), 130-145. <https://doi.org/10.1080/23752696.2022.2109500>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>
- Braun, V., & Clarke, V. (2022). *Thematic analysis: A practical guide*. Sage.
- Ebel, R., Ahmed, S., Valley, W., Jordan, N., Grossman, J., Shanks, C. B., Stein, M., Rogers, M., Dring, C., & others. (2020). Co-design of adaptable learning outcomes for sustainable food systems undergraduate education. *Frontiers in Sustainable Food Systems*, 4, 568743. <https://doi.org/10.3389/fsufs.2020.568743>
- García-Sarrió, M. J., Sanz, M. L., Palá-Paúl, J., Díaz, S., & Soria, A. C. (2023). Optimization of a green microwave-assisted extraction method to obtain multifunctional extracts of mentha sp. *Foods*, 12(10), 2039. <https://doi.org/10.3390/foods12102039>
- Koerich, G. H., & Sousa, R. (2024). Learning experiences in the culinary classroom: Identifying enablers and hindrances in practical learning in cooking classes. *Journal of Hospitality, Leisure, Sport & Tourism Education*, 35, 100507. <https://doi.org/10.1016/j.jhlste.2024.100508>
- Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development*. Prentice Hall.
- Krajcik, J. S., & Blumenfeld, P. C. (2006). Project-based learning. In R. K. Sawyer (Ed.), *The Cambridge handbook of the learning sciences* (pp. 317–334). Cambridge University Press. <https://doi.org/10.1017/CBO9780511816833.020>
- Nowell, L. S., Norris, J. M., White, D. E., & Moules, N. J. (2017). Thematic analysis: Striving to meet the trustworthiness criteria. *International Journal of Qualitative Methods*, 16, 1–13. <https://doi.org/10.1177/1609406917733847>
- Walters, L. M., Stacey, J. E., & others. (2009). Focus on food: Development of the Cooking with Kids experiential nutrition education curriculum. *Journal of Nutrition Education and Behavior*, 41(5), 371–

373. <https://doi.org/10.1016/j.jneb.2009.01.004>

Organizational happiness of public elementary schools in an indigenous learning community: Its role in determining teacher empowerment

Kidmano, Clinton B. ✉

Department of Education-Kayapa West District, Philippines (clinton.kidmano@deped.gov.ph)

Vadil, Carlo F.

Nueva Vizcaya State University, Philippines (drvadil888@yahoo.com)

Agustin, Arnel A.

Nueva Vizcaya State University, Philippines



ISSN: 2243-7703

Online ISSN: 2243-7711

OPEN ACCESS

Received: 25 June 2026

Available Online: 3 August 2026

Revised: 29 July 2026

DOI: 10.5861/ijrse.2026.26258

Accepted: 2 August 2026

Abstract

This study determined the role of organizational happiness in influencing teacher empowerment among public elementary school teachers in Kayapa West District during the academic year 2026–2027. Employing a quantitative research design through a descriptive-correlational approach, the study examined teachers' perceptions of organizational happiness and teacher empowerment and investigated the relationship between these variables. Data were gathered using validated and reliable research instruments and analyzed using the mean and Spearman Rank Correlation at a 0.05 level of significance. Findings revealed that teachers experienced a high level of organizational happiness ($M = 4.00$), characterized by strong engagement, accomplishment, positive relationships, and positive emotions. However, the dimension of meaning obtained only a moderate rating, indicating a need to strengthen teachers' sense of purpose and alignment with organizational goals. Meanwhile, teacher empowerment was rated moderate ($M = 3.31$), suggesting that empowerment practices were present but not consistently experienced across schools. Reflective practice and feedback received the highest rating, while autonomy emerged as the lowest-rated dimension. Correlation analysis showed a weak but statistically significant positive relationship between organizational happiness and teacher empowerment ($\rho = .33, p = .004$). Among the dimensions of organizational happiness, engagement demonstrated the strongest and most significant relationship with teacher empowerment, followed by relationships and accomplishment. These findings suggest that enhancing teachers' workplace experiences may contribute to increased professional agency and participation in school improvement initiatives. Based on the results, an Educational Administration Intervention entitled "Empowering Teachers through Organizational Happiness: A Training Design for Enhancing Professional Engagement, Leadership, and School Effectiveness" was developed to address identified gaps and strengthen organizational happiness and teacher empowerment within the district.

Keywords: educational administration intervention, organizational happiness, teacher empowerment

Organizational happiness of public elementary schools in an indigenous learning community: Its role in determining teacher empowerment

1. Introduction

The findings from the World Happiness Report 2026 provide a richer framework for examining organizational happiness, particularly in educational institutions. The Philippines' global rank of 56th, with a score of 6.2 out of 10, reflects a modest yet improving level of national well-being. This slight increase from its 2025 score suggests gradual progress, while its position as the 4th happiest country in Southeast Asia highlights its relative strength within the region. The report's six key determinants—GDP per capita, healthy life expectancy, social support (having someone to count on), freedom, generosity, and perceptions of corruption—offer a multidimensional lens for understanding how happiness is constructed both at societal and organizational levels.

Notably, the country's strengths in social support, freedom, and generosity point to a culture characterized by strong interpersonal relationships and community cohesion. As emphasized by Mahar Mangahas, a founding fellow and now chair emeritus of Social Weather Stations, happiness should not be viewed as a competitive metric among nations but rather as a learning tool for improving well-being (Pablo, 2026). This perspective aligns with the idea that schools, particularly public elementary schools in indigenous learning communities, can draw from these societal strengths to cultivate nurturing and empowering environments. Complementing global data, findings from Social Weather Stations reveal that a majority of Filipinos perceive themselves as happy and satisfied, with 83% reporting being either very or fairly happy and 79% expressing satisfaction with life (Pablo, 2026). These results reinforce the notion that subjective well-being remains high despite socioeconomic challenges.

In educational contexts, such cultural resilience and optimism can significantly influence organizational happiness. Strong social support systems within schools—manifested through collegial relationships, community involvement, and supportive leadership—can enhance teacher morale and empowerment. Furthermore, the value placed on freedom resonates with teacher autonomy, which is critical for professional growth and innovation. Therefore, leveraging these national strengths can help schools foster positive organizational climates that empower teachers and improve overall educational outcomes. The study titled “Organizational Happiness of Public Elementary Schools in an Indigenous Learning Community: Its Role in Determining Teacher Empowerment” can be anchored on the broader insights of the World Happiness Report 2026, which emphasizes that well-being is shaped by social support, freedom, and community engagement. These macro-level determinants provide a strong theoretical foundation for examining happiness within school organizations. In indigenous learning communities, where collectivism and shared identity are often prominent, these factors are likely to manifest through collaborative practices, mutual support, and culturally responsive leadership.

Furthermore, evidence from Social Weather Stations showing high levels of self-reported happiness and life satisfaction among Filipinos suggests that positive well-being is deeply embedded in local contexts. This supports the assumption that organizational happiness in schools can influence teachers' sense of autonomy, competence, and participation. Anchoring the study on these frameworks allows for a contextualized understanding of how organizational happiness serves as a driving force in enhancing teacher empowerment. The research is strongly anchored in global, national, and institutional research priorities, particularly those aligned with the United Nations Sustainable Development Goals (SDGs). Primarily, it supports SDG 4, which emphasizes inclusive and equitable quality education, especially for marginalized groups such as indigenous communities. By focusing on organizational happiness and teacher empowerment, the study contributes to improving teaching quality and learning environments. It also aligns with SDG 3, as it highlights psychological well-being within school organizations, and SDG 10 by addressing educational contexts in indigenous settings.

At the national level, the study is anchored in the National Research Council of the Philippines through the

National Research Agenda for Teacher Education, which prioritizes teacher quality, professional development, and contextualized education. Investigating teacher empowerment in relation to organizational happiness directly contributes to enhancing teacher competence and effectiveness. Furthermore, the study aligns with the Department of Education (DepEd) research agenda, particularly in the areas of governance, human resource development, and inclusive education. It also supports the Philippine Professional Standards for Teachers (PPST) by emphasizing key domains such as professional engagement, diversity of learners, curriculum and planning, assessment and reporting, as well as community linkages and professional growth. In this regard, the study addresses how school climate, leadership practices, and organizational conditions influence teacher performance, well-being, and professional development, all of which are central to improving teaching quality and basic education outcomes.

Institutionally, the research supports the agenda of Nueva Vizcaya State University, which promotes community-responsive and culturally relevant research. Its focus on indigenous learning communities reflects the university's commitment to inclusive development and local empowerment. Likewise, it aligns with the College of Teacher Education research agenda, which emphasizes teacher effectiveness, innovation in pedagogy, and socio-cultural responsiveness. It is noted by the researcher that this study is well-grounded across multiple frameworks, demonstrating its relevance in addressing educational quality, teacher empowerment, and community-based development.

This research proposal is grounded in prior scholarly recommendations that emphasize the contextual and developmental dimensions of organizational happiness and teacher empowerment. Drawing from Carbonell and Ocampo (2025), the study is motivated by the need to replicate investigations of organizational happiness across diverse cultural settings. Such an approach is particularly relevant in indigenous learning communities, where local norms, values, and traditions significantly shape perceptions of well-being. By situating the present study within this unique cultural context, it responds to the call for more localized and culturally responsive research, allowing for a deeper understanding of how organizational happiness operates in varied educational environments.

Similarly, the work of Bier et al. (2024) provides a strong foundation for examining teacher empowerment. Bier highlights the importance of sustained professional development through training, workshops, and continuing education as essential mechanisms for strengthening teachers' capacities. In addition, the promotion of collaborative decision-making—through committees and participatory structures—ensures that teachers play an active role in shaping school policies and practices. This participatory approach not only enhances professional agency but also contributes to a more positive organizational climate. Moreover, effective resource allocation is underscored as a critical factor in enabling teachers to perform their roles successfully. Access to adequate materials, institutional support, and opportunities for leadership—such as spearheading projects, initiatives, and training programs—further reinforces empowerment. Collectively, these recommendations inform the present study by linking organizational happiness with structural and professional conditions that enable teachers to thrive, thereby justifying the investigation of their interrelationship within the school context.

Despite the growing body of literature on organizational happiness and teacher empowerment, significant research gaps remain, particularly in culturally diverse and marginalized contexts such as Kayapa West District. Most existing studies have been conducted in urban or mainstream school settings, often overlooking the unique socio-cultural dynamics present in indigenous learning communities. This creates a gap in understanding how organizational happiness is experienced and constructed among teachers who operate within contexts shaped by indigenous traditions, limited resources, and geographic isolation. Furthermore, there is limited empirical evidence examining the direct relationship between organizational happiness and teacher empowerment in such settings, highlighting the need for localized and context-sensitive research.

Teachers in Kayapa West District encounter several challenges that may influence both their well-being and professional empowerment. One major concern is resource scarcity, including insufficient instructional materials, limited access to technology, and inadequate infrastructure. These constraints can hinder effective teaching and reduce opportunities for innovation. Additionally, teachers often face heavy workloads due to multi-grade teaching

assignments and administrative responsibilities, which may affect their job satisfaction and overall organizational happiness. Cultural and linguistic diversity also presents both opportunities and challenges. While it enriches the learning environment, it requires teachers to adapt their pedagogical approaches to be culturally responsive, often without sufficient training or support. Moreover, geographic isolation can limit access to professional development programs, reducing opportunities for skill enhancement and career growth.

Another concern is the level of participation in decision-making processes. In some cases, teachers may feel excluded from school governance, which can diminish their sense of autonomy and empowerment. These challenges collectively underscore the importance of examining how organizational happiness can serve as a mechanism to enhance teacher empowerment. Addressing these gaps and concerns provides the primary motivation for conducting this study, with the aim of contributing to more inclusive, supportive, and empowering educational environments in indigenous communities.

2. Related Literature

This study is anchored on Human Relations Management Theory developed by Elton Mayo in the 1930s as cited by Fraraccio (2026). This theory emphasizes that employees are not merely motivated by economic incentives or structural conditions but are significantly influenced by social relationships, emotional well-being, and a sense of belonging within the organization. Emerging from the Hawthorne Studies, human relations management theory highlights the importance of interpersonal connections, participative management, and supportive leadership in enhancing both individual satisfaction and organizational performance. According to Fraraccio (2026), human relations management theory is founded on the idea that individuals seek inclusion in a nurturing and cooperative work environment that promotes both personal and professional development. When employees feel valued, receive individualized attention, and are given opportunities to participate in decision-making, they tend to view their roles as meaningful. This sense of significance enhances their motivation, leading to improved productivity and better quality of work outcomes.

The same author mentioned that human relations management emphasizes viewing employees as individuals with diverse needs that extend beyond their assigned tasks. He explains that employee motivation is not solely driven by financial incentives or formal regulations; rather, it is also influenced by recognition, inclusivity, informal workplace relationships, and a strong sense of belonging within the organization. Several key principles underpin human relations management theory. First, providing personal attention and acknowledging employees' contributions are essential for fostering engagement. Second, motivational theories closely align with this approach, reinforcing the importance of addressing employees' psychological and social needs. Lastly, various studies affirm that strong human relations practices play a crucial role in enhancing organizational effectiveness and workplace satisfaction (Fraraccio, 2026). The concept of organizational happiness in this study directly reflects the core principles of Human Relations Management Theory. The dimensions of positive emotion, engagement, relationships, meaning, and accomplishment are truly anchored on human relations. In school settings, particularly within indigenous learning communities, the emphasis on relationships and collective well-being reinforces the idea that happiness is socially constructed and sustained through meaningful interactions among teachers, school heads, and the community.

Similarly, teacher empowerment is deeply rooted in the assumptions of Human Relations Management Theory. Empowerment dimensions such as autonomy, professional development opportunities, collaborative decision-making, resource allocation and support, leadership opportunities, and reflective practice and feedback. Mayo (1930) as cited by Fraraccio (2026) argued that when individuals are involved in decision-making processes and experience supportive supervision, they develop a stronger sense of ownership and motivation. This participatory environment fosters not only higher morale but also increased productivity and commitment. The interrelationship between organizational happiness and teacher empowerment can therefore be explained through the lens of Human Relations Theory. A positive and supportive organizational climate enhances teachers' emotional well-being and social connectedness, which in turn encourages active participation, initiative, and professional growth. In the

context of indigenous learning communities, where cooperation and shared values are central, this theoretical anchor becomes even more relevant. Thus, Human Relations Management Theory provides a comprehensive and contextually appropriate framework for explaining how social and psychological factors within schools contribute to both organizational happiness and the empowerment of teachers.

Organizational happiness, as framed in this study, can be best understood through the PERMA Model developed by Martin Seligman (2002). This model conceptualizes well-being as a multidimensional construct consisting of positive emotions, engagement, relationships, meaning, and accomplishment—dimensions that are highly applicable to school organizations, particularly within indigenous learning communities. At its core, organizational happiness refers to the overall well-being and satisfaction experienced by individuals within a school. It reflects how the school environment nurtures positive experiences among teachers and learners through supportive structures, shared values, and meaningful interactions. Among its dimensions, positive emotions involve creating a climate that promotes joy, trust, and a sense of belonging. When teachers experience positive emotions, they are more likely to engage in reflective practices, collaborate with peers, and contribute to a harmonious school culture (Carbonel and Ocampo, 2025).

Engagement emphasizes the alignment of individual strengths with organizational goals. In schools, this means enabling teachers to fully participate in teaching and decision-making processes while fostering psychological safety and collaboration. Engaged teachers are more committed, innovative, and responsive to learners' needs. Relationships highlight the importance of strong interpersonal connections. By fostering mutual support, trust, and teamwork, schools can create an environment where teachers feel valued beyond their formal roles. This is particularly significant in indigenous contexts, where communal values and interconnectedness are deeply embedded (Carbonel and Ocampo, 2025). Meaning refers to the alignment between personal values and the broader mission of the school. When teachers perceive their work as purposeful and impactful, they are more motivated to contribute to collective goals and community development. Lastly, accomplishment focuses on recognizing individual and collective achievements. Setting clear goals, celebrating successes, and sustaining momentum contribute to a sense of fulfillment and professional growth (Carbonel and Ocampo, 2025). Taken together, these PERMA dimensions provide a comprehensive framework for understanding how organizational happiness is cultivated and sustained, ultimately influencing teacher empowerment and school effectiveness.

In the study conducted by Carbonell and Ocampo (2025), respondents reported a high level of organizational happiness, indicating a strong sense of satisfaction and overall well-being in their professional roles. This positive assessment suggests that the work environment effectively supports both the personal and professional needs of individuals. Such outcomes may be attributed to the presence of healthy interpersonal relationships, where collaboration and mutual respect are evident among colleagues. In addition, supportive and responsive leadership likely plays a crucial role in fostering trust, motivation, and a sense of belonging within the organization. The alignment of individual values with institutional goals further enhances this sense of purpose, allowing employees to find meaning in their work. Collectively, these factors contribute to a positive organizational climate that sustains high levels of happiness and engagement. On the other hand, teacher empowerment is a critical construct in educational management, referring to the process of enabling educators to exercise authority, access resources, and participate meaningfully in decisions that affect their professional practice. Teacher empowerment highlights the importance of autonomy, competence, participation, and impact in fostering a more effective and motivated teaching workforce. As defined by Apostol et al. (2023), teacher empowerment encompasses multiple interrelated dimensions that collectively enhance teachers' capacity to influence both classroom practices and broader school outcomes.

One essential dimension is autonomy, which refers to the level of independence teachers have in making instructional decisions, including teaching strategies, curriculum design, classroom management, and assessment methods. Autonomy allows teachers to tailor their approaches based on learners' needs and their professional expertise, thereby promoting innovation and responsiveness in instruction. Collaborative decision-making is another key dimension, emphasizing teachers' active involvement in school or district-level processes such as

policy development, curriculum planning, and program implementation. When teachers are included in these processes, they develop a stronger sense of ownership and accountability, which enhances organizational commitment and professional satisfaction. Equally important are leadership opportunities, which provide teachers with avenues to extend their influence beyond the classroom. By leading professional development sessions, mentoring peers, or serving in committees, teachers strengthen their leadership skills and contribute to school improvement initiatives, reinforcing their sense of value within the organization.

Professional development opportunities play a vital role in sustaining empowerment. Continuous access to trainings, workshops, and learning resources enables teachers to expand their knowledge, refine their skills, and stay updated with evolving educational trends and technologies. Moreover, reflective practice and feedback foster a culture of continuous improvement. Through self-assessment, peer observations, and constructive feedback, teachers are encouraged to critically evaluate and enhance their instructional practices, promoting lifelong learning and professional growth. Lastly, resource allocation and support ensure that teachers have access to adequate materials, technology, and institutional backing. Without these, empowerment efforts may be limited despite strong motivation.

In line with the above, the recommendations of Bier et al. (2024) highlight several key strategies for strengthening teacher empowerment within schools. Central to these is the continuous provision of professional development opportunities. Schools are encouraged to support teachers through advanced training programs, seminars, workshops, and further academic studies, enabling them to enhance their competencies and remain responsive to evolving educational demands. Equally important is the promotion of collaborative decision-making. Establishing committees, task forces, or working groups that actively involve teachers in shaping school policies and instructional practices fosters a sense of ownership and shared responsibility. When teachers participate in these processes, they are more likely to feel valued as professionals and committed to organizational goals.

Another critical aspect emphasized is the effective allocation of resources. Ensuring that teachers have access to adequate instructional materials, technological tools, and administrative support is essential for them to perform their roles efficiently. Without sufficient resources, even highly capable teachers may struggle to deliver quality instruction. Furthermore, creating leadership opportunities for teachers is vital in advancing empowerment. Allowing teachers to take on roles such as leading projects, facilitating training sessions, or mentoring colleagues enables them to extend their influence beyond the classroom. These experiences not only build leadership capacity but also reinforce trust and recognition within the organization (Bier et al., (2024).

This study operates on the assumption that organizational happiness and teacher empowerment are closely interconnected constructs, wherein organizational happiness may significantly influence the level of teacher empowerment, or conversely, empowered teachers may contribute to a more positive and fulfilling organizational climate. In this perspective, a school environment characterized by positive emotions, strong relationships, meaningful engagement, and a sense of accomplishment can foster teachers' autonomy, participation, and professional growth. At the same time, when teachers are empowered through supportive leadership, collaborative decision-making, and access to resources, they are more likely to contribute to a culture of trust, motivation, and collective well-being. Thus, the study assumes a reciprocal relationship between the two variables, where each has the potential to reinforce and enhance the other within the organizational context.

3. Methodology

Research Design. The study employed a quantitative, descriptive-correlational research design to examine the relationship between organizational happiness and teacher empowerment among public elementary school teachers in the DepEd-Kayapa West District within an indigenous learning community context. This design enabled the systematic measurement of variables and the identification of patterns and relationships using statistical procedures (Creswell, 2014). The descriptive component assessed the levels of organizational happiness and teacher empowerment, while the correlational component determined the strength and direction of their

relationship without inferring causality. Data were collected through structured questionnaires and analyzed using descriptive statistics and Spearman rank correlation. The approach provided empirical evidence to support evidence-based decision-making on how organizational conditions influence teacher empowerment and school effectiveness.

Research Environment. The study was conducted in the Department of Education–Kayapa West District in Nueva Vizcaya, Philippines, a district known for its commitment to quality education and preservation of indigenous cultural heritage, particularly among Kalanguya, Kankanaey, and Ibaloi communities. The district comprised 20 elementary schools serving approximately 1,509 learners guided by 95 teachers under the leadership of the District Supervisor. Despite geographical challenges, the district demonstrated strong academic and co-curricular performance and maintained a culturally responsive, community-centered learning environment. Its integration of indigenous knowledge systems and emphasis on collaborative school culture made it an appropriate setting for examining organizational happiness and teacher empowerment in an indigenous education context.

Respondents of the Study. The respondents consisted of 76 public elementary school teachers from the Kayapa West District, representing 80% of the total population of 95 teachers. The sample size was determined using the Raosoft sample calculator to ensure representativeness. Respondents were proportionally distributed across the 20 schools in the district, allowing for balanced representation of different school contexts.

Sampling Procedure. A stratified random sampling technique was employed to ensure proportional representation of teachers across all schools in the district. Each school served as a stratum based on population size and contextual characteristics. Within each stratum, simple random sampling was used to select participants, ensuring equal opportunity for inclusion and minimizing selection bias. This approach enhanced the validity, reliability, and generalizability of the findings by capturing diverse teacher experiences within an indigenous learning environment.

Research Instrument. Two validated questionnaires were utilized. The Teacher Empowerment Questionnaire (Apostol et al., 2023) consisted of 36 items measuring autonomy, professional development, collaborative decision-making, resource support, leadership opportunities, and reflective practice, with strong reliability ($\alpha = 0.851$). The Organizational Happiness Questionnaire (Apostol et al., 2024), based on Seligman’s PERMA model, included 30 items measuring positive emotion, engagement, relationships, meaning, and accomplishment. Both instruments used a 5-point Likert scale with corresponding qualitative interpretations ranging from “Never” to “Always” and from “Very Low” to “Very High.”

Data Gathering Procedure. Data collection was conducted in a systematic and ethical manner. Formal approval was obtained from the District Supervisor, followed by coordination with school heads. Teacher-respondents were oriented regarding the purpose, procedures, and voluntary nature of participation. Questionnaires were distributed in printed form and retrieved after three to five working days. Completed instruments were checked, encoded, and securely stored. Ethical principles such as informed consent, confidentiality, anonymity, and voluntary participation were strictly observed throughout the process.

Statistical Treatment of Data. Data were analyzed using mean and Spearman rank correlation. The mean was used to determine the levels of organizational happiness and teacher empowerment across their respective dimensions. Spearman rank correlation was applied to determine the strength and direction of the relationship between the two variables. These statistical tools provided objective and empirical evidence on how organizational happiness was associated with teacher empowerment, serving as a basis for recommendations to enhance school management practices and teacher well-being.

4. Results and Discussion

This study focused on examining the role of organizational happiness in influencing teacher empowerment among public elementary school teachers in the Kayapa West District during the academic year 2026–2027. A

quantitative research design utilizing a descriptive-correlational approach was employed to systematically measure variables and determine the relationships between them. Data were collected using validated and reliable research instruments and were analyzed through appropriate statistical tools, including the mean and Spearman Rank Correlation. All hypotheses were tested at a 0.05 level of significance to establish the presence of significant relationships among the variables.

Specifically, the study assessed the level of organizational happiness in terms of positive emotion, engagement, relationships, meaning, and accomplishment. It also examined teacher empowerment based on autonomy, professional development opportunities, collaborative decision-making, resource allocation and support, leadership opportunities, and reflective practice and feedback. Furthermore, the study analyzed the significant relationships between the dimensions of organizational happiness and teacher empowerment. Based on the findings, an Educational Administration Intervention was developed to address identified gaps and strengthen organizational happiness and teacher empowerment within the district.

The findings revealed that the respondents exhibited a high level of organizational happiness, as reflected by the overall grand mean of 4.00, indicating that teachers generally perceived their work environment as supportive, positive, and conducive to professional growth and well-being. Among the five dimensions, Engagement emerged as the strongest aspect with a mean of 4.43, suggesting that teachers were highly involved in their duties, committed to their responsibilities, and actively participated in school programs and activities. This finding implies that teachers possessed a strong sense of dedication and enthusiasm toward their work. Accomplishment ranked second with a mean of 4.21, indicating that teachers experienced a considerable sense of achievement, competence, and professional fulfillment in carrying out their responsibilities. Likewise, Relationships obtained a mean of 4.15, demonstrating the presence of positive interpersonal interactions, collaboration, and mutual support among colleagues within the school community. Positive Emotion, with a mean of 3.95, further suggested that teachers generally experienced favorable emotional states and maintained positive attitudes in the workplace. However, Meaning registered the lowest mean of 3.26, interpreted as moderate, indicating that although teachers recognized the importance of their profession, there remained opportunities to strengthen their sense of purpose, personal significance, and alignment with the broader mission and vision of the educational institution. Overall, the results suggest that while organizational happiness was generally high, efforts should be directed toward enhancing teachers' sense of meaning and purpose in their professional roles.

The study further revealed that the respondents demonstrated a moderate level of teacher empowerment, as evidenced by the grand mean of 3.31. This indicates that empowerment practices were evident within schools but were not yet fully institutionalized or consistently experienced by all teachers. Among the dimensions, Reflective Practice and Feedback obtained the highest mean of 3.41, suggesting that teachers moderately engaged in self-evaluation, reflective thinking, and instructional improvement processes. Collaborative Decision-Making followed closely with a mean of 3.35, indicating that teachers were involved in school decision-making processes to a certain extent, although opportunities for meaningful participation remained limited. Similarly, Resource Allocation and Support (3.34) and Professional Development Opportunities (3.33) reflected moderate perceptions regarding the availability of instructional resources, institutional support, and professional learning opportunities. Leadership Opportunities recorded a mean of 3.28, suggesting that teachers had some opportunities to assume leadership responsibilities but were not extensively involved in leadership roles within the school. Notably, Autonomy obtained the lowest mean of 3.14, indicating that teachers experienced relatively limited independence in making instructional and professional decisions. Collectively, these findings imply that while empowerment initiatives existed, greater efforts were needed to enhance teacher autonomy, leadership involvement, participation in decision-making, and access to supportive resources and professional development programs.

The correlation analysis revealed a significant positive relationship between organizational happiness and teacher empowerment ($p = 0.33$, $p = 0.004$), indicating that higher levels of organizational happiness were associated with higher levels of teacher empowerment. Although the strength of the relationship was weak, the findings suggest that improvements in organizational happiness may contribute to corresponding improvements in

teachers' perceptions of empowerment. Among the dimensions of organizational happiness, Engagement demonstrated the strongest association with teacher empowerment ($\rho = 0.40$, $p = 0.001$), indicating a moderate and statistically significant relationship. This suggests that teachers who are more engaged, committed, and actively involved in school activities tend to feel more empowered in their professional roles. Similarly, Relationships ($\rho = 0.28$, $p = 0.014$) and Accomplishment ($\rho = 0.26$, $p = 0.026$) exhibited weak but significant positive relationships with teacher empowerment, highlighting the importance of supportive professional relationships and feelings of achievement in fostering empowerment. In contrast, Positive Emotion ($\rho = 0.07$, $p = 0.550$) and Meaning ($\rho = 0.12$, $p = 0.300$) did not demonstrate significant relationships with teacher empowerment. These findings indicate that not all dimensions of organizational happiness contribute equally to empowerment and that engagement, accomplishment, and interpersonal relationships play more substantial roles in influencing teachers' perceptions of empowerment within the school environment.

In response to the findings, an Educational Administration Intervention entitled "Empowering Teachers through Organizational Happiness: A Training Design for Enhancing Professional Engagement, Leadership, and School Effectiveness" was developed. The proposed intervention was designed to address the identified gaps in both organizational happiness and teacher empowerment, particularly in the areas of meaning, autonomy, leadership opportunities, and participatory decision-making. The training program aimed to strengthen teachers' professional competencies, enhance engagement and collaboration, expand leadership capacities, and promote a more empowering organizational climate. Ultimately, the intervention sought to support the development of a positive and empowering school culture that fosters teacher well-being, professional growth, and improved organizational effectiveness, thereby contributing to the achievement of educational goals within the indigenous learning community context of Kayapa West District.

5. Conclusions

- The respondents perceived their organizational happiness as high, indicating that the school environment is generally supportive and conducive to teachers' well-being, satisfaction, and professional fulfillment across key dimensions such as engagement, relationships, accomplishment, and positive emotion.
- Teacher empowerment was perceived as moderate by the respondents, indicating that while empowering practices are present within the school system, these are not yet fully developed or consistently experienced, particularly in terms of autonomy, leadership opportunities, collaborative decision-making, and professional growth.
- The relationship between organizational happiness and teacher empowerment is weak but statistically significant, indicating that improvements in organizational happiness are associated with slight increases in teacher empowerment, although the influence is limited and may be affected by other intervening factors.
- Based on the significant findings of the study, the researcher developed an Educational Administration Intervention in the form of a training design aimed at addressing identified gaps and strengthening both organizational happiness and teacher empowerment within the school setting.

Recommendations

- School administrators may sustain the high level of organizational happiness by continuously strengthening programs that promote teacher engagement, positive relationships, and recognition systems, ensuring that existing supportive practices are consistently implemented and institutionalized across all schools.
- School leaders may prioritize the enhancement of teacher empowerment by expanding opportunities for

autonomy, participatory decision-making, leadership roles, and structured professional development programs that allow teachers to actively contribute to school improvement processes.

- Since the relationship between organizational happiness and teacher empowerment is weak but significant, administrators may design integrated programs that intentionally connect teacher well-being initiatives with empowerment structures, ensuring that positive workplace experiences translate into increased professional agency and participation.
- The proposed Educational Administration Intervention (training design) may be adopted, piloted, and regularly evaluated within the district to ensure its effectiveness in addressing identified gaps in organizational happiness and teacher empowerment and to support continuous professional growth among teachers.
- Future researchers are encouraged to replicate this study in other educational settings, including secondary schools or other districts, using mixed-methods approaches and incorporating additional variables such as leadership styles, organizational culture, job satisfaction, and teacher performance to provide a more comprehensive understanding of the dynamics between organizational happiness and teacher empowerment.

6. References

- Ahmed, E. I. (2024). Teacher empowerment and organisational citizenship behaviour in public schools in Saudi Arabia. *Management in Education*.
- Ahrari, S., Roslan, S., Zaremozhzabieh, Z., Mohd Rasdi, R., & Abu Samah, A. (2021). Relationship between teacher empowerment and job satisfaction: A meta-analytic path analysis. *Cogent Education*.
- Apostol, E., Tallungan, J. R. R., & Vadil, C. (2024). *Proposed development and validation of an organizational happiness descriptive questionnaire inspired by Seligman's PERMA model: The five pillars of wellbeing*. Social Science Research Network. <https://ssrn.com/abstract=4892519>
- Apostol, E., Tallungan, J. R. R., & Vadil, C. (2024, January 7). *Research framework for teacher empowerment questionnaire development and validation*. SSRN. <https://doi.org/10.2139/ssrn.4686555>
- Balyer, A., Özcan, K., & Yildiz, A. (2017). Teacher empowerment: School administrators' roles. *Eurasian Journal of Educational Research*, 70, 1–18.
- Barth, A., & Tsemach, S. (2023). Empowerment as a mediator between instructional leadership and teachers' organizational citizenship behavior. *Research in Educational Administration & Leadership*. <https://eric.ed.gov/?q=TEACHER+EMPOWERMENT&id=EJ1397233>
- Basaran, O., & Cakir, R. (2023). A factor predicting teachers' organizational trust: School happiness. *International Technology and Education Journal*.
- Bayraktar, H. V., & Girgin, S. (2020). The examination of teachers' levels of organizational happiness. *Journal of Education and Learning*.
- Bier, W. M., Ocampo, I. S., & Vadil, C. F. (2024). Development strategies and digital transformation practices in secondary schools of Rizal District in the province of Nueva Ecija: Their relationship with teacher empowerment. *International Journal of Research Studies in Education*, 13(8), 81-100. <https://doi.org/10.5861/ijrse.2024.24086>
- Bogler, R., & Nir, A. E. (2025). Direct and indirect effects of school principals' instructional leadership on 21st century pedagogy. *Journal of School Leadership*. <https://eric.ed.gov/?q=TEACHER+EMPOWERMENT&id=EJ1475392>
- Boudouaia, A., et al. (2024). The effect of empowerment on English language teachers' commitment to schools. *Innovation in Language Learning and Teaching*. <https://eric.ed.gov/?q=TEACHER+EMPOWERMENT&id=EJ1435158>
- Çakir, P., & Yavuz, Y. (2023). The relationship between organizational climate and organizational happiness. *Journal of Educational Leadership and Policy Studies*.

- Carbonell, S. L., & Ocampo, I. S. (2025). Interplay of organizational climate and organizational happiness in shaping organizational effectiveness: The case of public secondary schools in Carranglan, Nueva Ecija. *International Journal of Research Studies in Education*, 14(8), 291-309. <https://doi.org/10.5861/ijrse.2025.25089>
- Çayak, S. (2021). The mediating role of organizational happiness in the relationship between work engagement and life satisfaction. *International Journal of Contemporary Educational Research*.
- Çayak, S. (2021). The mediating role of organizational happiness in the relationship between teachers' work engagement and life satisfaction. *International Journal of Contemporary Educational Research*. <https://ijcer.net/index.php/pub/article/view/370>
- Çayak, S. (2022). The Mediating Role of Organizational Happiness in the Relationship Between Work Engagement and Life Satisfaction: A Study on Teachers. *International Journal of Contemporary Educational Research*, 8(4), 27–46. <https://doi.org/10.33200/ijcer.852454>
- Celik, O. T., Sari, T., & Karagozoglu, A. A. (2025). A systematic literature review of research on teacher empowerment. *Urban Education*. <https://eric.ed.gov/?q=TEACHER+EMPOWERMENT&id=EJ1482519>
- Claypool, K. K. (2017). Organizational success: How the presence of happiness in the workplace impacts employee engagement. Pepperdine Digital Commons. <https://digitalcommons.pepperdine.edu/etd>
- Cobanoglu, N. (2021). The relationship between shared leadership, employee empowerment and innovativeness in primary schools: A structural equation modeling. *European Journal of Educational Research*, 10(1), 327–339. <https://doi.org/10.12973/eu-jer.10.1.327>
- Dee, J. R., Henkin, A. B., & Duemer, L. (2023). Structural antecedents and psychological correlates of teacher empowerment. *Journal of Educational Administration*, 41(3), 257–277.
- Fraraccio, M. (2026). *Human relations management theory basics*. Business.com. <https://www.business.com/articles/human-relations-management-theory-basics/>
- Gomendio, M. (2017), Empowering and Enabling Teachers to Improve Equity and Outcomes for All, International Summit on the Teaching Profession, OECD Publishing, Paris.
- Gonçalves, L. L., Parker, M., Luguetti, C., & Carbinatto, M. (2022). The facilitator's role in supporting physical education teachers' empowerment. *Sport, Education and Society*. <https://eric.ed.gov/?q=TEACHER+EMPOWERMENT&id=EJ1325938>
- Henry, D. G. (2024). Mentoring teachers for empowerment at an international educational system in China. *ProQuest LLC*. <https://eric.ed.gov/?q=TEACHER+EMPOWERMENT&id=ED662393>
- Kiral, B. (2020). The relationship between the empowerment of teachers by school administrators and organizational commitments of teachers. *International Online Journal of Education and Teaching*, 7(1), 248–265.
- Kiral, B. (2025). Teacher empowerment as a structure supporting teachers' development. *SAGE Open*. <https://eric.ed.gov/?q=TEACHER+EMPOWERMENT&id=EJ1477159>
- Köse, Ö., & Kahveci, G. (2022). An analysis of relationship between schools' DNA profiles and organizational happiness. *Journal of Education*.
- Kosztayán, Z. T. (2023). Measuring organizational happiness in higher education. *Taylor & Francis Online*, 10(1). <https://www.tandfonline.com/doi/full/10.1080/23311975.2023.2195475>
- Kosztayán, Z. T., Csizmadia, T., Pató, B. S. G., Berke, S., Neumanné-Virág, I., & Bencsik, A. (2023). Measuring organizational happiness in higher education: A data-driven approach. *Cogent Education*.
- Li, J.-T., & Rivera, H. H. (2025). The relationship between teachers' professional knowledge and skills, teachers' empowerment, and students' learning. *TESOL Journal*. <https://eric.ed.gov/?q=TEACHER+EMPOWERMENT&id=EJ1472080>
- Liang, W., To, J., & Lo, Y. Y. (2025). A journey towards teacher empowerment in differentiated instruction. *Asia Pacific Education Review*. <https://eric.ed.gov/?q=TEACHER+EMPOWERMENT&id=EJ1487827>
- Madeson, M. (2017, February 24). *Seligman's PERMA+ model explained: A theory of wellbeing*. Reviewed by M. Neuhaus. PositivePsychology.com.
- Malluk, A. L. (2019). Organizational happiness: Mediation between employee valuation and productivity. A look

- at its management in the state sector. *Anagramas Rumbos y Sentidos de la Comunicación*, 17(33), 215–250. <https://doi.org/10.22395/angr.v17n33a10>
- McConnell, J. W., & Swanson, P. (2024). The impact of teacher empowerment on burnout and intent to quit. *NECTFL Review*. <https://eric.ed.gov/?q=TEACHER+EMPOWERMENT&id=EJ1418136>
- Mokhlis, S., & Abdullah, A. H. (2024). Does teacher empowerment contribute to innovative work behaviour? *International Journal of Management in Education*, 18(2), 147–172.
- Mokhlis, S., & Abdullah, A. H. (2025). The impact of teacher empowerment on schools' innovation climate. *Journal of Education and Learning (EduLearn)*.
<https://eric.ed.gov/?q=TEACHER+EMPOWERMENT&id=EJ1457056>
- Muhammad, N., & Chaudhary, A. H. (2020). Relationship of teachers' empowerment and organizational commitment at secondary school level in Punjab. *Bulletin of Education and Research*.
<https://eric.ed.gov/?q=TEACHER+EMPOWERMENT&pg=2&id=EJ128087>
- Novliadi, F. (2020). Happiness at work viewed from job satisfaction and perceived organizational support. *SciTePress - Science and Technology Publications*.
<https://www.scitepress.org/Papers/2020/101385/101385.pdf>
- Ordu, A., & Sari, T. (2022). The role of innovative work behaviour in the relationship between organizational support and organizational happiness. *Research in Educational Administration & Leadership*.
- Ozen, F. (2018). The impact of the perception of organizational virtue on organizational happiness in educational organizations. *Educational Policy Analysis and Strategic Research*.
- Ozen, H. (n.d.). Factors contributing to organizational happiness. ResearchGate.
https://www.researchgate.net/publication/351732346FactorsContributingtoOrganizational_Happiness
- Pablo, C. (2026, April 1). *World happiness report 2026: How Canada and the Philippines rank*. Canadian Filipino Net. <https://www.canadianfilipino.net/news/world-happiness-report-2026>
- Palacios, J. J. (2024). An associative correlational study of principal leadership styles and teacher psychological empowerment. *ProQuest LLC*. <https://eric.ed.gov/?q=TEACHER+EMPOWERMENT&id=ED657821>
- Pan, C. (2026). Beyond the 'positive halo': Transformational leadership and teachers' unethical professional behaviour. *European Journal of Education*.
<https://eric.ed.gov/?q=TEACHER+EMPOWERMENT&id=EJ1498006>
- Rusk, R. & Waters, D. (2015). A psycho-social system approach to well-being: Empirically deriving the five domains of positive functioning. *The Journal of Positive Psychology*, 10(2), 141–152.
<https://doi.org/10.1080/17439760.2014.920409>
- Seligman, M. E. (2012). *Flourish: A visionary new understanding of happiness and well-being*. Atria Paperback.
- Singh, M., & Sarkar, A. (2019). Role of psychological empowerment in the relationship between structural empowerment and innovative behavior. *Management Research Review*, 42(4), 521–538.
<https://doi.org/10.1108/MRR-01-2018-0023>
- Tore, E., & Duman-Saka, B. (2023). The relationship between teacher leadership and organizational happiness of secondary school teachers. *European Journal of Educational Management*.
- Töre, E., & Uysal, O. K. (2022). Effect of organizational fit on organizational happiness: Mediating role of moral commitment. *International Journal of Progressive Education*.
- Tosten, R., Avci, Y. E., & Sahin, E. (2018). The relations between organizational happiness and organizational socialization perceptions of teachers. *European Journal of Educational Research*.

Peer tutors' experiences in tutoring and teaching language on learners with special needs

Alpanta, Annie R. ✉

Davao del Sur State College, Philippines (annie.alpanta@deped.gov.ph)

Received: 14 July 2026

Available Online: 3 August 2026

Revised: 29 July 2026

DOI: 10.5861/ijrse.2026.26314

Accepted: 2 August 2026

ISSN: 2243-7703

Online ISSN: 2243-7711

OPEN ACCESS



Abstract

This qualitative phenomenological study explored the lived experiences of peer tutors in teaching language to learners with special needs. It aimed to understand how tutors facilitated language learning while managing multiple roles and responsibilities. Peer tutors were purposively selected based on academic performance, willingness to serve, and parental consent. Findings revealed that peer tutoring is not only an instructional method but a transformative educational approach that fosters inclusion, empathy, and reciprocal learning. The study highlighted the importance of integrating peer tutoring into inclusive education programs, emphasizing the need for training in adaptive teaching strategies, communication, and emotional support. It also affirmed the role of peer tutoring in promoting the holistic development of both tutors and learners, consistent with social constructivist principles of collaboration and shared meaning-making. Recommendations include institutionalizing peer tutoring within the Department of Education's inclusive education initiatives and providing training and resources for tutors. School heads should nurture inclusive environments and sustain programs through mentorship and recognition. Teachers are encouraged to model inclusive practices, guide peer tutors, and collaborate with parents in supporting learners' growth. Peer tutors should reflect on their experiences for continuous improvement, while learners with special needs should be given opportunities to participate actively in peer-assisted activities that build confidence and communication skills. Overall, the study emphasized that cultivating empathy, adaptability, and reflective practice among peer tutors strengthens inclusive, engaging, and effective language instruction for learners with special needs.

Keywords: peer tutoring, inclusive education, learners with special needs, language learning

Peer tutors' experiences in tutoring and teaching language on learners with special needs

1. Introduction

Teaching is a complex task that requires teachers to create learning environments that are physically, emotionally, mentally, and socially supportive for all learners. This responsibility becomes even more challenging when teaching learners with special needs (LSEs), who require individualized instruction and inclusive learning opportunities. One strategy widely used to support these learners is peer tutoring, in which a more knowledgeable or skilled student assists a classmate in learning academic concepts and developing social skills. Peer tutoring has been recognized as an effective instructional strategy for supporting learners with special educational needs. It promotes academic engagement, individualized assistance, and positive social interaction while encouraging collaborative learning among students. However, despite its documented benefits, schools continue to face challenges in implementing sustainable peer tutoring programs because of limited resources, scheduling conflicts, and insufficient institutional support. Wu et al. (2025) emphasized that inclusive schools often struggle to maintain consistent peer tutoring sessions due to rigid timetables and the limited availability of tutors and tutees.

Inclusive education ensures that all learners, regardless of their abilities, have equal opportunities to participate in quality education. Mainstreaming learners with special needs into regular classrooms allows them to learn alongside their peers while receiving the support necessary to succeed academically and socially. In many inclusive classrooms, teachers utilize peer tutoring to provide additional academic guidance, encourage participation, and foster meaningful social interactions among learners. In the Philippines, the Department of Education promotes peer-assisted learning through literacy initiatives such as DepEd Memorandum No. 244, s. 2011, which introduced the Shared Reading Project or "Big Brother/Big Sister, Kaklase Ko, Sagot Ko." This program encourages proficient readers to mentor struggling readers, demonstrating the Department's commitment to collaborative learning and literacy development. Research has shown that peer tutoring benefits both tutors and tutees by strengthening academic achievement, enhancing comprehension, improving confidence, and developing communication and social skills (Candelaria, 2023; Abuda & Jaromay, 2021; Berso & Lorente, 2020).

Studies have further demonstrated that students who participate in peer tutoring exhibit improved comprehension, reading fluency, retention, and engagement compared with those receiving only traditional instruction. These positive outcomes indicate that peer tutoring is an effective approach for strengthening learning and promoting students' personal development. Nevertheless, its effectiveness depends on various factors, including learner characteristics, instructional strategies, and the learning environment (Gubalani et al., 2023). Understanding these factors is essential for maximizing the benefits of peer tutoring in inclusive classrooms.

At Don Mariano Marcos Elementary School in Digos City, peer tutoring has been integrated into the Drop Everything and Read (DEAR) Program, a school-wide initiative conducted every Friday to promote reading fluency, comprehension, vocabulary development, and a love for reading. Although the DEAR Program is not exclusively designed for learners with special needs, it supports inclusive education by ensuring that mainstreamed learners with special needs actively participate alongside their classmates. Through peer-assisted reading activities, these learners receive individualized academic and social support while peer tutors develop empathy, leadership, responsibility, and collaborative skills. This practice contributes to the achievement of Sustainable Development Goal 4 (Quality Education) and Sustainable Development Goal 10 (Reduced Inequalities) by promoting equitable learning opportunities for all students.

Despite the continued implementation of peer tutoring and its observable benefits in classroom practice, there is limited empirical research examining the lived experiences of peer tutors who teach language to learners with special needs. Existing studies primarily focus on learners' academic outcomes, while the experiences, challenges,

strategies, and personal growth of peer tutors remain underexplored. This gap highlights the need to investigate how peer tutoring functions within inclusive literacy programs and how it contributes to both learner development and the growth of peer tutors.

Therefore, this qualitative phenomenological study seeks to explore the experiences of peer tutors in tutoring and teaching language to learners with special needs. Specifically, it aims to examine the challenges they encounter, the strategies they employ, and the valuable insights they gain while supporting learners in inclusive classrooms. The findings of this study are expected to contribute to the improvement of inclusive education practices by providing evidence that can guide teachers, school leaders, and the Department of Education in strengthening peer tutoring programs and developing more effective learner-centered interventions for students with special needs.

Research Questions

- What are their experiences in peer tutoring language of learners with special needs?
- What strategies do they employ in their peer tutoring?
- What valuable insights can they share about peer tutoring of learners with special needs?

2. Review of Related Literature

2.1 Peer Tutoring

Peer tutoring is a collaborative instructional approach in which students support one another's learning by assuming the roles of tutor and tutee. Rather than relying solely on teacher-directed instruction, this strategy positions learners as active participants in the learning process. Through explaining concepts, asking questions, and providing feedback, students become more engaged and accountable for their own understanding. Alexander (2023) emphasized that peer tutoring encourages reciprocal learning because students' alternate roles, allowing both tutors and tutees to benefit from the interaction. This reciprocal structure is important because it transforms learning from a passive activity into a shared academic experience.

The benefits of peer tutoring extend beyond the immediate improvement of academic performance. For peer tutors, teaching classmates deepens content mastery because explaining ideas requires organization of thoughts and clearer understanding of subject matter. Carisma and Fulgarinas (2022) found that tutors not only strengthened their comprehension of lessons but also developed valuable personal skills such as creativity, curiosity, leadership, and time management. This suggests that peer tutoring does not merely help struggling learners; it also cultivates higher-order thinking and personal growth among student tutors. In this sense, peer tutoring functions as both an academic intervention and a developmental strategy. However, the success of peer tutoring is not automatic. Topping and Lindsay (2020) argued that peer tutoring becomes effective only when tutors receive sufficient preparation, supervision, and structured guidance. Without these conditions, tutors may unintentionally model incorrect information or reinforce negative learning behaviors. Their argument highlights a crucial point: peer tutoring is not simply placing students together and expecting learning to occur. Instead, it requires thoughtful planning, teacher monitoring, and clear instructional goals. Thus, the quality of implementation determines whether peer tutoring becomes beneficial or ineffective.

In the Philippine context, peer tutoring has been widely promoted as part of literacy development initiatives. According to World Vision (2018), peer tutors are students who help classmates, particularly struggling readers, develop reading skills. This aligns with the Department of Education's National Reading Month initiatives under DepEd Memorandum No. 244, s. 2011, which encouraged schools to implement programs such as "*Kaklase Ko, Sagot Ko*" or Big Brother/Big Sister reading partnerships. In these programs, older or more proficient readers mentor younger or non-reading students (Malipot, 2023). Such programs show how peer tutoring can be localized as a practical response to literacy challenges in schools.

Overall, the reviewed literature demonstrates that peer tutoring is a flexible, research-supported instructional strategy that benefits learners across grade levels, subject areas, and student populations. Its effectiveness lies not only in improving academic achievement but also in fostering communication, collaboration, confidence, and responsibility. For language instruction in particular, peer tutoring provides individualized support in a non-threatening setting where students can actively construct understanding with classmates. As Candelaria (2023) emphasized, when systematically organized and carefully monitored by teachers, peer tutoring becomes a valuable supplement to traditional instruction and a practical means of strengthening students' achievement.

2.2 Inclusive Education

Education is a fundamental human right that helps lift both men and women out of poverty, levels inequality, and promotes sustainable development (UNESCO, 2023). A young person can become a contributing member of society with the aid of a good education. A successful career, good social prestige, a respectable existence, and the chance to realize one's goals are all based on knowledge. It takes a lot of work and desire to get past the first hurdle in order to achieve such a high level. An educated person is aware that they must continue to study and grow throughout their lives in order to be able to notice and take advantage of the many chances that are offered to them. Children that are thought to be different or lacking in comparison to other kids receive education as well as gifted kids (Juliandari & Pasaribu, 2021).

As a result, every child has the right to receive basic education and the ability to attain and maintain a suitable level of education while attending school (UNESCO, 2023). In light of this, all kids ought to have the chance to learn with their peers, enjoy equitable access to the general education system, and be able to get individualized instruction when it's required because of their differences or impairments (United Nations, 2021). It has been demonstrated that peer tutoring is an effective strategy that can be used in an inclusive classroom. It has been demonstrated that this method helps peer tutors grasp the material and develop their self-confidence in particular abilities (Cook, 2021). Inclusive education means diverse pupils from various backgrounds learning together in the same classroom. Together, they take part in after school activities, field trips and student governance (Open Society Foundations, 2023). It is one of the most current trends that many worldwide organizations working to educate individuals with disabilities attempt to promote in different educational systems across the world is inclusive education (Munongi, 2023). Many nations are pursuing inclusive education as an innovative idea and application in tandem with scientific advancement, the education of individuals with disabilities, and in order to fulfill and abide by the relevant international conventions (Madhesh, 2023).

These results imply that merely adopting policies is not enough to achieve sustainable inclusion; in order to guarantee fair access for all students, monitoring systems, substantial material assistance, and continual professional growth are necessary. Furthermore, research indicates that the longevity of inclusive practices is greatly influenced by strong school leadership and a favorable school climate, guaranteeing that students with disabilities and other marginalized learners experience both academic advancement and social inclusion (Ainscow, 2020). Establishing school-wide ideals, encouraging teacher cooperation, and fostering an environment where diversity is valued rather than viewed as a problem are all critical tasks for leaders. Inclusive practices can flourish when supportive leadership, teaching ability, and community involvement are combined.

Vice President Sara Duterte, Secretary of Education in the Philippines, advised educators to always promote inclusive education and to instruct kids in a language they can understand. In her keynote address at the Language and Inclusion Summit, Duterte emphasized the Department of Education's MATATAG "Make the curriculum relevant to produce job-ready, Active and responsible citizens; TAKE steps to accelerate the delivery of basic education services and provision facilities; TAKE good care of learners by promoting learner well-being, inclusiveness learning, and positive learning environment; and Give support for teachers to teacher better". This curriculum states that inclusion can only be the heart and soul of our reforms and efforts to improve basic education if we can put it at the center of what we do. She further stated that the program strengthened literacy among Filipino children in an inclusive manner (Department of Education, 2023).

2.3 *Mainstreaming of Learners with Special Needs*

The promise and challenge of meaningful inclusion in general education settings are highlighted by recent empirical studies on the mainstreaming of students with special needs. When students with mild to moderate disabilities are supported through structured mainstreaming programs that include co-teaching, differentiated instruction, and individualized support plans, they achieve greater academic gains and improved social participation, according to quantitative data from Philippine schools (Traya & Lopez, 2023). These results demonstrate how important well-thought-out teaching methods that are tailored to each student's needs are for promoting social integration and cognitive growth in inclusive classrooms.

This data supports international studies showing that when assistive technology and adaptive learning resources are methodically incorporated into classroom instruction, mainstreamed students gain the most. Students with special needs can access the general curriculum alongside their usually developing peers because to tools including curriculum modifications, interactive learning platforms, and speech-to-text software, which lowers obstacles to learning and participation (Gatchalian, 2025). According to the body of research, mainstreaming can greatly improve the academic and social results of students with special needs, but its effectiveness requires a diversified strategy. Well-trained teachers, easily accessible teaching resources, technology assistance, cooperative family partnerships, and institutional policies that guarantee uniform application are all necessary for effective inclusion. When these factors come together, mainstreaming can promote social interaction, meaningful learning, and fair chances for all students in a variety of educational settings.

In the Philippines, special education has gotten a lot of support as it has grown. The government, non-governmental groups, and stakeholders in response for all these years to the demands and difficulties of the times. The degree to which the public and the government are both the private sector has made significant progress in giving special needs children equal chances. The mainstreaming program is one example of inclusive education in the Philippines. Mainstreaming is the admission of learners with special needs into general educational settings or regular schools. All students' requirements should be met in mainstream educational settings, and any obstacles that would prevent them from participating should be taken down. The Philippine government may be committed to inclusive education through the mainstreaming initiative (Babiano et al., 2023).

In addition, Republic Act No. 11650, or the Establishing a Policy of Inclusion and Services for Learners with Disabilities in Support of Inclusive Education Act, was enacted by former president Rodrigo Roa Duterte on March 11, 2022. This policy will include measures for enhancing access to education and other services as well as the rights of individuals with disabilities. Students with special needs can benefit from engaging in active learning by being integrated into a regular classroom. Despite the diversity and personal differences among the pupils, it also encourages inclusivity. Teachers' attitudes and perspectives regarding mainstreaming vary due to its complexity. They have both favorable and unfavorable views of mainstreaming. Major obstacles for teachers to overcome in adopting inclusive education include a lack of resources, facilities, support from the district, and/or the Department of Education. Teachers employed a variety of instructional techniques and strategies in the conduct of mainstream classroom which includes including peer tutoring (Gubalani et al., 2023).

2.4 *Language Teaching in Learners with Special Needs*

Teaching pupils with special needs is different from teaching ordinary students. Teaching English to special needs kids is typically a challenge for teachers. Communication is the first difficulty the teachers encounter. Teachers frequently fail to communicate with students who have Autism Spectrum Disorder (ASD). Children with ASD may struggle to develop language skills and understand what people say to them. They frequently have trouble communicating nonverbally, such as through hand gestures, eye contact, and facial emotions. It is really challenging to elicit a verbal response from the kids. From the class observation, it was also discovered that the teachers needed to spend more time and effort grabbing the kids' attention for minimal communication, which can take anywhere from two to five months or even up to a year. Most of the time, teachers are unable to discern

between what the students desire and do not want (Yesmin et. al., 2020).

In Iligan, Philippines, the majority of teachers who work with students who have learning disabilities believe they are unqualified to do so since they have not received any special needs education training from the school. Additionally, SPED teachers are not well prepared to deal with students who have disabilities. Second, classes have inadequate learning environments, including a lack of funding, a lack of a curriculum guide, a lack of Instructional Materials (IMs), and even bad school infrastructure. Third, it may be inferred that putting students with special needs in a classroom with regular students is insufficient without the right support. Fourth, students with disabilities did not get all the assistance and services required to utilize the curriculum resources. Fifth, virtually little is being done by stakeholders to meet the requirements of the kids taking SPED programs. The pleasant working environment among school administrators, teachers, and stakeholders, on the other hand, was maintained through technical solutions to concerns and problems (Allam et al., 2021).

On their new normal in teaching English language special education teachers in Maguindanao, experience the following: Limited to Access to Child's Progress, Difficulty to Teach Finger Spelling, Limited face- to -face classes for hearing impaired learners, Lack of Strategy to Assess Students Works Properly, Inadequate Time to Plan Strategies and Assessment. It is also revealed that learning was extremely challenging. Teaching English to special education students is difficult, especially in this time of pandemic; it necessitates a significant amount of effort especially since the teacher is dealing with different disabilities in one classroom (Gallarde et al., 2022).

Studies show that teachers prefer to have students with special needs in their classes, but they lack the resources to meet their academic needs. The majority of general education teachers lack the necessary training to meet the educational needs of students who have behavioral or learning challenges. The presence of assistance, most frequently in the form of teacher assistants, and suitable resources in the classroom is crucial for instructors. The majority of teachers tend to have cautious, if not hostile views toward inclusion in the absence of a guaranteed support system (Hornby and Kauffman, 2024).

2.5 Theoretical Grounding/ Theoretical Framework

This study was viewed through the lens of Zone of Proximal Development (ZPD). Lev Vygotsky, a Russian psychologist, introduced the idea of the ZPD. It describes the range of tasks that a student can complete with the assistance of a more experienced individual, like a peer, mentor, or instructor, but is still unable to complete on their own. To effectively implement peer tutoring within the framework of Vygotsky's ZPD, several key components need to be considered. Here's a framework outlining how peer tutoring can be structured to leverage the principles of the ZPD. First, evaluating of students through determining each student's present level of knowledge and proficiency. Second, pairing up with peer. Third, setting up learning objectives. Fourth, organizing guidance meetings. Fourth, using scaffolding techniques. Teach tutors how to use scaffolding strategies to help the tutee learn. Also, motivate tutors to give tips, cues, and explanations that are specific to the needs of the tutee. Sixth, giving reactions and thoughts. Encourage frequent feedback conversations between tutees and instructors. Lastly, observing and modifying through keeping a close eye on how well the peer tutoring sessions are working (McLeod, 2023).

The ZPD is dynamic and subject to alter as the student picks up new abilities and information. It is a key idea in Vygotsky's sociocultural theory of development, which emphasizes how language, cultural background, and social interaction influence the formation of cognitive abilities. The ZPD has real-world applications for teachers, motivating them to customize their lessons to each student's unique needs and skill level while offering suitable challenges and assistance to promote the best possible learning environment (Cho and Lee, 2020). A theoretical perspective of this study also viewed on conditions of learning theory of Robert Gagne, who emphasized that events in the environment influence the learning process. Gagne's theory identifies the general types of human capabilities that are learned (Mohamad et al., 2025). Conditions of learning theory and peer tutoring both emphasize structured, learner-centered experiences that promote active participation and skill mastery. Gagné

highlights the role of practice, performance, and feedback in stimulating cognition, while peer tutoring encourages deeper understanding through explanation, questioning, and problem-solving (Aju, 2022). Through these frameworks, teachers can systematically observe learners' behavior and gain deeper insights into the tutors' experiences, learning processes, and challenges in teaching language to learners with special needs. These perspectives also help educators design more effective support strategies that promote inclusive and meaningful language learning for all students. Furthermore, they provide a strong foundation for improving peer tutoring practices and enhancing the overall quality of special education programs.

3. Methodology

3.1 Research Locale

This study was conducted in Don Mariano Marcos Elementary School, Digos Oriental District, Division of Digos City. Don Mariano Marcos Elementary School is one of the schools of Digos City Division that offers Special Education. In line with this, those learners with special needs who are capable enough to adapt to the rigors of the general education classroom are mainstreamed. Mainstreaming is the inclusion of learners with special needs into general educational setting. In Grade 4 level of Don Mariano Marcos Elementary School, there were seven learners who were mainstreamed and there were eight identified peer tutors.

3.2 Research Design

In this research, a qualitative phenomenological approach was taken to collection. Data gathered by the researcher through first-hand observation, interviews, questionnaires, participant observation, recordings recorded in natural settings, and documents were the primary sources of information utilized in this research.

3.3 Research Participants

This study had eight participants, and they were peer tutors of Grade 4 level of Don Mariano Marcos Elementary School, Digos Oriental District, Division of Digos City. The participants were selected according to the following criteria: student of Don Mariano Marcos Elementary School, grade 4 level; had above 89 general average in school year 2024-2025; those who were willing to become a peer tutor; those who were allowed by their parents to be a peer tutor. Excluded from this were those who were not enrolled in Don Mariano Marcos Elementary School, not from Grade 4 level, has below 89 average in the previous school year, not willing to be a peer tutor and were not consented by their parents to be part of the research study.

On the other hand, seven tutees participated in this study. They were Learners with Special Needs (LSENs) from Don Mariano Marcos Elementary School who were mainstreamed in the Grade 4 level. The participants in this study were chosen through a method called purposeful sampling. This purposeful sampling results in a greater depth of knowledge gleaned from a smaller number of carefully chosen cases. Using this method, the researcher found the participants using the established criteria from which eight were selected who undergone a one-on-one interview. The said number is acceptable for phenomenological study (Creswell, 2017).

4. Results and discussion

4.1 Experiences of Peer Tutors in Tutoring Language of Students with Special Needs

Peer tutors experienced significant communication challenges when teaching learners with special needs, particularly due to limited comprehension, complex vocabulary, and communication barriers. Many learners struggled to understand instructions, explanations, and classroom tasks, requiring tutors to repeatedly explain concepts, simplify language, and break lessons into manageable parts. Difficulties with unfamiliar or abstract

vocabulary further reduced learner engagement and interrupted the flow of instruction. These findings are consistent with studies by Norouzi (2023), which emphasized the importance of repeated interactions and structured dialogue to improve comprehension, and by Jumud et al. (2023), who found that many Filipino learners remained at a frustrated comprehension level despite peer tutoring. Similarly, Sparapani et al. (2021) reported that learners with receptive language difficulties often receive limited rich language input, highlighting the need for adaptive, learner-centered strategies such as repetition, multisensory instruction, and play-based activities.

Communication barriers also limited learners' ability to express themselves, follow verbal instructions, and participate in meaningful interactions. Many learners demonstrated weak expressive and receptive language skills, making it difficult for tutors to determine whether they understood the lesson or needed additional support. As a result, peer tutors relied on repeated questioning, careful observation, visual aids, gestures, and simplified prompts to facilitate communication. These findings suggest that peer tutors should be trained in communication-support strategies, including scaffolding language, using nonverbal cues, recognizing signs of misunderstanding, and creating supportive learning environments that encourage learners to communicate confidently.

Behavioral challenges, particularly hyperactivity and environmental sensitivity, also affected the effectiveness of peer tutoring sessions. Learners often displayed restlessness, impulsive behavior, excessive movement, and difficulty sustaining attention, requiring tutors to continuously redirect their focus while simultaneously providing academic support. These behaviors increased the cognitive and emotional demands placed on peer tutors and often disrupted lesson flow. Consistent with these findings, Yegencik et al. (2025) reported that although school-based interventions improve attention and academic skills, hyperactivity remains difficult to manage through school interventions alone, reinforcing the need for structured and adaptive tutoring approaches.

Environmental sensitivity further complicated tutoring sessions, as many learners were easily distracted by classroom noise, classmates' movements, and other visual or auditory stimuli. Tutors frequently had to repeat instructions, modify activities, and regain learners' attention to sustain engagement. These findings align with Mallory and Keehn (2021), who found that sensory processing difficulties reduce task engagement, and Thompson and Martin (2022), who highlighted classroom noise as a major contributor to off-task behavior among neurodiverse learners. Such evidence underscores the importance of implementing sensory-sensitive teaching practices during peer tutoring.

Finally, the physical learning environment significantly influenced the quality of language tutoring sessions. Crowded, noisy classrooms and the absence of quiet, dedicated learning spaces reduced learners' concentration and limited effective communication between tutors and tutees. These environmental conditions often undermined the benefits of peer tutoring, particularly for learners who are highly sensitive to distractions. As emphasized by Margas (2023), maintaining a calm, structured, and inclusive classroom climate that promotes acceptance, empathy, and mutual respect is essential for maximizing learner engagement and improving the effectiveness of peer tutoring for learners with special needs.

4.2 Strategies Employ by Peer Tutors in Tutoring Language of Students with Special Needs

Peer tutors recognized that addressing learners' comfort and basic needs enhanced the effectiveness of language tutoring by creating a supportive, stable, and emotionally safe learning environment. Beyond academic instruction, tutors ensured that learners were comfortable, allowed breaks when they became tired, provided encouragement, and minimized distractions before beginning lessons. These practices helped learners remain focused, motivated, and emotionally prepared to participate in language activities. The findings imply that peer tutoring programs should adopt a holistic, learner-centered approach by training tutors to recognize signs of fatigue, discomfort, or emotional stress and to establish calm, structured, and supportive learning environments. Empirical evidence by Van der Meulen et al. (2021) supports this finding, demonstrating that learners with special educational needs show greater behavioral, emotional, and cognitive engagement when their autonomy, relatedness, and competence are supported.

To overcome communication challenges such as limited comprehension, complex vocabulary, and communication barriers, peer tutors relied on repetition, reinforcement, multisensory instruction, and learner-centered scaffolding. Repeated practice and structured review enabled learners to retain language concepts more effectively, while visual aids, gestures, flashcards, pictures, tactile materials, and interactive activities strengthened comprehension, vocabulary development, and memory retention. Tutors further adapted instruction by simplifying language, slowing the pace of lessons, repeating explanations, and using nonverbal supports to match learners' readiness, communication abilities, and sensory preferences. These findings suggest that peer tutoring programs should intentionally integrate evidence-based repetition techniques, multisensory learning materials, and individualized instructional adaptations. Consistent with Butowska et al. (2024), spaced repetition enhances long-term memory, while these multisensory and scaffolded approaches promote inclusive and responsive language instruction.

Peer tutors also addressed learners' behavioral challenges by incorporating creative, interactive, and play-based teaching strategies that maintained attention and increased motivation. Through educational games, storytelling, singing, digital tools, puzzles, manipulatives, role-playing, and cooperative activities, tutors transformed language learning into enjoyable and meaningful experiences. These multisensory activities reduced off-task behaviors, minimized learning anxiety, and encouraged active participation while strengthening vocabulary, phonemic awareness, comprehension, and communication skills. The findings support Oikarinen and Havu (2022), who emphasized that multimodal and play-based instruction enhances engagement, comprehension, and long-term retention among learners with special needs by promoting active participation and strengthening neural connections associated with learning.

Peer tutors sustained learners' motivation through positive reinforcement, supportive communication, and nurturing relationships. Praise, patience, encouragement, token economies, and opportunities for play fostered learners' confidence, reduced anxiety, and increased their willingness to participate in language activities. Immediate and constructive feedback helped reinforce desired behaviors, improve attention, and strengthen communication skills, particularly among learners with developmental and attentional difficulties. These findings highlight the importance of equipping peer tutors with strategies that combine positive reinforcement and responsive communication to build trusting tutor–learner relationships and promote sustained engagement. This is supported by Gitimoghaddam et al. (2022), who found that immediate feedback and positive reinforcement significantly improve communication, social interaction, and learning engagement among learners with autism when implemented in natural peer-mediated learning environments.

4.3 Valuable Insights of Peer Tutors in Tutoring Language of Students with Special Needs

Peer tutoring fostered the development of empathy, patience, and inclusive dispositions among tutors through continuous interaction with learners with special needs. By observing learners' perspectives, regulating their own responses, and adapting instruction to individual needs, tutors became more emotionally sensitive, patient, and committed to inclusive education. These experiences strengthened their ability to support diverse learners and promoted more inclusive classroom practices. The findings suggest that sustained peer-mediated interactions cultivate positive personal dispositions that extend beyond tutoring sessions. This is consistent with Van den Broeck et al. (2021), who reported that peer-support programs enhance empathy, social awareness, communication skills, and positive attitudes toward inclusion, particularly when combined with training and reflective activities. Similarly, Feng et al. (2024) found that well-structured Peer-Assisted Learning (PAL) programs develop tutors' interpersonal competencies, leadership, and readiness to support diverse learners.

Peer tutoring also contributed significantly to tutors' personal growth and future career preparation by providing authentic teaching experiences that developed confidence, adaptive instruction, classroom management, communication, and reflective practice. Through repeated teaching opportunities, tutors gained a deeper understanding of learners with special needs and recognized the importance of individualized instruction and continuous support. These experiences mirror essential competencies expected of future educators, suggesting that

peer tutoring serves as an effective experiential learning platform. Toulia (2023) supports these findings, emphasizing that inclusive peer tutoring promotes reflective practice, leadership, and commitment to inclusive education, making it a valuable component of teacher preparation.

In addition to professional readiness, peer tutoring strengthened tutors' academic mastery and metacognitive development. Preparing lessons, explaining concepts, anticipating learners' misconceptions, and evaluating instructional strategies deepened tutors' understanding of language concepts while enhancing their planning, monitoring, and self-evaluation skills. These experiences encouraged greater academic responsibility, improved study habits, and increased confidence in teaching. Research likewise indicates that peer tutoring enhances tutors' metacognitive skills, reflective practice, content mastery, and self-regulated learning, particularly when programs intentionally incorporate metacognitive prompts, questioning techniques, and structured feedback (Al Yahyaei et al., 2024).

Peer tutoring also provided tutors with a strong sense of emotional fulfillment. Building compassionate relationships with learners, celebrating their progress, and witnessing improvements in confidence and communication gave tutors a sense of purpose, accomplishment, and self-worth. These meaningful interactions nurtured empathy, patience, and emotional intelligence while reinforcing the value of helping others succeed. The findings suggest that peer tutoring benefits not only learners but also tutors' emotional well-being. Toulia (2023) similarly reported that inclusive peer tutoring enhances emotional awareness, empathy, and motivation by creating supportive and emotionally secure learning environments for both tutors and learners.

Finally, peer tutoring strengthened tutors' interpersonal relationships and social development through continuous collaboration and meaningful interactions with learners with special needs. Tutors developed active listening, empathy, respectful communication, flexibility, and teamwork while learning to adjust their communication styles according to learners' diverse needs. These experiences fostered a strong sense of belonging, mutual respect, and shared responsibility, creating an inclusive classroom community that supported the growth of both tutors and tutees. Consistent with these findings, Toulia (2023) concluded that inclusive peer tutoring promotes prosocial behavior, tolerance, social understanding, and stronger interpersonal relationships among peer tutors.

5. Summary, implications, recommendations

5.1 Summary

This qualitative phenomenological study explored the experiences of peer tutors of Grade 4 Level of Don Mariano Marcos Elementary School, Digos Oriental District, Division of Digos City. It focused on participants' facilitation in tutoring language of students with special needs.

A variety of experiences were recalled, considered, and expressed in the participants' own words. In order to identify the developing themes of the study, key phrases from the comments and transcripts were recognized as thematic statements. Navigating complexities in creating supportive and inclusive language learning environments for learners with special needs, was the general theme created for the experiences of peer tutors in tutoring language of students with special needs. Out from this theme, there were three sub-themes created and these are the following: communication, behavioral and environmental challenges. Based on their shared experiences it was emphasized the need for emotional intelligence, flexibility, and resilience in addition to instructional proficiency when coaching students with special needs. Establishing a welcoming and inclusive learning environment was a dynamic process that requires ongoing adaptation, introspection, and empathy.

Implementing adaptive and multisensory instructional approaches to foster engagement, comprehension, and retention in language learning for students with special needs was general theme created for strategies employ by peer tutors in tutoring language of students with special needs. Out from this, it generated seven sub-themes

namely : enhancing learning and retention through repetition and reinforcement, utilizing creative and interactive teaching, adapting instructions and learner-centered scaffolding, using multi-sensory and visual strategies for language development, integrating play-based interactive and creative learning, facilitating engagement through attending to learner comfort and basic needs, and motivating and engaging through positive reinforcement and supportive communication.

In particular, the findings showed in coaching kids with special needs, the importance of emotional intelligence, adaptability, and resilience in addition to instructional excellence. The process of creating a warm and inclusive learning environment was dynamic and calls for constant adjustment, reflection, and empathy. Lastly, holistic personal and professional development through empathetic and inclusive peer tutoring was the general theme created for the valuable insights peer tutors in tutoring language of students with special needs. Out from this, it generated five sub-themes, namely: development of empathy, patience, and inclusive dispositions, personal growth and professional readiness, academic mastery and metacognitive growth, fostering personal growth and emotional fulfillment through altruistic engagement, and social connection and interpersonal growth.

5.2 Implications

The findings of this study have significant implications for inclusive education, particularly in strengthening the implementation of peer tutoring as a supportive strategy for learners with special needs. The experiences of peer tutors revealed that while peer tutoring promotes inclusion and collaborative learning, tutors also faced communication challenges such as learners' limited comprehension, difficulty with complex vocabulary and communication barriers which implies that peer tutors must be trained in strategies that accommodate varying levels of communicative ability, including the use of nonverbal cues, scaffolding language input, and creating a safe, low-pressure environment that encourages learners to express themselves. Tutors also need skills to recognize signs of misunderstanding, prompt responses effectively, and adapt their teaching style to each learner's communicative needs.

Tutors also encountered behavioral challenges including hyperactivity and environmental sensitivity. These findings highlight that environmental sensitivity demands careful management and a supportive instructional environment, as tutors must navigate both behavioral regulation and emotional reassurance to ensure effective learning for students with special needs. Tutors must devote more time and energy to keeping these students' attention and emotional comfort since they are quickly distracted by movement, noise, or changes in their environment. This suggests that in order to lessen sensory overload, controlled, low-distraction learning environments and the application of soothing, regular routines are necessary.

The last challenges that peer tutors experienced was the environmental challenges which include notably noisy classroom. The results show important implications for the planning and execution of language tutoring programs for students with exceptional needs. The efficiency of peer tutoring sessions was considerably diminished by the ongoing environmental issues, such as noise, congested locations, and the lack of dedicated quiet learning areas. The absence of a controlled, low-stimulation setting made it difficult for students with exceptional needs to stay focused, follow directions, and persevere through reading assignments since they are extremely sensitive to visual and aural distractions. In order to ensure that physical environments support rather than impede the learning and communication needs of children with special needs, program developers and school administrators should view environmental management as a crucial part of inclusive education.

According to the study, peer tutoring provides significant chances for the overall growth of both tutors and tutees. Peer tutors help students with special needs succeed academically and socially, but they also help them develop critical abilities like problem-solving, effective communication, emotional control, and social responsibility. However, managing behavioral issues, communication breakdowns, and environmental sensitivities necessitates constant direction and emotional support from educators, highlighting the necessity of organized mentoring and monitoring. These results are consistent with social constructivism's tenets, which highlight

education as a socially mediated process based on communication and collective meaning-making.

Lastly, the results have significant ramifications for inclusive education practice and policy. By proactively addressing the linguistic, behavioral, and environmental problems that come with teaching students with special needs, integrating peer tutoring into the basic education curriculum can reinforce schools' commitment to inclusion. By integrating structured peer tutoring programs into regular classroom activities, schools may establish learner-centered, low-distraction, supportive settings that celebrate variety and promote teamwork. Schools may create more equitable, compassionate, and inclusive learning environments where all students, regardless of ability, are given meaningful opportunity to achieve academically, socially, and emotionally by methodically tackling these issues.

5.3 Recommendations

Based on the thematic qualitative results, these are the recommendations that address the communication, behavioral, and environmental challenges encountered by peer tutors in teaching language to learners with special needs, the researcher recommended the following:

Department of Education (DepEd) officials may consider strengthening and improving peer tutoring programs by formally integrating them as a core component of inclusive education initiatives. To enhance program effectiveness, DepEd may reinforce inclusive education policies through the development of specialized training modules focused on communication scaffolding strategies, such as simplifying language, pre-teaching vocabulary, and utilizing visual and multimodal supports. To guarantee program quality and accountability, clear policy guidelines should be developed to define the qualifications, selection criteria, and responsibilities of peer tutors, while also addressing concerns regarding the appropriateness of children serving as peer tutors, including their maturity, capability, readiness, and ability to support their peers effectively

School Heads or Principals are encouraged to establish welcoming spaces that inspire cooperation, compassion, and diversity among students. They may ensure the availability of appropriate tutoring areas and facilitate regular capacity-building sessions that enhance tutors' skills in simplifying instructions, managing behavioral concerns, and adjusting to learners' sensitivities by include peer tutoring programs in school improvement plans and offering peer tutors monitoring, mentorship, and recognition systems, they should guarantee the programs' long-term viability.

Teachers, particularly in language and SPED programs, may closely guide peer tutors by modeling simple, age-appropriate communication strategies and closely monitoring tutoring sessions to ensure consistent and effective support for Grade 4 tutors. Teachers may demonstrate inclusive teaching practices such as using short instructions, familiar vocabulary, visual aids, and guided practice suited to the developmental level of both tutors and tutees. Regular observation, feedback, and coaching should be provided to help peer tutors improve their teaching and interaction skills.

Peer tutors are encouraged to use clear and concise language, visual cues, and positive behavior management techniques, while also embracing the opportunity to cultivate empathy—a core value in Values Education—through their meaningful interactions with learners who need patience and understanding. Peer tutors may also be given formal chances to reflect on their experiences, and peer tutoring should be incorporated as a supplemental educational technique to differentiated teaching.

Parents of both peer tutors and learners with special needs may reinforce supportive attitudes at home by encouraging empathy, responsibility, and willingness to assist others, while also communicating with teachers to help address challenges tutors may encounter. They should be encouraged to support and reinforce inclusive values at home. They may collaborate with teachers to monitor their children's progress and emotional well-being, ensuring that peer tutoring experiences remain positive and constructive. Parental awareness and involvement can also help sustain motivation and consistency in learners' engagement with language activities.

6. References

- Abuda, B. F., & Jaromay, R. (2021). Effect of peer tutoring on the mathematics performance of Grade 5 learners in a public elementary school. *International Journal of Global Community*, 4(3), 239–246.
<https://doi.org/10.33473/ijgc-ri.v4i3-Nov.94>
- Ainscow, M. (2020). Promoting inclusion and equity in education: Lessons from international experiences. *Nordic Journal of Studies in Educational Policy*, 6(1), 7–16.
<https://doi.org/10.1080/20020317.2020.1729587>
- Aju, C. (2022). Understanding conditions of learning: Gagné's 9 events of instruction. HackerNoon.
<https://hackernoon.com/understanding-conditions-of-learning-gagnes-9-events-of-instruction>
- Al Yahyaie, A., Natarajan, J. R., Seshan, V., Joseph, M. A., Valsaraj, B. P., & Al Abri, F. H. (2024). The usefulness of peer tutoring and its impact on nursing students' academic performance, psychological empowerment, and satisfaction: Pre-post design. *SAGE Open Nursing*, 10, Article 23779608241282168.
<https://doi.org/10.1177/23779608241282168>
- Alexander, S. (2023). What is peer tutoring and how does it compare to other tutoring methods? Alexander Math and Physics Tutoring. <https://alexandertutoring.com/tutoring-resource-guide/what-is-peer-tutoring-and-how-does-it-compare-to-other-tutoring-methods/>
- Allam, F. C., & Martin, M. M. (2021). Issues and challenges in special education: A qualitative analysis from teacher's perspective. *Southeast Asia Early Childhood Journal*, 10(1), 37–49.
<https://doi.org/10.37134/saecj.vol10.1.4.2021>
- Babiano, E. H., Bucoy, M. L. R., Busime, E. L., De Borja, J. M. A. & Espeño, S. R., (2023). Issues and challenges of implementing special education (SPED) curriculum in the Philippines: A systematic literature review *Jurnal Inovasi Pendidikan*, 2(4). <https://doi.org/10.60132/jip.v2i4.390>
- Berso, L. B., & Lorente, R. M. (2020). Peer tutoring: Exploring the effects on learning Grade 9 mathematics. *PEOPLE: International Journal of Social Sciences*, 5(3), 881–894.
<https://doi.org/10.20319/pijss.2020.53.881894>
- Butowska-Buczyńska, E., Kliś, P., Zawadzka, K., & Hanczakowski, M. (2024). The role of variable retrieval in effective learning. *Proceedings of the National Academy of Sciences of the United States of America*, 121(44), e2413511121. <https://doi.org/10.1073/pnas.2413511121>
- Candelaria, P. (2023). Peer tutoring on enhancement of mathematics performance of selected grade 6 students at Gregorio Herradura Elementary School, Victoria, Laguna, Philippines. *International Journal of Education, Technology and Science (IJETS)*, 3(2), 125–135.
<https://ijets.org/index.php/IJETS/article/view/87>
- Carisma, M. T., & Fulgarinas, J. B. (2022). Community of practice in mathematics for peer tutoring program. *Globus Journal of Progressive Education*, 12(2), 1–8. <https://doi.org/10.46360/globus.edu.220222001>
- Cho, B.-Y., & Lee, H.-J. (2020). Exploring the use of scaffolding strategies in a virtual learning environment: A sociocultural perspective. *Journal of Educational Computing Research*, 58(3), 523–545.
<https://doi.org/10.30564/fls.v7i6.9624>
- Cook, A. (2021). Peer tutoring in special education. Study.com.
<https://study.com/academy/lesson/peer-tutoring-in-special-education.html>
- Creswell, J. W. (2017). Steps in conducting a scholarly mixed methods study [Powerpoint slides]. University of Nebraska-Lincoln.
<https://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1047&context=dberspeakers>
- Creswell, J. W., & Creswell, J. D. (2017). Research design: Qualitative, quantitative, and mixed methods approaches (4th ed.). Sage Publications, Inc.
https://www.ucg.ac.me/skladiste/blog_609332/objava_105202/fajlovi/Creswell.pdf
- Department of Education. (2023, May 22). VP Sara bares plans towards achieving inclusion in basic education during Language and Inclusion Summit. <https://www.deped.gov.ph/2023/05/22/vp-sara-bares-plans-towards-achieving-inclusion-in-basic-education-during-language-and-inclusion-summit/>
- Feng, H., Luo, Z., Wu, Z., Li, X., & Zhang, Y. (2024). Effectiveness of peer-assisted learning in health

- professional education: A scoping review of systematic reviews. *BMC Medical Education*, 24, Article 1467. <https://doi.org/10.1186/s12909-024-06434-7>
- Gallarde Jr., F. R., Gatera, M. D., Buscato, L., & Villaries, P. J. (2022). A phenomenological study on the lived experiences of SPED English teachers in BARM region. *East Asian Journal of Multidisciplinary Research*, 1(7), 1343–1364. <https://doi.org/10.55927/eajmr.v1i7.856>
- Gatchalian, M. D. (2025). Mainstreaming on academic and social outcomes of students with special needs. *International Journal of Social Science and Human Research*, 8(9), 7218–7232. <https://doi.org/10.47191/ijsshr/v8-i9-64>
- Gitimoghaddam, M., Chichkine, N., McArthur, L., Sangha, S. S., & Symington, V. (2022). Applied behavior analysis in children and youth with autism spectrum disorders: A scoping review. *Perspectives on Behavior Science*, 45(3), 521–557. <https://doi.org/10.1007/s40614-022-00338-x>
- Gubalani, J., Basco, J., Bulig, M. R., & Bacatan, J. (2023). The effectiveness of peer tutoring in enhancing reading comprehension of ninth grade students. *Canadian Journal of Language and Literature Studies*, 3(4), 75–89. <https://doi.org/10.53103/cjlls.v3i4.108>
- Hornby, G., & Kauffman, J. M. (2024). Inclusive education, intellectual disabilities and the demise of full inclusion. *Journal of Intelligence*, 12(2), 20. <https://doi.org/10.3390/jintelligence12020020>
- Juliandari, F., & Pasaribu, M. (2021). Inclusive Islamic education learning in the time of COVID-19 in the SD Istana Hati Binjai. *Proceedings of the International Seminar on Islamic Studies*, 2(1), 631–638. DOI: <https://doi.org/10.3059/insis.v2i1.6355>
- Jumuad, S., Mendez, J., Redondo, K. R., & Cagas, R. L. (2023). Effects of peer tutoring on the level of reading comprehension of young learners. *International Journal of Educational Management and Development Studies*, 4(3), 1–15. <https://doi.org/10.53378/352995>
- Madhesh, A. (2023). The concept of inclusive education from the point of view of academics specialising in special education at Saudi universities. *Humanities and Social Sciences Communications*, 10, Article 278. <https://doi.org/10.1057/s41599-023-01802-y>
- Malipot, M. H. (2023, November 11). DepEd leads National Reading Month celebration this November. *Manila Bulletin*. <https://mb.com.ph/2023/11/11/dep-ed-leads-national-reading-month-celebration-this-november/>
- Mallory, C., & Keehn, B. (2021). Implications of sensory processing and attentional differences associated with autism in academic settings: An integrative review. *Frontiers in Psychiatry*, 12, Article 695825. <https://doi.org/10.3389/fpsy.2021.695825>
- Margas, N. (2023). Inclusive classroom climate development as the cornerstone of inclusive school building: Review and perspectives. *Frontiers in Psychology*, 14, Article 1171204. <https://doi.org/10.3389/fpsyg.2023.1171204>
- McLeod, S. (2023). Vygotsky's Zone of Proximal Development and scaffolding theory. *Simply Psychology*. <https://www.simplypsychology.org/zone-of-proximal-development.html>
- Mohamad, S. A., Zaharudin, R., Ariffin, H. F., & Mat Deli, M. (2025). Gagné's instructional design in vocational training: Insights from a bibliometric analysis. *International Journal of Research and Innovation in Social Science*, 9(3), 289–302. <https://doi.org/10.47772/IJRISS.2025.90300024>
- Munongi, L. (2023). Townships' high school learners' views on the implementation of the right to education: A social justice perspective. *Athens Journal of Education*, 10(1), 153–172. <https://doi.org/10.30958/aje.10-1-9> and <https://www.athensjournals.gr/education/2023-10-1-9-Munongi.pdf>
- Norouzi, G. (2023). Impact of peer mediated instructional strategies within inclusive education settings. *Psychological Research in Individuals With Exceptional Needs*, 1(3), 11–18. <https://doi.org/10.61838/kman.prien.1.3.3>
- Oikarinen, R. M., Oikarinen, J. K., & Havu-Nuutinen, S. (2022). Students' collaboration in technology-enhanced reciprocal peer tutoring as an approach towards learning mathematics. *Education and Information Technologies*, 27, 7519–7548. <https://doi.org/10.1007/s10639-021-10799-3>
- Open Society Foundations. (2023). Open Society Scholarship Programs evaluation report.

- <https://www.opensocietyfoundations.org/publications/open-society-scholarship-programs-evaluation-report>
- Peregrino, C. M. C., & Villocino, R. P. (2025). Effects of peer tutoring on the reading fluency of learners: An experimental study. *International Journal for Multidisciplinary Research*, 7(4), Article 53016. <https://doi.org/10.36948/ijfmr.2025.v07i04.53016>
- Sparapani, N., Reinhardt, V. P., Hooker, J. L., Morgan, L., Schatschneider, C., & Wetherby, A. M. (2022). Evaluating teacher language within general and special education classrooms serving elementary students with autism. *Journal of Autism and Developmental Disorders*, 52(5), 2284–2299. <https://doi.org/10.1007/s10803-021-05115-4>
- Thompson, K., & Martin, D. (2022). Managing auditory distractions in inclusive classrooms: Implications for neurodiverse learners. *International Journal of Educational Psychology*, 11(3), 215–229. Retrieved from <https://www.ijepjournal.org/>
- Topping, K. J., & Lindsay, G. (2020). Peer tutoring: Past, present, and future. In *Handbook of peer-to-peer learning*. (pp. 1–20). Routledge. <https://www.routledge.com/Handbook-of-Peer-to-Peer-Learning>
- Toulia, A., Strogilos, V., & Avramidis, E. (2023). Peer tutoring as a means to inclusion: Developing empathy and social understanding in tutors. *International Journal of Inclusive Education*, 31(2), 213–229. <https://doi.org/10.1080/09650792.2021.1911821>
- Traya, E. & Lopez, E. (2023). Mainstreaming learners with special educational needs in regular classes: Its impact on teachers' attitude and self-efficacy towards inclusion. *Psychology and Education: A Multidisciplinary Journal*, 8(9), 1079-1099. <https://doi.org/10.5281/zenodo.7936413>
- United Nations Educational, Scientific and Cultural Organization (2023). Inclusive education. <https://policytoolbox.iiep.unesco.org/glossary/inclusive-education/>
- United Nations Department of Economic and Social Affairs. (n.d.). Toolkit on disability for Africa: Inclusive education. <https://www.un.org/esa/socdev/documents/disability/Toolkit/Inclusive-Education.pdf>
- Van der Meulen, K., Granizo, L., & del Barrio, C. (2021). Emotional peer support interventions for students with SEND: A systematic review. *Frontiers in Psychology*, 12, Article 797913. <https://doi.org/10.3389/fpsyg.2021.797913>
- Van den Broeck, A., Vansteenkiste, M., De Witte, H., & Lens, W. (2021). Need-supportive and need-thwarting teacher behavior: Their importance to boys' and girls' academic engagement and procrastination behaviour. *Frontiers in Psychology*, 12, Article 628064. <https://doi.org/10.3389/fpsyg.2021.628064>
- Van der Meulen, K., Granizo, L., & del Barrio, C. (2021). Emotional peer support interventions for students with SEND: A systematic review. *Frontiers in Psychology*, 12, Article 797913. <https://doi.org/10.3389/fpsyg.2021.797913>
- World Vision Philippines. (2018, September 8). The little teacher. <https://www.worldvision.org.ph/stories/the-little-teacher/>
- Wu, P.-F., & Hong, R.-Y. (2025). Using peer tutoring to enhance inclusion for students with moderate to severe intellectual disabilities in Taiwan. *International Journal of Research in Special Education*, 5(1), 1–8. <https://doi.org/10.22271/27103862.2025.v5.i1a.92>
- Yegencik, B., Bell, B. T., & Deniz, E. (2025). School-based randomized controlled trials for ADHD and accompanying impairments: A systematic review and meta-analysis. *Frontiers in Psychology*, 16, Article 1611145. <https://doi.org/10.3389/fpsyg.2025.1611145>
- Yesmin, Q. F., Ullah, S., & Khan, M. E. I. (2020). Teaching language to the special children: Challenges and possibilities. *EPRA International Journal of Multidisciplinary Research (IJMR)*, 6(6), 406–410. <https://doi.org/10.36713/epra4479>

Lived experiences of ARAL tutors: A narrative literature review on social-emotional learning in learning recovery programs

Alcantara, Mark Raymon ✉

Don Mariano Marcos Memorial State University – North La Union Campus, Philippines
(alcantara.mrc09@gmail.com)



ISSN: 2243-7703
Online ISSN: 2243-7711

Received: 23 July 2026
Available Online: 5 August 2026

Revised: 1 August 2026
DOI: 10.5861/ijrse.2026.26363

Accepted: 4 August 2026

OPEN ACCESS

Abstract

The Academic Recovery and Accessible Learning (ARAL) Program in the Philippines educational setting serves as a national strategy to address pandemic-related learning losses, with tutors playing a central role in its implementation. This narrative literature review centers on existing related review on ARAL and Social-Emotional Learning (SEL), with a focus on tutors' lived experiences. Recent literature, including empirical studies and policy documents, was analyzed thematically. Three major themes emerged: leadership and instructional practices, tutors' social-emotional well-being, and community and systemic support. Findings indicate that SEL enhances tutors' instructional effectiveness, resilience, and learner engagement; however, challenges such as increased workload, insufficient training, and limited resources persist. The review highlights a significant gap in qualitative research on tutors' lived experiences and calls for context-sensitive SEL integration and professional development to strengthen ARAL implementation.

Keywords: Academic Recovery and Accessible Learning (ARAL), Social-Emotional Learning (SEL), tutors' lived experiences, learning recovery, instructional practices

Lived experiences of ARAL tutors: A narrative literature review on social-emotional learning in learning recovery programs

1. Introduction

Education systems worldwide have traditionally prioritized academic achievement as the primary indicator of student success. However, growing global evidence suggests that cognitive development alone is insufficient to prepare learners for the complex social, emotional, and moral demands of contemporary life. Increasing concerns related to students' mental health, emotional well-being, interpersonal relationships, school violence, behavioral problems, and poor coping skills have prompted educators and policymakers to re-examine the goals of education beyond academic performance (UNESCO, 2023).

In response to these challenges, Social-Emotional Learning (SEL) has emerged as a vital educational approach that focuses on developing learners' ability to understand and manage emotions, build healthy relationships, demonstrate empathy, and make responsible decisions. Although SEL does not have a single founder, its philosophical roots can be traced to progressive and humanistic education theories. Educational philosopher John Dewey emphasized the importance of educating the "whole child," arguing that learning is inherently social and emotional. Similarly, psychologists such as Lev Vygotsky highlighted the role of social interaction in learning, while Howard Gardner's theory of multiple intelligences recognized interpersonal and intrapersonal intelligences as crucial components of human development (Weissberg et al, 2015).

In addition, the modern conceptualization of SEL was strongly shaped by Daniel Goleman, whose work on emotional intelligence brought global attention to the idea that emotional and social competencies are as essential as intellectual abilities. Building on these principles, the Collaborative for Academic, Social, and Emotional Learning (CASEL) was established in 1994 and provided a structured, research-based framework for SEL implementation in schools. CASEL's five core competencies: self-awareness, self-management, social awareness, relationship skills, and responsible decision-making, are now internationally recognized and widely adopted. Moreover, despite strong evidence supporting the benefits of SEL, including improved academic performance, positive behavior, emotional regulation, and long-term life outcomes, many schools, particularly in developing contexts, continue to emphasize content-based instruction with limited integration of social-emotional competencies. In some educational settings, SEL is implemented informally, inconsistently, or is left to guidance programs rather than being embedded systematically in classroom instruction and school culture. Tutors may also lack enough training, resources, or awareness to intentionally develop students' social and emotional competencies (Durlak et al., 2011).

But the idea stated above was affected by the global learning crisis exacerbated by the COVID-19 pandemic compelled education systems to adopt targeted recovery initiatives addressing both academic deficits and learner well-being. Education was greatly affected with the closing of schools and distance learning was implemented. In the Philippine educational context, learners face increasing social and emotional challenges brought about by pandemic, academic pressure, family issues, socioeconomic difficulties, and the effects of technological exposure and post-pandemic experiences. While the Department of Education promotes values education and learner well-being, there remains a need for empirical studies that examine how social-emotional learning is understood, practiced, and perceived in schools, as well as how it influences students' behavior, engagement, and overall development.

The Department released DepEd Order No. 18, s. 2025 last June 13, 2025 with the title "Implementing Guidelines of the Academic Recovery and Accessible Learning Program". One major effect of integrating SEL into the ARAL Program is the increase in learners' motivation and engagement. SEL helps learners develop self-awareness and self-management skills, enabling them to recognize their strengths and manage frustration

during learning activities. Learners who feel emotionally supported are more willing to participate in remediation sessions and persist in academic tasks. Research shows that SEL interventions improve students' attitudes toward learning and increase classroom participation, particularly among struggling learners (Durlak et al., 2011).

Given these conditions, there is a clear need to explore SEL within the local context to determine its current status, challenges, and potential impact on learners. Conducting a systematic study on Social-Emotional Learning embedded in ARAL program will help bridge the gap between educational philosophy and classroom practice, provide evidence-based insights for educators and school administrators, and contribute to the growing body of research supporting holistic education. This study is therefore anchored on the philosophical foundations of SEL and responds to the pressing need to strengthen learners' social-emotional competencies alongside academic learning. The Academic Recovery and Accessible Learning (ARAL) Program emerged as a comprehensive national strategy designed to mitigate learning losses and ensure equitable access to remediation, particularly for struggling learners by the Department of Education (DepEd). While ARAL is often framed as an academic intervention, its implementation is inherently relational and human-centered, positioning tutors at the forefront of instructional delivery and learner support.

Recent studies suggest that learning recovery initiatives cannot be fully understood without considering the social-emotional dimensions of teaching and learning. Social-Emotional Learning (SEL) is defined as the development of competencies such as self-awareness, self-management, social awareness, relationship skills, and responsible decision-making, has been associated with improved tutor well-being, instructional quality, and learner engagement (Oliveira et al., 2021; Yang et al., 2025). For ARAL tutors who frequently work with learners experiencing academic frustration, socio-emotional vulnerability, and disengagement, SEL becomes a critical underpinning of effective practice. Despite the growing body of research on ARAL implementation and SEL outcomes, existing studies tend to emphasize program effectiveness, leadership structures, or learner performance, often overlooking the lived experiences of ARAL tutors themselves. Studies documenting tutors' experiences point to both instructional gains and implementation challenges, including increased workload, emotional demands, and limited institutional support (Batistisa & Siat, 2025; Fernando, 2026). This fragmentation highlights a gap in integrative analyses that situate tutors' experiences within broader SEL and learning recovery frameworks.

This review therefore aims to synthesize existing literature to examine ARAL implementation through leadership and instructional lenses, explore the role of SEL in tutors' professional experiences and well-being, and identify gaps and directions for future research on ARAL tutors' lived experiences.

2. Methodology

Research Design - This study employed a narrative literature review with thematic analysis to synthesize existing scholarship and policy discussions on the implementation of the Academic Recovery and Acceleration Learning (ARAL) Program and its intersections with Social-Emotional Learning (SEL). A narrative review was chosen because it allows for a holistic and interpretive synthesis of diverse sources, rather than limiting the analysis to quantitative meta-analysis. This design is particularly appropriate for emerging educational interventions like ARAL, where empirical studies remain limited and contextual insights are critical. Thematic analysis was used as the analytic framework to identify recurring patterns, tensions, and gaps across the literature. Braun and Clarke's (2006) six-phase model guided the process: familiarization with data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the report. This ensured methodological rigor and transparency in synthesizing findings.

Data Sources and Search Strategy - The literature was drawn from peer-reviewed journals, policy documents, and educational reports published between 2015 and 2025, covering both Philippine and international contexts. This timeframe was selected to capture the most recent developments in learning recovery programs post-COVID-19, as well as the growing global emphasis on SEL. Sources were identified using academic databases such as Google Scholar for broad coverage of peer-reviewed articles, ERIC (Education Resources Information Center) for

education-specific studies, and JANE (Journal/Author Name Estimator) – for targeted journal identification. The keywords included are ARAL program, learning recovery Philippines, social-emotional learning, tutor well-being, educational leadership, and instructional practices.

Inclusion and Exclusion Criteria - To ensure relevance and quality, the following inclusion criteria were applied like studies explicitly addressing ARAL or comparable learning recovery programs, research focusing on tutors, teachers, or instructional leaders in the Philippine or international context, empirical studies like quantitative, qualitative, or mixed methods, and policy-based contributions with clear educational implications, publications between 2015–2025 to ensure contemporary relevance. Exclusion criteria included sources lacking empirical grounding like opinion pieces without data, studies with limited relevance to ARAL or SEL for example purely clinical psychology without educational application, and publications outside the specified timeframe. This filtering process ensured that the review synthesized literature that was both contextually relevant and methodologically sound.

Data Analysis - The selected studies were analyzed using thematic analysis, which allowed for the identification of recurring themes and tensions across diverse sources. Coding was conducted manually, with initial codes derived from the research questions included in leadership, instructional practices, tutor well-being, systemic support. These codes were then refined into broader themes through iterative review. There were three core themes emerged: leadership and instructional practices in ARAL implementation which focuses on distributed and transformational leadership, constructivist pedagogy, and tensions between policy and practice; social-emotional learning and tutors' professional well-being which highlights SEL frameworks, cultural dynamics, and implementation gaps, and community, policy; and systemic support for SEL-oriented ARAL implementation which examines policy legitimacy, community participation, and systemic challenges. Thematic analysis ensured that findings were not merely descriptive but interpretive, capturing both patterns of success and structural constraints.

Rigor and Trustworthiness - To enhance the credibility and trustworthiness of the review, several strategies were employed. First, triangulation of sources was applied by combining empirical studies, policy documents, and educational reports to provide a multi-layered perspective that captured both theoretical and practical insights. Second, transparency in selection was ensured through clear documentation of inclusion and exclusion criteria, allowing readers to understand the rationale behind the chosen literature. Third, contextual sensitivity was observed by paying close attention to Philippine cultural and institutional realities, thereby avoiding uncritical generalizations from Western contexts that may not fully apply to local settings. Finally, critical reflexivity was maintained by acknowledging the researcher's positionality as both a teacher and scholar, which informed interpretation but also required conscious mitigation of bias to preserve objectivity.

Limitations - Despite these methodological strengths, certain limitations must be acknowledged. One limitation is the scarcity of empirical studies on ARAL, as the program is relatively new and much of the available literature remains policy-driven rather than empirically validated. Another limitation is the Western dominance in SEL research, which raises questions about the cultural applicability of existing frameworks in the Philippines, where collectivist values and respect for authority shape educational practices differently. A further limitation is the potential publication bias, since reliance on peer-reviewed sources may exclude grassroots or unpublished reports that capture the lived experiences of tutors and communities. Nevertheless, the methodology ensured a comprehensive and critical synthesis, laying the groundwork for contextualized recommendations that can inform both policy and practice in ARAL and SEL implementation.

3. Thematic Review of Related Literature

3.1 Leadership, Instructional Practices, and ARAL Implementation

Leadership is a decisive factor in the success of the Academic Recovery and Acceleration Program (ARAL),

particularly in the Philippine context where educational reforms often encounter systemic constraints. Studies on leadership in education emphasize that distributed leadership and transformational leadership are among the most effective approaches in implementing large-scale interventions. Distributed leadership fosters shared accountability, empowering teachers, tutors, and even parents to co-own the program's outcomes. Transformational leadership, on the other hand, inspires vision-driven change, motivating stakeholders to align with the broader goals of equity and quality learning (Leithwood & Jantzi, 2005). However, the Philippine school system remains largely hierarchical, with principals and administrators exercising centralized authority. This reality complicates the operationalization of distributed leadership. Research by Hallinger (2011) notes that while collaborative leadership models are theoretically ideal, their implementation in Southeast Asian contexts requires cultural adaptation, given the strong respect for authority and hierarchical traditions. In ARAL, this tension manifests when tutors and teachers are expected to innovate within rigid structures, often without sufficient autonomy.

Instructional practices under ARAL are guided by constructivist principles, emphasizing learner-centered and collaborative approaches. The program encourages tutors to scaffold learning, address learning gaps, and personalize instruction. Yet, tensions arise between policy expectations and school realities. Tutors often face increased workloads, limited instructional time, and insufficient resources. A study by Bayudan-Dacuycuy et al. (2024) highlights that while teachers value collaborative practices, systemic constraints such as large class sizes and administrative demands hinder effective implementation. Moreover, ARAL's emphasis on remediation and acceleration requires balancing policy-driven accountability with learner-centered pedagogy. From a constructivist perspective, ARAL aligns with collaborative learning, but the rigid timelines and performance metrics imposed by DepEd sometimes reduce flexibility. This creates a paradox: while ARAL promotes individualized support, tutors are pressured to meet standardized benchmarks.

In practice, leadership styles significantly influence how these tensions are managed. Schools where principals adopt transformational leadership—articulating a clear vision, motivating staff, and fostering innovation—tend to report higher tutor morale and better learner outcomes. Conversely, schools with purely bureaucratic leadership often struggle with compliance-focused implementation, leading to burnout among tutors. Thus, leadership in ARAL must evolve toward adaptive models that balance accountability with empowerment, ensuring that instructional practices remain responsive to learners' diverse needs.

3.2 Social-Emotional Learning and Tutors' Professional Well-Being

Social Emotional Learning (SEL) is increasingly recognized as a critical dimension of ARAL implementation, particularly in supporting tutors' professional well-being. SEL frameworks emphasize competencies such as self-awareness, emotional regulation, relationship skills, and responsible decision-making (CASEL, 2020). Research consistently shows that SEL not only improves student outcomes but also enhances teacher resilience, instructional quality, and job satisfaction (Durlak et al., 2011). In the Philippine context, however, SEL frameworks must be contextualized. Most existing studies are Western-centered, emphasizing individual autonomy and emotional expression. Filipino cultural dynamics—such as collectivism, respect for authority, and emotional restraint—shape how SEL is experienced and practiced. Bernardo (2019) argues that Filipino learners and educators often prioritize *pakikipagkapwa* (shared humanity) and *hiya* (social propriety), which influence emotional regulation and interpersonal relationships. This suggests that SEL in ARAL must integrate indigenous values to be culturally relevant.

Tutors express positive attitudes toward SEL, recognizing its role in managing stress and fostering supportive relationships with learners. Yet, implementation gaps persist. Studies indicate that tutors often lack formal training in SEL, and institutional support remains limited (Jones & Kahn, 2017). In resource-constrained environments, SEL is more aspirational than operational. For example, while tutors may encourage empathy and collaboration in classrooms, systemic pressures—such as performance targets and administrative workload—limit their ability to consistently practice SEL.

Empirical evidence underscores the importance of SEL for professional well-being. A meta-analysis by Taylor et al. (2017) found that SEL interventions reduce teacher burnout and improve classroom climate. In ARAL, where tutors face the dual challenge of remediation and acceleration, SEL competencies are vital for sustaining motivation and resilience. Without SEL support, tutors risk experiencing emotional exhaustion, which undermines instructional quality. Moreover, SEL contributes to instructional effectiveness. Tutors who practice emotional regulation are better able to manage classroom dynamics, respond to learners' needs, and foster inclusive environments. Relationship skills enable tutors to build trust with learners, parents, and colleagues, enhancing collaboration. Responsible decision-making supports ethical practices, ensuring that interventions remain learner-centered despite systemic pressures. Thus, integrating SEL into ARAL is not merely about student development but also about sustaining tutors' professional well-being. This requires institutional commitment to SEL training, reflective practice, and supportive policies that recognize the emotional labor of tutoring.

3.3 Community, Policy, and Systemic Support for SEL-Oriented ARAL Implementation

The success of ARAL depends not only on leadership and instructional practices but also on community, policy, and systemic support. Policy frameworks such as Republic Act 12028 and related DepEd guidelines provide legitimacy for ARAL, emphasizing its role in addressing learning gaps and promoting equity. However, policy effectiveness hinges on localized implementation and stakeholder engagement. Community involvement is often highlighted as a strength of Philippine education, with initiatives like Brigada Eskwela demonstrating the power of collective action. In ARAL, community participation can strengthen learning outcomes by providing additional support, resources, and encouragement. Parents, local government units, and NGOs play crucial roles in sustaining the program. Yet, current research tends to romanticize community participation, overlooking barriers such as socioeconomic constraints, uneven parent engagement, and limited resources in marginalized communities (Torres, 2013).

From a systems perspective, ARAL operates within a multi-layered educational ecosystem. Tutors must navigate institutional expectations, learner needs, and community realities. This complexity underscores the importance of understanding tutors' lived experiences. For instance, while policy mandates emphasize remediation, tutors often confront learners with diverse challenges—ranging from poverty and malnutrition to lack of parental support. These realities shape how ARAL is implemented on the ground. Systemic support for SEL-oriented ARAL implementation requires alignment across multiple levels. At the policy level, DepEd must integrate SEL into official guidelines, ensuring that emotional competencies are valued alongside academic outcomes. At the institutional level, schools must provide training, resources, and supportive leadership to enable tutors to practice SEL. At the community level, parents and stakeholders must be engaged in fostering environments that support learners' emotional and social development. International studies reinforce the importance of systemic support. The OECD (2021) highlights that SEL competencies are predictors of well-being and civic participation, underscoring their relevance for holistic education. In the Philippine context, integrating SEL into ARAL can contribute to broader goals of nation-building, fostering learners who are not only academically competent but also emotionally resilient and socially responsible.

4. Summary of Key Findings

This study provides a concise synthesis of how leadership, SEL, and community support intersect in ARAL implementation, but its deeper meaning lies in the interpretation of these connections. For Leadership and Instruction, the finding that distributed leadership and adaptive instruction improve ARAL outcomes suggests that empowering tutors and teachers to share responsibility leads to more responsive and effective interventions. In terms of SEL and Tutor Well-being, the evidence that SEL enhances resilience, emotional regulation, and teaching effectiveness highlights its critical role in sustaining tutors' professional capacity. Finally, the theme of Community and System Support shows that community involvement improves learner outcomes, but the literature has insufficient focus on systemic support for tutors. This suggests that while parents and communities can contribute positively, tutors often remain under-supported by institutional structures.

Overall, the interpretation of these findings reveals a clear pattern: ARAL's success depends on leadership that is culturally responsive, SEL that is contextually grounded, and community involvement that is matched with systemic support. The gaps in literature justify further research into localized leadership models, tutors' emotional experiences, and systemic reforms. The practical implications point toward a holistic strategy, empowering leaders, equipping tutors with SEL, and aligning community and institutional support to ensure ARAL achieves its intended goals of resilience, equity, and accelerated learning.

5. Discussion

The review highlights that ARAL implementation is not solely pedagogical but also emotional and relational. Tutors act as both instructional facilitators and emotional support providers, making SEL a critical component of effective practice. However, contradictions persist between policy ideals and actual implementation. While SEL is recognized as valuable, structural constraints limit its integration. This reinforces the need for context-sensitive approaches that account for cultural, institutional, and emotional dimensions of teaching.

The review highlights three interconnected themes that shape the implementation of ARAL and its integration with Social Emotional Learning (SEL). First, in terms of leadership and instructional practices, the findings suggest that distributed leadership and adaptive instruction significantly improve ARAL outcomes. This aligns with international studies emphasizing that when leadership responsibilities are shared among administrators, teachers, and tutors, programs become more sustainable and responsive to learner needs. However, the literature reveals a gap in examining leadership styles within Philippine ARAL contexts, where hierarchical structures remain dominant. This gap underscores the need for culturally responsive leadership models that balance respect for authority with collaborative decision-making. Promoting distributed leadership in Philippine schools requires institutional restructuring and professional development that empower tutors to innovate while still aligning with DepEd mandates. The implication for practice is clear: schools must cultivate leadership approaches that are not only theoretically sound but also culturally attuned, ensuring that instructional practices remain adaptive to diverse learner realities.

Second, the theme of SEL and tutor well-being demonstrates that SEL enhances resilience, emotional regulation, and teaching effectiveness. Tutors who develop SEL competencies are better equipped to manage stress, foster positive classroom climates, and sustain instructional quality despite workload pressures. Yet, the literature reveals a lack of qualitative studies exploring tutors' emotional experiences, particularly in the Philippine setting where cultural values such as collectivism and respect for authority shape emotional expression. This gap suggests that existing SEL frameworks, largely Western in origin, may not fully capture the lived realities of Filipino tutors. Therefore, context-specific SEL training programs must be developed, integrating indigenous values like *pakikipagkapwa* (shared humanity) and *hiya* (social propriety). Such training would not only enhance tutors' professional well-being but also ensure that SEL practices resonate with local cultural norms. The implication for practice is the institutionalization of SEL training tailored to the Philippine context, enabling tutors to sustain resilience and effectiveness in ARAL implementation.

Finally, the theme of community and systemic support emphasizes that community involvement improves learner outcomes, particularly when parents, local government units, and NGOs actively participate in educational initiatives. However, the literature tends to romanticize community participation without critically examining barriers such as socioeconomic constraints, uneven parent engagement, and resource disparities. Moreover, there is insufficient focus on systemic support for tutors, who often bear the brunt of program implementation without adequate institutional backing. This gap highlights the need for stronger school-community partnerships that go beyond symbolic involvement, coupled with systemic reforms that provide tutors with resources, training, and emotional support. The implication for practice is the strengthening of institutional mechanisms that legitimize community participation while simultaneously ensuring that tutors are supported at the systemic level. By aligning policy frameworks, school leadership, and community engagement, ARAL can operate more effectively within the complex educational ecosystem of the Philippines.

6. Conclusion

This narrative literature review underscores the critical role of social-emotional competencies in enhancing ARAL tutors' effectiveness and well-being. While existing literature highlights the potential of SEL in improving instructional quality and resilience, it also reveals persistent challenges related to workload, training, and systemic support. While the findings reveal that while distributed leadership, SEL, and community involvement are critical to ARAL's success, gaps in contextual research and systemic support limit their full potential can support and maintain the quality education at hand. Addressing these gaps requires culturally responsive leadership models, localized SEL training, and stronger institutional-community partnerships. These implications point toward a holistic approach to ARAL implementation—one that recognizes the interplay of leadership, tutor well-being, and systemic support in fostering resilient learners and sustainable educational reforms.

Leadership, instructional practices, SEL, and systemic support are interdependent dimensions of ARAL implementation. Distributed and transformational leadership provide frameworks for empowering tutors and fostering vision-driven change, though cultural adaptation is necessary in hierarchical Philippine schools. Instructional practices must balance constructivist ideals with policy-driven accountability, ensuring that remediation and acceleration remain learner-centered. SEL emerges as a critical factor in sustaining tutors' professional well-being and instructional effectiveness. While Western frameworks dominate existing literature, Filipino cultural dynamics necessitate localized approaches that integrate indigenous values. Implementation gaps highlight the need for institutional support, training, and reflective practice.

Community, policy, and systemic support are essential for sustaining SEL-oriented ARAL implementation. Policies must legitimize SEL, institutions must empower tutors, and communities must actively engage in supporting learners. By addressing these dimensions holistically, ARAL can fulfill its promise of bridging learning gaps and fostering resilient, socially responsible learners. Significantly, there remains a lack of qualitative research focusing on tutors' lived experiences, particularly in localized Philippine contexts. Addressing this gap is essential for developing more responsive and sustainable ARAL interventions.

Future research should prioritize in-depth qualitative studies on tutors' emotional and professional experiences, cultural adaptation of SEL frameworks in Philippine education, and longitudinal studies examining the impact of SEL on tutor development. By addressing these gaps, future work can contribute to more holistic, inclusive, and contextually grounded learning recovery programs.

AI Use Disclosure. I used Microsoft CoPilot for the purpose of language editing and idea generation. All outputs were reviewed, verified, and edited by the author, including fact-checking sources and validating results. No confidential or personally identifiable data were entered into AI tools. The author takes full responsibility for the content.

7. References

- Bayudan-Dacuycuy, C., et al. (2024). Transformational leadership and teacher commitment in Philippine public schools. *Philippine Journal of Educational Research*, 18(2), 45–59.
- Bernardo, A. B. I. (2019). Pakikipagkapwa and Filipino collectivism: Implications for social-emotional learning. *Philippine Social Sciences Review*, 71(1), 1–20.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa> (doi.org in Bing)
- Collaborative for Academic, Social, and Emotional Learning (CASEL). (2020). *SEL framework*. <https://casel.org>
- Durlak, J. A., Weissberg, R. P., Dymnicki, A. B., Taylor, R. D., & Schellinger, K. B. (2011). The impact of enhancing students' social and emotional learning: A meta-analysis of school-based universal interventions. *Child Development*, 82(1), 405–432. <https://doi.org/10.1111/j.1467-8624.2010.01564.x>
- Hallinger, P. (2011). Leadership for learning: Lessons from 40 years of empirical research. *Journal of Educational Administration*, 49(2), 125–142. <https://doi.org/10.1108/09578231111116699>

- Jones, S. M., & Kahn, J. (2017). *The evidence base for how we learn: Supporting students' social, emotional, and academic development*. Aspen Institute National Commission on Social, Emotional, and Academic Development. <https://www.aspeninstitute.org>
- Leithwood, K., & Jantzi, D. (2005). Transformational leadership. *Educational Administration Quarterly*, 41(4), 529–542. <https://doi.org/10.1177/0013161X04269617>
- Organisation for Economic Co-operation and Development (OECD). (2021). *Beyond academic learning: First results from the Survey of Social and Emotional Skills*. OECD Publishing. <https://doi.org/10.1787/92a11084-en>
- Republic Act No. 12028. (2024). *An Act institutionalizing the Academic Recovery and Acceleration Learning (ARAL) Program*. Official Gazette of the Republic of the Philippines.
- Taylor, R. D., Oberle, E., Durlak, J. A., & Weissberg, R. P. (2017). Promoting positive youth development through school-based social and emotional learning interventions: A meta-analysis of follow-up effects. *Child Development*, 88(4), 1156–1171. <https://doi.org/10.1111/cdev.12864>
- Torres, A. (2013). Community participation in Philippine education: Between romanticism and reality. *Philippine Journal of Education*, 92(1), 15–28.

Proposed enhanced community extension plan of Sta. Teresa College

Alday, Audree ✉

Sta. Teresa College, Philippines (alday.audree@stcbauan.edu.ph)

Cruzat, Rita

Sta. Teresa College, Philippines (cruzat.rita@stcbauan.edu.ph)

Marquez, Suzeth

Sta. Teresa College, Philippines (marquezsuzeth@gmail.com)



ISSN: 2243-7703
Online ISSN: 2243-7711

OPEN ACCESS

Received: 15 July 2026

Available Online: 5 August 2026

Revised: 3 August 2026

DOI: 10.5861/ijrse.2026.26352

Accepted: 4 August 2026

Abstract

This study assessed the implementation of the community extension activities of Sta. Teresa College as the basis for developing an Enhanced Community Extension Plan. Specifically, it examined the implementation of community extension activities in terms of needs assessment, planning and design, monitoring and evaluation, and sustainable activities. It also determined the differences in the assessments of employees, student-leaders, and community stakeholders, identified the challenges encountered during implementation, and proposed an enhancement plan. A descriptive research design using a mixed-method approach was employed. The study involved 159 purposively selected respondents, consisting of 69 employees, 49 student-leaders, and 41 community stakeholders. Data were collected through a researcher-made questionnaire and open-ended interviews. Quantitative data were analyzed using the mean, standard deviation, and the Kruskal–Wallis H test, while qualitative responses were analyzed through thematic analysis. The findings revealed that the implementation of the institution's community extension activities was generally rated positively across the four dimensions, indicating fairly good implementation. However, significant differences were found among the assessments of employees, student-leaders, and community stakeholders, reflecting varying perceptions of the program's implementation. The major challenges identified included time constraints, limited financial resources, low stakeholder participation, inadequate follow-up activities, and coordination issues. Based on these findings, an Enhanced Community Extension Plan was developed to strengthen stakeholder collaboration, improve monitoring and evaluation mechanisms, address implementation challenges, and promote more sustainable, responsive, and impactful community extension programs aligned with the institution's mission and community needs.

Keywords: community extension, needs assessment, planning and design, monitoring and evaluation, sustainable activities, enhancement plan

Proposed enhanced community extension plan of Sta. Teresa College

1. Introduction

Corporate Social Responsibility (CSR) is a focus that highlights the responsibility of businesses and institutions to improve the well-being of society in any way that goes beyond their business goals and activities. It is embedding social, ethical, economic, and environmental considerations within an institution's operations and activities, for the benefit of the community and society in general. As part of educational institutions, CSR manifests itself in specific programs and initiatives aimed at tackling social issues, raising awareness, protecting the environment, and advancing sustainable development. The social responsibility of schools and colleges can be realized through community extension works where they can offer services, knowledge, and opportunities to meet the needs of the marginalized and underserved communities. Furthermore, CSR provides a means for educational institutions to deepen their community engagement and promote students' compassion, volunteerism, leadership development, and civic awareness.

In most countries, universities are expected to be more active in the field of community development, where academic competencies and resources are used to solve social, economic, and environmental problems in the community. Educational institutions are increasingly expected to be involved in community development and to provide their expertise and resources to solve social, economic, and environmental problems in the community. These institutions are recognized as having a role beyond teaching and research and are urged to take part in community partnerships to support sustainable development, capacity building, and social change in the context of international frameworks. But many schools across the world face problems with poor extension practices, lack of awareness of stakeholders, and lack of evaluation mechanisms for impacts.

The Free University of Amsterdam (FU Amsterdam) in the Netherlands encountered several issues, including problems with how to coordinate between the university and community partners, quality reflection activities among students, and large class sizes in community-based learning (Scheffelaar et al., 2023). According to Nduna & Chakanika (2021), there was insufficient funding for extension program, a lack of trained personnel for outreach, weak linkages between university program and needs, and limited logistical and operational support at the University of Zambia. At the same time, the University of Georgia in Croatia experienced the lack of sustainability of community engagement initiatives and difficulties in sustaining long-term partnerships (Preradović et al., 2022).

Moreover, the findings of the community extension services in the Philippines Higher Education Institutions (HEIs) indicate that structural and operational challenges persist and are a barrier to effective engagement. Mindanao universities such as Bukidnon State University and Central Mindanao University were cited as having moderate faculty extension productivity, as there were some deficiencies in competencies and organizational climate (Paulican & Intong, 2020). A lack of baseline data and low evaluation capacity in Bicol University made it difficult for extension programs to assess the gains in actual learning and behavioral changes of the farmers, which indicated a lack in the design and outcome measurement of the extension programs (Labayo, 2022). Other challenges were observed in Cebu Technological University, in which the community extension activities to assist MSMEs faced challenges in achieving sustained livelihood outcomes and needed enhanced follow-through mechanisms and community support systems (Valle et al., 2022). Collectively, these studies point to the fact that although there are active extension programs, Philippine HEIs still have a lot of challenges regarding resources, assessment systems, faculty readiness, and sustainability plans that hinder their ability to provide meaningful community service.

At the local level, Sta. Teresa College embraces community extension services as an essential part of its Catholic mission. Its extension work includes faith-based outreach, social and environmental engagement, and scholarship-linked service. The implementation of outreach activities is very satisfactory based on the observation

of one of the researchers, who is the campus minister responsible for the activities. Their benefits, however, seem to be only short-term, with no long-term plans or strategies in place to sustain the activity's outcomes. In addition, limited funding is available due to resources being limited within the institution and a lack of external partners and networks that would be able to support the project. Furthermore, the system for obtaining input from beneficiaries and community partners is not systematic, and the long-term effect and effectiveness of the outreach efforts are difficult to gauge. Based on these concerns, there is a need to assess the implementation of the community extension and outreach activities of Sta. Teresa College, particularly in terms of monitoring and sustainability. The results of this assessment can be used to inform strategic interventions, strengthen partnership linkages, enhance monitoring systems, and create sustainable plans that will increase the impact and effectiveness of the institution's community extension programs in the long-term.

Although numerous studies have explored community extension programs in higher education institutions, many of them have concentrated on only one aspect of implementation, such as needs assessment, program planning, monitoring and evaluation, or sustainability. As a result, there is still limited understanding of how these dimensions work together to influence the overall effectiveness of extension initiatives. In addition, only a few studies have examined the perspectives of employees, students, and community stakeholders simultaneously, particularly within the context of a private Catholic educational institution. Likewise, there is a scarcity of studies that move beyond assessment and translate research findings into concrete, evidence-based strategies for improvement. Recognizing these gaps, the present study sought to provide a more comprehensive understanding of community extension activities and develop an enhanced community extension plan that can support the continuing success and sustainability of extension programs. The present study provides a more comprehensive assessment of community extension programs by examining needs assessment, planning and design, monitoring and evaluation, and sustainability as interconnected components. It also compares the perspectives of employees, students, and community stakeholders and proposes an enhanced community extension plan specifically designed for a private Catholic educational institution. By integrating quantitative and qualitative findings, the study offers practical and evidence-based recommendations for strengthening community extension initiatives.

This study aimed to propose an enhanced community extension plan. Specifically, it sought to answer the following research questions:

1. As assessed by employees, students, and community stakeholders, what is the level of agreement on the implementation of the current community extension activities of the institution in terms of needs assessment; planning & design; monitoring & evaluation; and sustainable activities?
2. Is there a significant difference in the assessment of the respondents?
3. What are the challenges encountered in the community extension activities?
4. Based on the analysis, what enhancement plan may be proposed?

2. Literature review

Community extension activities are among the fundamental functions of higher education institutions alongside instruction and research. These activities are designed to promote social responsibility, community empowerment, and sustainable development through programs and services that address the identified needs of communities. According to the Commission on Higher Education (2022), extension services refer to programs, projects, and activities conducted by educational institutions that transfer knowledge, technology, and expertise to improve the quality of life of partner communities. Higher education institutions are encouraged to actively participate in nation-building by engaging in community-based initiatives that foster inclusive growth and social transformation.

Community extension activities involve collaborative partnerships between schools and communities in

addressing social, economic, educational, environmental, and health-related concerns. As explained by UNESCO (2021), universities and colleges play a significant role in promoting sustainable development through community engagement and civic participation. Extension programs commonly include literacy training, livelihood projects, environmental campaigns, health education, values formation, and capacity-building seminars. These activities aim not only to provide immediate assistance but also to empower communities to become self-reliant and productive members of society.

In the Philippine context, the legal and policy foundations of community extension activities are anchored in the mandates of the Commission on Higher Education. CHED Memorandum Order No. 52, series of 2016, emphasizes that higher education institutions must integrate extension as one of their core functions to ensure that academic knowledge and institutional resources contribute to societal development (CHED, 2016). The memorandum highlights the importance of aligning extension activities with national development goals, institutional mission and vision, and the actual needs of communities. Furthermore, extension programs should promote participatory development wherein beneficiaries actively engage in planning, implementation, monitoring, and evaluation processes.

The CHED guidelines further stress the importance of conducting a community needs assessment prior to the implementation of extension activities. Needs assessment serves as the basis for identifying relevant programs and ensuring that interventions are responsive to community concerns (CHED, 2016). According to World Bank (2020), community-based programs become more effective when stakeholders participate in identifying their own needs and priorities. Through systematic needs assessment, institutions can develop programs that are evidence-based, realistic, and sustainable. Failure to conduct proper assessment may result in irrelevant activities, low participation rates, and limited program impact.

Another important component emphasized in community extension literature is planning and program design. Effective extension activities require clear objectives, organized implementation strategies, proper allocation of resources, and collaboration among stakeholders. According to Philippine Association of Colleges and Universities Commission on Accreditation (2023), extension programs should demonstrate systematic planning and alignment with institutional goals and community development priorities. PAASCU standards also emphasize that extension activities must involve faculty members, students, alumni, and external partners to strengthen institutional social responsibility and ensure broader community participation.

Monitoring and evaluation are likewise essential aspects of successful extension activities. The Philippine Association of Colleges and Universities Commission on Accreditation (2023) explains that institutions must establish mechanisms to assess the effectiveness, efficiency, and impact of extension programs. Monitoring enables institutions to track the progress of activities, while evaluation measures the extent to which objectives are achieved. According to United Nations Development Programme (2021), regular monitoring and evaluation help organizations identify strengths, address weaknesses, and improve future program implementation. Without systematic evaluation, institutions may struggle to determine whether their extension services truly contribute to community development.

Sustainability is another major principle emphasized in community extension programs. Sustainable extension activities are those that continue to benefit communities even after institutional assistance has ended. CHED encourages higher education institutions to develop long-term partnerships and community empowerment initiatives rather than one-time outreach activities (CHED, 2016). Similarly, UNESCO (2021) states that sustainable community engagement requires capacity-building, resource mobilization, and community ownership. Programs that focus only on temporary assistance often fail to produce lasting social impact and may create dependency among beneficiaries.

Faculty and student involvement also plays a crucial role in the success of community extension activities. According to Commission on Higher Education (2022), extension programs provide opportunities for experiential learning and social engagement among students and educators. Participation in extension activities allows students

to apply classroom knowledge to real-life community situations while developing leadership, empathy, communication, and problem-solving skills. Faculty members, on the other hand, contribute professional expertise and research-based interventions that strengthen the quality of services provided to communities. Moreover, community extension activities contribute significantly to institutional development and social accountability. Higher education institutions are increasingly evaluated not only based on academic excellence but also on their contributions to society. The Philippine Association of Colleges and Universities Commission on Accreditation (2023) recognizes extension services as an important criterion in accreditation because they reflect the institution's commitment to social transformation and public service. Institutions with effective extension programs often establish stronger partnerships with local government units, non-government organizations, and the private sectors, thereby expanding opportunities for collaborative community development projects.

Overall, community extension activities serve as vital instruments for promoting inclusive development, social responsibility, and community empowerment. Literature from CHED, PAASCU, and international organizations consistently emphasizes that effective extension programs must be grounded on proper needs assessment, systematic planning, active stakeholder participation, continuous monitoring and evaluation, and sustainability. Through well-designed and responsive extension activities, higher education institutions can fulfill their role as catalysts of positive social change and contributors to national development.

3. Methodology

The research design used in this study was descriptive research, a type of research that aims to describe a phenomenon, situation, or population systematically by gathering quantitative data that can be analyzed in statistical form (Patankar, 2024). From Sta. Teresa College as the locale of the study, 69 employees, 49 student-leaders, and 41 stakeholders were sampled using purposive sampling. A researcher-developed questionnaire was used to measure the extent of agreement regarding the implementation of the institution's community extension activities in terms of needs assessment, planning and design, monitoring and evaluation, and sustainable activities, and was rated as strongly agree (3.50-4.00), agree (2.50-3.49), disagree (1.50-2.49), or strongly disagree (1.00-1.49). Similarly, an open-ended interview was used to gather information on the challenges encountered during the implementation of the community extension activities. Instruments used were checked and validated by the experts.

Quantitative data were analyzed and interpreted with appropriate statistical tools such as mean, standard deviation, Kruskal-Wallis H test, and qualitative responses were analyzed by thematic analysis. Prior to data collection, all participants were informed of the objectives, procedures, potential benefits, and possible risks of the study. Participation was entirely voluntary, and written informed consent was obtained from all respondents. Participants were assured that their identities would remain confidential and that the information gathered would be used solely for research purposes. They were also informed of their right to withdraw from the study at any stage without penalty. Ethical standards for research involving human participants were strictly observed throughout the study.

4. Results and Discussion

4.1 Level of agreement on the implementation of community extension activities

4.1.1 Needs Assessment. Table 1 presents the respondents' evaluation of the implementation of the present community extension activities in terms of needs assessment. Among the three groups, employees obtained a composite mean of 3.23 with a standard deviation of 0.68, verbally described as agree. Students recorded a composite mean of 3.43 with a standard deviation of 0.68, also verbally described as agree. Stakeholders posted the highest composite mean of 3.57 with a standard deviation of 0.52, which was verbally described as strongly agree. Overall, the implementation of the present community extension activities in terms of needs assessment achieved a composite mean of 3.38 with a standard deviation of 0.66, with an overall verbal description of Agree.

The findings indicate that effective practices have been developed in the institution to carry out the practice of needs assessment in the community extension program. While all the respondents' groups had positive perceptions, stakeholders gave the highest evaluation, which shows that they are aware of and appreciate the efforts of the institution in identifying and meeting the needs of the community. They are in strong agreement because they have personal experience as either beneficiaries or partners of the extension programs and have seen the relevance and responsiveness of the activities implemented. Students also rated relatively highly, which indicates that they think the needs assessment process is relevant and resonates with community issues. The employees also agreed, but had the lowest composite mean, possibly because they are more familiar with the operational challenges in planning, conducting, documenting, and implementing needs assessment activities. In general, the findings highlight the need to continue current systematic and participative needs assessment processes, since they can be an important basis for designing appropriate, responsive, and effective community extension activities that can benefit not only the institution, but also the partner communities.

The findings are consistent with Patalinghug and Bustamante (2022), who emphasized that comprehensive community needs assessment is essential for designing relevant and sustainable extension programs in higher education institutions. Similarly, Cagasan et al. (2022) found that participatory community assessment strengthens the relevance, acceptance, and sustainability of extension initiatives. However, the findings differ from Dapula (2026), who reported continuing challenges in implementing extension programs, including limited funding, schedule conflicts, inadequate monitoring of needs assessment, and weak program continuity.

Table 1
Implementation of the Current Community Extension Activities in terms of Needs Assessment

Items	Employees			Students			Stakeholders			Overall		
	M	SD	VI	M	SD	VI	M	SD	VI	WM	SD	VI
1. The institution prioritizes communities with the greatest need based on assessment findings.	3.30	0.69	A	3.51	0.62	SA	3.68	0.47	SA	3.47	0.63	A
2. Faculty members and students participate in gathering community needs assessment data.	3.28	0.66	A	3.55	0.61	SA	3.63	0.54	SA	3.45	0.63	A
3. Identified community needs are aligned with the institution's academic programs.	3.33	0.59	A	3.41	0.70	A	3.66	0.48	SA	3.44	0.61	A
4. Community members are actively involved in identifying their priority needs.	3.28	0.59	A	3.45	0.71	A	3.54	0.55	SA	3.40	0.63	A
5. The institution uses appropriate tools (e.g., surveys, interviews, FGDs) in assessing community needs.	3.28	0.75	A	3.45	0.71	A	3.56	0.50	SA	3.40	0.69	A
6. The institution conducts regular community needs assessments before planning activities.	3.23	0.67	A	3.43	0.71	A	3.56	0.50	SA	3.38	0.65	A
7. The institution uses needs assessment findings as the basis for designing extension activities.	3.20	0.72	A	3.41	0.70	A	3.56	0.55	SA	3.36	0.69	A
8. Needs assessment results are documented clearly and systematically.	3.20	0.68	A	3.39	0.70	A	3.49	0.51	A	3.33	0.65	A
9. The institution validates needs assessment results with community stakeholders.	3.16	0.70	A	3.37	0.60	A	3.56	0.55	SA	3.33	0.65	A
10. Needs assessment findings are communicated to faculty, students, and partner communities.	3.06	0.78	A	3.39	0.76	A	3.49	0.55	A	3.27	0.74	A
Composite Mean	3.23	0.68	A	3.43	0.68	A	3.57	0.52	SA	3.38	0.66	A

Legend: M-Mean; SD-Standard Deviation; I-Interpretation; SA-Strongly Agree; A-Agree

4.1.2 Planning & Design. Table 2 presents respondents' assessments of the implementation of current

community extension activities in terms of planning and design. It can be gleaned from the table that the implementation of the current community extension activities in terms of planning and design, as assessed by employees, students, and stakeholders, yielded an overall composite mean of 3.38, interpreted as agree, with a standard deviation of 0.62, which signifies that the respondents generally shared consistent perceptions regarding the institution's planning and design practices. The employees obtained a composite mean of 3.22, verbally interpreted as agree, with a standard deviation of 0.61, indicating that the responses were relatively consistent and showed moderate variability among the respondents. The students recorded a composite mean of 3.44, also interpreted as agree, with a standard deviation of 0.67, suggesting moderately consistent responses and slightly greater variation in perceptions compared to the employees. Meanwhile, the stakeholders registered the highest composite mean of 3.57, verbally interpreted as strongly agree, with a standard deviation of 0.51, indicating high consistency and strong agreement among the respondents.

Table 2*Implementation of the Current Community Extension Activities in terms of Planning and Design*

Items	Employees			Students			Stakeholders			Overall		
	M	SD	VI	M	SD	VI	M	SD	VI	WM	SD	VI
1. The proposed extension activities are aligned with the institution's vision and academic programs.	3.49	0.50	A	3.51	0.62	SA	3.63	0.49	SA	3.53	0.54	SA
2. Planned extension activities undergo review and approval by the institution's extension office or committee.	3.19	0.60	A	3.45	0.71	A	3.68	0.47	SA	3.40	0.64	A
3. Plans for extension activities include mechanisms for community participation.	3.20	0.58	A	3.47	0.71	A	3.61	0.49	SA	3.39	0.63	A
4. Extension activities are designed based on documented community needs assessment results.	3.20	0.61	A	3.43	0.61	A	3.61	0.49	SA	3.38	0.60	A
5. The objectives of extension activities are clearly stated and measurable.	3.26	0.56	A	3.45	0.68	A	3.41	0.63	A	3.36	0.62	A
6. The institution prepares clear timelines and implementation schedules.	3.17	0.64	A	3.39	0.70	A	3.63	0.49	SA	3.36	0.65	A
7. Extension plans are developed in collaboration with community stakeholders.	3.20	0.68	A	3.43	0.71	A	3.49	0.51	A	3.35	0.66	A
8. The institution allocates adequate resources during the planning stage.	3.22	0.68	A	3.37	0.70	A	3.56	0.50	SA	3.35	0.66	A
9. Possible risks and challenges are identified during the planning and design phase.	3.20	0.58	A	3.47	0.62	A	3.46	0.55	A	3.35	0.60	A
10. Planning sessions include representatives from faculty, students, parents, and the community.	3.04	0.65	A	3.41	0.64	A	3.56	0.50	SA	3.29	0.65	A
Composite Mean	3.22	0.61	A	3.44	0.67	A	3.57	0.51	SA	3.38	0.62	A

Legend: M-Mean; SD-Standard Deviation; I-Interpretation; SA-Strongly Agree; A-Agree

The findings indicate that the institution has generally implemented effective planning and design in its community extension activities. The overall ratings show that key planning components, including needs assessment, goal setting, stakeholder participation, scheduling, and resource allocation, are practiced effectively. Employees gave relatively lower ratings, suggesting that their direct involvement in program implementation makes them more aware of planning and coordination challenges. In contrast, students expressed positive perceptions of the planning process, while community stakeholders provided the highest ratings, reflecting their confidence in the relevance and responsiveness of the programs. The low standard deviations across all respondent groups indicate consistent responses and a strong consensus regarding the institution's planning practices. The higher stakeholder ratings further suggest that the institution has established effective community partnerships and responsive extension programs. Generally, the findings affirm the effectiveness of the planning and design process

while highlighting the need to strengthen internal planning, communication, coordination, institutional support, and participatory planning to enhance program quality and sustainability.

This is in line with Ontal and Rabang's (2026) study on the implementation of community extension programs in a higher education institution in the Philippines, which obtained a very high rating from the students. This positive evaluation was attributed to well-planned extension activities, an organized implementation process, and well-aligned extension programs with institutional objectives and community needs. Likewise, the results supported the study conducted by Cortez and Asiri (2026), which found that the practices of community extension in a state university were very well observed in several areas, including relevance to community needs, community involvement, sustainability, and SDGs. The researchers pointed out the successful implementation of extension programs through effective planning, interaction with various stakeholders, and institutional support, which led to positive perceptions of faculty members in all years.

4.1.3 Monitoring and Evaluation. Table 3 shows the situation of the current community extension activities with respect to their implementation for monitoring and evaluation. The results of the analysis reveal that the three groups of respondents agree on the implementation of the current community extension activities in terms of monitoring and evaluation, obtaining a composite mean of 3.34 with a standard deviation of 0.64. The employees obtained a composite mean of 3.18 with a standard deviation of 0.63, verbally interpreted as agree. The students yielded a composite mean of 3.42 with a standard deviation of 0.65, also verbally interpreted as agree. Meanwhile, the stakeholders recorded the highest composite mean of 3.51 with a standard deviation of 0.58, verbally interpreted as strongly agree.

Table 3

Implementation of the Current Community Extension Activities in terms of Monitoring and Evaluation

	Employees			Students			Stakeholders			Overall		
	M	SD	VI	M	SD	VI	M	SD	VI	WM	SD	VI
1. Completed extension activities are evaluated using clear and appropriate criteria.	3.28	0.54	A	3.47	0.62	A	3.49	0.55	A	3.39	0.57	A
2. The institution assesses the outcomes and impact of extension projects.	3.23	0.60	A	3.45	0.71	A	3.59	0.55	SA	3.39	0.64	A
3. Monitoring and evaluation results are properly documented and reported.	3.26	0.56	A	3.43	0.61	A	3.51	0.64	SA	3.38	0.60	A
4. The institution uses evaluation findings to improve future extension activities.	3.25	0.60	A	3.41	0.61	A	3.49	0.64	A	3.36	0.62	A
5. Community stakeholders are involved in the monitoring and evaluation process.	3.19	0.65	A	3.39	0.70	A	3.51	0.60	A	3.33	0.66	A
6. Faculty members and extension personnel conduct on-site visits during extension activities.	3.14	0.62	A	3.39	0.61	A	3.54	0.55	SA	3.32	0.62	A
7. Faculty members, students, parents, and beneficiaries are informed about monitoring and evaluation results.	3.17	0.77	A	3.41	0.70	A	3.46	0.60	A	3.32	0.71	A
8. The institution regularly monitors the progress of extension activities.	3.13	0.71	A	3.35	0.63	A	3.59	0.50	SA	3.31	0.66	A
9. Monitoring tools (e.g., checklists, progress reports) are consistently used.	3.09	0.68	A	3.41	0.70	A	3.54	0.50	SA	3.30	0.67	A
10. Feedback from beneficiaries is collected systematically during and after implementation.	3.10	0.62	A	3.49	0.62	A	3.41	0.67	A	3.30	0.65	A
Composite Mean	3.18	0.63	A	3.42	0.65	A	3.51	0.58	SA	3.34	0.64	A

Legend: M-Mean; SD-Standard Deviation; I-Interpretation; SA-Strongly Agree; A-Agree

The results show that the institution has, in general, developed good monitoring and assessment systems related to its community extension work. The overall composite mean indicates that people are aware of the

institution's efforts to keep track of program implementation and assess extension results. The good ratings obtained in all the groups of respondents indicate that monitoring and evaluation are always done in the extension management processes within the institution. Stakeholders' ratings support the community partners' appreciation of the institution's work to evaluate program implementation, record outcomes, and use results from program evaluation to enhance extension services. On the other hand, the ratings from employees and students suggest that while monitoring and evaluation mechanisms are evident, there is still room to further strengthen these practices. The findings suggest that a systematic process has been established to monitor the extension activities and evaluate their impacts, which facilitates accountability and evidence-based decision-making.

The findings are consistent with those of Magnaye and Ylagan (2024), who emphasized that regular monitoring and evaluation are essential for improving the quality, impact, and sustainability of community extension programs. Likewise, Ontal and Rabang (2026) reported that students highly rated the implementation of extension programs due to organized implementation, continuous monitoring, and regular evaluation. These studies concluded that effective monitoring and evaluation enhance stakeholder satisfaction and overall program effectiveness. In contrast, Nkonki-Mandleni (2023) found that many universities continue to face challenges in establishing comprehensive monitoring and evaluation systems because of inconsistent practices and weak documentation. Unlike these challenges, the present study found that respondents generally viewed the institution's monitoring and evaluation practices as effective.

4.1.4 Sustainable Activities. Table 4 shows the respondents' evaluation of the sustainability of the current activities that are implemented in the community. The composite results show the overall perceptions of the employees, students, and stakeholders regarding the sustainability of extension activities. The employees obtained a composite mean of 3.11 with a composite standard deviation of 0.61, verbally interpreted as agree, indicating that they generally perceive the institution's extension programs as sustainable, with relatively consistent responses. The students registered a composite mean of 3.42 and a composite standard deviation of 0.68, also verbally interpreted as agree, suggesting that they positively view the institution's sustainability practices for extension programs, with a moderate level of consistency in their responses. Meanwhile, the stakeholders obtained the highest composite mean of 3.53 with a composite standard deviation of 0.56, verbally interpreted as strongly agree, indicating a very favorable perception of the institution's efforts to sustain its extension programs, with highly consistent responses. Overall, the composite mean was 3.33 with a composite standard deviation of 0.65, verbally interpreted as agree, signifying that respondents generally agree that the institution has established sustainable practices for planning, implementing, and maintaining its extension programs, with a moderate level of consistency across all respondent groups.

The composite results suggest that the overall response of the respondents is positive about the implementation of sustainable community extension programs that give a lasting benefit to the partner communities. The most positive overall feedback came from stakeholders, who had direct experience of the positive long-term impact of these initiatives, and who were aware of the institution's commitment to community development. The employees' composite mean was the lowest, but they still agreed with the indicators, suggesting that they recognize the institution's sustainability efforts and see room for improvement. The relatively small standard deviations within each group of respondents suggest that the responses were uniform. These results indicate that the institution has developed good practices, including the development of partnerships with the community, ongoing support, and the evaluation of extension activities on a regular basis to ensure continuity of impact. But the relatively low scores for funding, sustainability planning, and resource management suggest that these need to be improved to further improve the long-term effectiveness of the institution's extension services.

Muya (2022) found that the long-term success of community extension programs depends on effective planning, stakeholder participation, institutional support, and continuous evaluation. Similarly, Quintana (2026) reported that systematic planning, community involvement, and institutional support contributed to the sustainability and effectiveness of extension services in higher education institutions. These studies support the present finding that sustainable planning, implementation, and maintenance improve the quality and continuity of

community extension programs. However, Saysi (2024) reported that despite integrating sustainability strategies, many Philippine State Universities and Colleges continue to face challenges in sustaining extension projects due to financial constraints, limited personnel competencies, scheduling conflicts, and low cultural acceptance. This suggests that while respondents in the present study viewed sustainability positively, institutions must continue strengthening strategic planning, institutional frameworks, partnerships, and monitoring to ensure long-term program sustainability.

Table 4*Implementation of the Current Community Extension Activities in terms of Sustainable Activities*

	Employees			Students			Stakeholders			Overall		
	M	SD	VI	M	SD	VI	M	SD	VI	WM	SD	VI
1. Completed projects lead to lasting improvements in the community.	3.22	0.54	A	3.49	0.65	A	3.61	0.54	SA	3.40	0.60	A
2. Faculty members and students are encouraged to maintain continuous engagement with partner communities.	3.19	0.62	A	3.45	0.61	A	3.49	0.55	A	3.35	0.62	A
3. Extension activities are designed to provide long-term community benefit.	3.14	0.58	A	3.39	0.70	A	3.59	0.55	SA	3.33	0.63	A
4. The institution provides follow-up support to partner communities after implementation.	3.13	0.68	A	3.47	0.71	A	3.51	0.60	SA	3.33	0.69	A
5. Community members are trained to continue activities after project completion.	3.06	0.64	A	3.43	0.71	A	3.59	0.50	SA	3.31	0.67	A
6. Extension projects receive adequate funding to ensure their continuation.	3.10	0.60	A	3.47	0.65	A	3.46	0.55	A	3.31	0.63	A
7. The institution has established partnerships that support the sustainability of extension services.	3.06	0.59	A	3.43	0.71	A	3.54	0.55	SA	3.30	0.65	A
8. The institution maintains continuous communication with partner communities.	3.09	0.64	A	3.41	0.70	A	3.51	0.60	SA	3.30	0.67	A
9. Extension activities are regularly reviewed to ensure long-term relevance and impact.	3.13	0.62	A	3.33	0.69	A	3.54	0.60	SA	3.30	0.65	A
10. Sustainable practices (e.g., resource management, continuity plans) are integrated into extension activities.	2.99	0.63	A	3.39	0.70	A	3.46	0.55	A	3.23	0.67	A
Composite Mean	3.11	0.61	A	3.42	0.68	A	3.53	0.56	SA	3.32	0.65	A

Legend: M-Mean; SD-Standard Deviation; I-Interpretation; SA-Strongly Agree; A-Agree

4.2 Significant difference in the assessment of the respondents

The results of the test of significant difference on the respondents' assessments are shown in Table 5. Overall, there is a significant difference in the assessments by the three groups of respondents on the implementation of the current community extension activities. This is computed by using the H-statistic value of 14.933 obtained. The generated p-value was 0.001, which is less than the 1% level of significance, and therefore the null hypothesis was rejected.

The significant variation in the assessments reflects the fact that each group of respondents would have assessed the institution's extension work from a slightly different viewpoint dependent upon their role within the institution, their experiences and how involved they were. Program assessment may have been based on the employees' first-hand involvement in program planning, implementation, monitoring, and program resource management, and students' program assessment may have been based on their program learning experiences and their level of involvement in the programs. Those programs, however, were likely evaluated by community

stakeholders on the relevance, quality, and sustainability outcomes these programs provided to them. The varying views suggest a lack of consistency in community extension activities implementation among all stakeholder groups. This finding suggests that there is a need to enhance employee, student, and community liaison and teamwork in all stages of the extension program. Building greater stakeholder involvement in planning, implementation, monitoring and evaluation, and keeping feedback mechanisms in place will help minimize perceived differences, increase understanding, and strengthen the overall impact of the institution's community extension programs in terms of effectiveness, responsiveness and sustainability.

Table 5

Significant Difference in the Assessment of the Current Community Extension Activities by the Respondents

	H-Statistic	p- value	Decision on Ho	Verbal Interpretation
Needs assessment	10.703	0.005	Reject	Very Significant
Planning and design	13.274	0.001	Reject	Very Significant
Monitoring and evaluation	11.240	0.004	Reject	Very Significant
Sustainable activities	21.951	<0.001	Reject	Very Significant
Overall	14.933	0.001	Reject	Very Significant

This finding corroborates Valentino et al. (2025) that faculty, students, and community members evaluated areas of strength and challenges differently in their university's community extension programs, especially in terms of resources allocated, program implementation, and program impact, which led to varying assessments of the effectiveness of the programs. Furthermore, Sigue et al. (2024) noted that stakeholders' input into the university extension programs showed differing perceptions of extension outcomes and suggestions for improvement, and that stakeholders' perceptions of extension programs are based on their interactions with the programs. Cortez and Asiri (2026) reported similar positive and consistent evaluations of community extension practices among respondents in general, regardless of the respondent's profile, thus indicating that if the community extension practices are appropriately implemented and stakeholders are well connected, they can result in similar perceptions of program effectiveness. The results suggest that the differences were substantial in the present study due to the different roles, experiences, and involvement of the respondents in the extension activities in the community.

4.3 Challenges Encountered in the Community Extension Activities

From the answers given by the participants, it was observed that there are some challenges in implementing community extension services. While respondents reported regular participation in community extension activities, they listed concerns about limited resources, participation, and lack of follow-up activities. All these are planning, implementing, and sustaining extension program-related challenges. Here is a discussion of the issues that the participants ran into frequently:

Limited Budget and Resources. Financial materials and other resources to support the community extension activities were also cited as another challenge encountered by the participants. Financial resources and funds are identified as constraints by respondents to the development of materials, implementation of activities, and providing support to beneficiaries.

Other participants stated:

"One of the challenges encountered during the implementation of community extension activities is the limitation of resources, which sometimes affects the extent of assistance that can be provided to the recipients."

"Limited funds and resources sometimes made it difficult to prepare the necessary materials and programs."

These constraints hinder the preparation of programs, materials, and support services, particularly for beneficiaries from marginalized sectors. Although college members and external stakeholders continue to show generosity and support, limited funding may reduce the effectiveness and reach of outreach initiatives. The findings

emphasize the importance of sustained financial and material assistance to ensure the continuity of extension programs. They also highlight the need for stronger resource mobilization through partnerships, fundraising, and strategic resource management to better respond to community needs.

The participants' responses are supported by several studies. Inconsistent funding negatively affects the sustainability of extension projects and can lead to program implementation gaps, which makes it hard for institutions to keep partner communities engaged over the long haul, Angeo (2026) stated. Similarly, Guiriba-Losabia et al. (2026) demonstrated that lack of financial resources, along with lack of faculty commitment, limited extension planning, implementation, and expansion. Studies confirm the experiences of participants with the absence of community support, materials, and finances to enable extension services to be delivered to recipients and with smaller amounts of help being provided to recipients.

Limited Participation and Involvement. During the implementation of extension activities, it was also found that there were concerns that the participants had while participating. The main reasons for non-participation in extension were work obligations, academic commitments, and an increased involvement from community members in extension.

Participants mentioned:

"Another factor is the lack of consistent participation from volunteers and beneficiaries due to schedule conflicts, work responsibilities, or low interest."

"Maximum participation of the community members – minimal members are given the opportunity/chances to join."

Participants identified limited participation as a challenge in the implementation of community extension activities, mainly due to schedule conflicts, personal responsibilities, and limited opportunities for involvement. While the school community supports extension initiatives, only selected faculty members and religious club moderators and members are typically involved in outreach activities. This limited participation affects the continuity, inclusiveness, and overall effectiveness of extension programs. It may also weaken partnerships with partner communities and reduce the benefits that could be shared with a wider group of stakeholders. The findings highlight the need for flexible scheduling, improved communication, and more inclusive participation strategies to encourage broader engagement in extension activities.

This is in line with published research. Ontal and Rabang (2026) stressed that participation is key to the success of extension programs, but that participation could be impacted by other responsibilities, lack of motivation, and limited opportunities to participate. Similarly, Gumiran (2024) found that the degree of participation of the beneficiaries is an important factor in the success of extension programs, as the more they participate, the more successful the extension program and community participation are. The results obtained are consistent with the observations of the participants that the three factors listed can influence stakeholders' participation in community extension work.

Lack of Follow-Up Activities and Program Continuity. Some respondents commented on the lack of follow-up activities or challenges for keeping community extension programs. The respondents expressed the need for continuity and follow-up in extension activities, and one of the areas to be attended to was identified.

Participants simply stated:

"No follow-up activity."

"Continuity of the program – budget sometimes becomes a problem."

Many extension initiatives are implemented only once, limiting opportunities to monitor progress, evaluate long-term outcomes, and provide continued support to beneficiaries. Resource constraints, particularly budget

limitations, further hinder the sustainability of extension activities. Without consistent follow-up, it becomes difficult to determine whether program objectives have been achieved and maintained over time. The findings emphasize the need for structured continuity plans, regular monitoring and evaluation, and adequate resources to sustain meaningful community partnerships and long-term program impact.

As noted by Asio (2022), it is important to note that the impact of the community extension program and its sustainability – as well as how well the goals are being met over time – can only be evaluated through continuous monitoring and evaluation after implementation. Quintana (2026), in turn, found that the sustainability of extension in higher education is dependent on the continuous use of the services, the adequate monitoring and constant contact with the community to guarantee the effectiveness of the services and their continuation. The results of these studies corroborate the participants' answers about the potential lack of follow-up activities and problems with sustaining program continuity, which raises questions about the effectiveness and sustainability of community extension activities.

4.4 Proposed Enhanced Community Extension Plan

The proposed Enhanced Community Extension Plan was developed based on the findings of the study, particularly the indicators that received the lowest mean ratings in the implementation of the institution's community extension activities. Although the overall implementation was rated satisfactory, the results identified opportunities for improvement in the areas of needs assessment, planning and design, monitoring and evaluation, and sustainable activities. To address these concerns, the plan outlines targeted strategies and activities aimed at enhancing the quality, effectiveness, and long-term sustainability of the institution's community extension programs. To strengthen the Needs Assessment and Planning and Design dimensions, the plan proposes the Needs Assessment Validation and Results Dissemination Forum and the Collaborative Planning Session. These activities promote stakeholder participation in validating community needs, communicating assessment results, identifying priorities, allocating resources, and developing appropriate implementation strategies. By engaging faculty, students, parents, and community partners, the institution can ensure that extension programs are more responsive, inclusive, and evidence-based.

For the Monitoring and Evaluation and Sustainable Activities dimensions, the plan recommends developing Standardized Monitoring and Evaluation (M&E) Tools and Performance Indicators and implementing Sustainability and Continuity Planning. These activities will strengthen program monitoring, improve documentation and decision-making, and support continuous communication, resource management, and long-term community ownership. Overall, the proposed plan provides a practical framework for improving stakeholder engagement, program implementation, and the lasting impact of the institution's community extension initiatives.

5. Conclusion

Based on the findings, it can be concluded that the institution has been able to implement the community extension activities effectively in terms of needs assessment, planning and design, monitoring and evaluation, and sustainable activities. The respondents were mostly positive about these areas, suggesting the institution has developed effective procedures to identify community needs, plan appropriate interventions, track program implementation, assess program effectiveness, and foster program sustainability. However, there is a significant variance in the rating of program implementation by employees, students, and stakeholders, indicating that there are differences in their experiences and views of program implementation. This underscores the need to build stronger partnerships, communication, and stakeholder engagement among the extension programs to ensure that there is a single-minded understanding of the extension programs. Furthermore, the problems faced, including lack of funds, lack of participation, and lack of follow-up activities, suggest potential areas for improvement. The discussion of these concerns in the proposed Enhanced Community Extension Plan can aid in program implementation, the sustainability of programs, and the positive impact of the institution's extension services on its partner communities.

Recommendation - The findings of this study offer several practical implications for educational institutions. Teachers and extension coordinators may use the results to improve needs assessment, strengthen stakeholder participation, and develop more effective monitoring and evaluation practices. Students, in turn, can gain more opportunities to develop leadership skills, social responsibility, and a stronger sense of community engagement. Likewise, schools may use the proposed enhancement plan to build stronger partnerships, manage resources more effectively, and ensure the long-term sustainability of their community extension programs.

AI Use Disclosure. We used ChatGPT for language editing and idea generation. All outputs were reviewed, verified, and edited by the author/s, including fact-checking sources. No confidential or personally identifiable data were entered into AI tools. The author/s take full responsibility for the content.

Author contributions: **Audree D. Alday:** Conceptualization, Validation, Formal analysis, Writing - Original Draft, Supervision. **Rita A. Cruzat:** Methodology, Investigation, Data Curation, Writing - Review & Editing. **Suzeth D. Marquez:** Resources, Visualization, Project administration, Funding acquisition.

6. References

- Abejuela, H. J. M., Castillon, H. T., & Sigod, M. J. G. (2022). Constructive alignment of higher education curricula: The case of a Philippine state university. *Asia Pacific Journal of Social and Behavioral Sciences*, 20, 48–72. <https://doi.org/10.57200/apjsbs.v20i0.288>
- Adame, M. J., Ayala, J. C., Magpantay, H. G., & Ramos, R. (2022). Outcomes and impacts of the university–community partnership: The five-year engagement in community extension programs. *Kalinangan Refereed Journal*, 30(1), 81–97. <http://cprell.ub.edu.ph/content/394>
- Angco, R. J. N. (2026). Bridging academia and communities through higher education extension programs in the Philippines: A meta-synthesis toward theory generation. *Frontiers in Education*, 11, Article 1764682. <https://doi.org/10.3389/feduc.2026.1764682>
- Asio, J. M. R., Sardina, D. P., Olaguir, J. A. O., Obispo, K. P. C., & Macaraeg, E. K. B. (2022). Community extension programs in a small suburban community: Its impact and basis for institutional sustainability and support. *International Journal of Humanities, Management and Social Science*, 5(2), 50–58. <https://doi.org/10.36079/lamintang.ij-humass-0502.365>
- Cagasan, E. G., Gravoso, R. S., Bales, M. C., Bulayog, E. F., Ongy, E. E., & Alao, F. T. (2022). Surfacing development needs of a marginal upland community through participatory tools: The case of a village in Samar, Philippines. *Annals of Tropical Research*, 44(1), 99–113. <https://doi.org/10.32945/atr4418.2022>
- Commission on Higher Education. (2016). *CHED Memorandum Order No. 52, series of 2016: Pathways to equity, relevance and advancement in research, innovation, and extension in Philippine higher education*. CHED. <https://cms-cdn.e.gov.ph/CHED/pdf/2016-CMO-NO52.pdf>
- Commission on Higher Education. (2022). *CHED strategic plan 2022-2028*. <https://ched.gov.ph/wp-content/uploads/CHED-Strategic-Plan-2022-2028.pdf>
- Corpuz, D. A., Time, M. J. C., & Afalla, B. T. (2022). Empowering the community through the extension services of a teacher education institution in the Philippines. *Cogent Education*, 9(1), Article 2149225. <https://doi.org/10.1080/2331186X.2022.2149225>
- Cortez, F. H., & Asiri, M. S. (2026). Community extension practices of Sulu State University: An assessment. *Journal of Education and Academic Settings*, 3(1), 1–17. <https://doi.org/10.62596/b2d6tk21>
- Dapula, G. F. (2026). The challenges and coping mechanisms in the implementation of community outreach activities in a higher educational institution in the Philippines. *WVSU Research Journal*, 15(1), 33–42. <https://doi.org/10.59460/wvsurj.151287.2026>
- Dinglasan, M. G., Macalipay, A., Clavio, M. A. B., Roxas, R. C., Balbis, J. A., Gabarda, J., & Fuertes, M. F. (2024). Community needs assessment of Barangay 694 towards an extension services program. *International Journal for Multidisciplinary Research*, 6(4). <https://doi.org/10.36948/IJFMR.2024.V06I04.25452>

- Galorio, D. M. (2025). Exploring the essence and sustainability of community extension programs in Philippine HEIs: A grounded theory approach. *International Journal of Environmental Sciences*, 11(25), 517–524. <https://doi.org/10.64252/hqj64a51>
- Garcia, J. R., & Uy, R. A., Jr. (2025). Successes and challenges: The lived experiences of extension implementers in community development programs. *Asian Journal of Community Services*, 4(3), 217–230. <https://doi.org/10.55927/ajcs.v4i3.60>
- Goltiano, H. Y. (2023). Participatory extension for empowerment: Paradoxes unboxed in the fishery sector. *Annals of Tropical Research*, 45(1), 36–60. <https://doi.org/10.32945/atr4513.2023>
- Guiriba-Losabia, K., Dalo, A. G., & Cerio, C. T. (2026). Challenges of selected Philippine higher educational institutions in facilitating extension services: Application of the best-fit framework. *Journal of Public Affairs and Development*, 10(2). <https://www.ukdr.uplb.edu.ph/jpad/vol10/iss2/4>
- Gumiran, I. G. (2024). Assessing the level of beneficiaries' participation: A case of medicinal and food plants extension project. *Linker: The Journal of Emerging Research in Agriculture, Fisheries and Forestry*, 4(1), 56–70.
- Johnson, L. L., Jr. (2026). *Assessing extension engagement and collaboration through the Virginia Cooperative Extension situation analysis process* (Doctoral dissertation, Virginia Polytechnic Institute and State University). Virginia Tech Electronic Theses and Dissertations Repository. <https://hdl.handle.net/10919/140687>.
- Labayo, C. P. (2022). Impact evaluation of teacher-training extension program in higher education: A qualitative assessment approach. *The Normal Lights*, 16(1), 1–31. <https://doi.org/10.56278/tnl.v16i1.1978>
- Ligue, D. L. (2022). *Redesigning of Sibol curriculum as social innovation in an extension program* (Doctoral dissertation, West Visayas State University). WVSU Institutional Repository. <https://hdl.handle.net/20.500.14353/523>
- Muya, G. R. (2022). Developing a sustainability model of community extension programs of Philippine private higher education institutions. *Southeast Asian Journal of Education for Sustainable Development*, 1(1), 1–16. <https://www.researchgate.net/publication/382638107>
- Nduna, M., & Chakanika, W. (2021). An investigation into the challenges encountered by the University of Zambia in the implementation of extension education: A case of North Western Province. *Journal of Law and Social Sciences*, 2(1), 86–106. <https://doi.org/10.53974/unza.jlss.2.1.435>
- Nkonki-Mandleni, B. (2023). Monitoring and evaluation for university–community impact in driving transformation agenda. *South African Journal of Higher Education*, 37(1). <https://doi.org/10.20853/37-1-5679>
- Ontal, J. D., & Rabang, J. O. (2026). Impact of student involvement in community extension programs: A Philippine higher education study. *Asian Journal of Education and Social Studies*, 52(3), 444–452. <https://doi.org/10.9734/ajess/2026/v52i32920>
- Paraggua, V. Q., Mobo, F. D., Acuavera, R. C., Villavicencio, L. R., Pasa, G. C., & Guiang, S. L. A. (2026). Need-based extension services towards community development for Sitio Aldea in Zambales, Philippines. *Journal of Education and Learning (EduLearn)*, 20(1), 65–77. <https://doi.org/10.11591/edulearn.v20i1.21987>
- Patalinghug, M. E., & Bustamante, R. S. (2022). Community needs assessment as basis for a community extension program in a state-funded college. *Science International (Lahore)*, 34(3), 273–275. <https://zenodo.org/records/6649107>
- Paulican, J. B., & Intong, J. D. (2020). Determinants of extension productivity of the faculty in State Universities and Colleges in Mindanao, Philippines. *International Journal of Advanced Research*, 8(7), 1542–1552. <https://doi.org/10.21474/IJAR01/11423>
- Pilar, E. C., & Utleg, F. (2023). Involvement of faculty, staff and students in community extension services programs: An analysis. *International Journal of Research Studies in Education*, 12(3), 29–51. <https://doi.org/10.5861/ijrse.2023.1003>
- Preña, E. M., & Labayo, C. P. (2023). Evaluation of a science teachers' training extension program: Lesson learning and implications for program design. *Silliman Journal*, 63(2). <https://su->
-

- journal.su.edu.ph/index.php/sj/article/view/356
- Preradović, N., Čalić, M., & van Overbeeke, P. S. M. (2022). *Rural 3.0: A case study of university–community engagement through rural service-learning in Croatia*. *Journal of Higher Education Outreach and Engagement*, 26(1), 117–128. <https://openjournals.libs.uga.edu/jheoe/article/view/2602>
- Quintana, E. B. (2026). Sustainability of extension services in higher education: A study of the Hospitality Management Program at EARIST, Manila. *Economic Sciences*, 21(6(S)), 194–202. <https://doi.org/10.69889/zgkm0t32>
- Philippine Accrediting Association of Schools, Colleges and Universities. (2023). *PAASCU quality standards*. <https://paascu.org.ph/index.php/paascu-quality-standards/>
- Philippine Association of Colleges and Universities Commission on Accreditation. (2023). *Accreditation standards and manual*. <https://www.pacucoa.com/>
- Ringconada, R. R. V., & Eguia, R. E. (2025). Development and validation of a scale for the sustainability of community extension initiatives in Philippine state universities and colleges. In *Proceedings of the Barcelona Conference on Education 2025*. <https://papers.iafor.org/submission97082/>
- Saysi, J. G. (2024). Creating a framework for sustainable research and extension engagements in an education institution funded by the local community. *ASEAN Journal of Community Engagement*, 8(1), 3–23. <https://doi.org/10.7454/ajce.v8i1.1303>
- Scheffelaar, A., Blignaut-van Westrhenen, N., Labrie, N. H. M., Pittens, C. A. C. M., & Zweekhorst, M. B. (2023). A multiple case study of implementing community service-learning in large-scale higher education courses. *Journal of Higher Education Outreach and Engagement*, 27(1), 19–40. <https://openjournals.libs.uga.edu/jheoe/article/view/2776>
- Sigue, A.-L., Isip, I. N., Domingo, B. B., Cleofe, S. I., Magaling, E. A., Lazaro, R. K. Y., Atienza, S., & Em, F. S. (2024). Assessing community impact: A study of stakeholder feedback through the Community Connection. *Dangal Research Refereed Journal*, 5(1), 80–115. <https://ejournals.ph/article.php?id=25304>
- Tayaban, B. B., Pagdilao, M. C., & Arquero, J. H. (2026). Community-driven solutions for sustainable development: A needs assessment in Caarusipan, San Juan, La Union. *OIDA International Journal of Sustainable Development*, 19(1), 25–48. <https://ssrn.com/abstract=6129746>
- UNESCO. (2021). *Berlin declaration on education for sustainable development*. <https://unesdoc.unesco.org/ark:/48223/pf0000381229>
- United Nations Development Programme. (2021). *UNDP evaluation guidelines*. Independent Evaluation Office. http://erc.undp.org/pdf/UNDP_Evaluation_Guidelines.pdf
- Valentino, M. A. G., Bacani, B. B., Columna, J. M., & Asuro, J. M. S. (2025). Bridging the gap: Assessing challenges in university community extension for sustainable development. *CETRAB Book Publishing Services Co.*, 1(1), 17–20. <https://www.researchgate.net/publication/395733450>
- Valle, L., Costan, E., Costan, F., General, E., Alcantara, G., Kilat, R. V., Batican, I., Olivar, G. M., & Avila, D. (2022). Community extension MSME entrepreneurial activities in relation to poverty reduction. *Frontiers in Sociology*, 7, Article 1038006. <https://doi.org/10.3389/fsoc.2022.1038006>
- World Bank. (2020). *World Bank annual report 2020: Supporting countries in unprecedented times*. <https://openknowledge.worldbank.org/handle/10986/34406>

Antas ng pagkatuto sa asignaturang Filipino ng mga mag-aaral sa Baitang 12: Isang kwantitatibong pananaliksik

De Mesa, Alvin R. ✉

Leyte Normal University, Philippines (ar_demesa@ymail.com)

Cinco, Stephen P.

Leyte Normal University, Philippines (prongotpain@gmail.com)



ISSN: 2243-7703

Online ISSN: 2243-7711

OPEN ACCESS

Received: 15 July 2026

Available Online: 5 August 2026

Revised: 3 August 2026

DOI: 10.5861/ijrse.2026.26366

Accepted: 4 August 2026

Abstract

This study aimed to determine students' level of understanding and the effectiveness of translation as a teaching strategy in the subject Filipino. Specifically, it examined the performance of Grade 12 students before and after discussing lessons in the first quarter with translation, as well as the significant difference between their scores in the pre-test and post-test. The study used a quantitative research design with pre-test and post-test involving two groups: experimental and control. It was conducted in a private school in Tacloban City, Leyte. The participants were selected through purposive sampling based on the criteria set by the study. Mean, standard deviation, and Paired Sample t-test were used to analyze the gathered data. The results showed that in the pre-test, the Experimental Group had a mean of 19.18 (SD = 3.49), while the Control Group had a mean of 14.55 (SD = 2.98). In the post-test, the mean of the Experimental Group increased to 25.36 (SD = 3.21), while the Control Group recorded a mean of 19.73 (SD = 5.52). The results showed that the performance of the Experimental Group improved more. Therefore, it was proven that the use of translation as a teaching strategy has a positive effect in improving students' understanding and academic performance in the subject Filipino in a private school that uses English as the primary medium of instruction002E

Keywords: level of understanding, translation, Grade 12, pre-test, post-test

Antas ng pagkatuto sa asignaturang Filipino ng mga mag-aaral sa Baitang 12: Isang kwantitatibong pananaliksik

1. Abstrak

Ang pag-aaral na ito ay naglalayong matukoy ang antas ng pag-unawa ng mga mag-aaral at ang bisa ng pagsasalin bilang estratehiya sa pagtuturo sa asignaturang Filipino. Partikular, sinuri nito ang performans ng mga mag-aaral sa Baitang 12 bago at pagkatapos talakayin ang mga aralin sa unang kuwarter na may pagsasalin, gayundin ang makabuluhang pagkakaiba ng kanilang mga marka sa pre-test at post-test. Gumamit ang pag-aaral ng kuwantitatibong disenyo ng pananaliksik na may pre-test at post-test sa dalawang pangkat: eksperimental at kontrol. Isinagawa ito sa isang pribadong paaralan sa Tacloban City, Leyte. Pinili ang mga kalahok sa pamamagitan ng purposive sampling batay sa mga itinakdang pamantayan ng pag-aaral. Ginamit ang mean, standard deviation, at paired sample t-test upang masuri ang mga nakalap na datos. Lumabas sa resulta ng pre-test na ang Experimental Group ay may mean na 19.18 (SD = 3.49), samantalang ang Control Group ay may mean na 14.55 (SD = 2.98). Sa post-test, tumaas ang mean ng Experimental Group sa 25.36 (SD = 3.21), habang ang Control Group ay nakapagtala ng mean na 19.73 (SD = 5.52). Ipinakita ng mga resulta na higit na umunlad ang performans ng Experimental Group. Samakatuwid, napatunayang may positibong epekto ang paggamit ng pagsasalin bilang estratehiya sa pagtuturo sa pagpapabuti ng pag-unawa at akademikong performans ng mga mag-aaral sa asignaturang Filipino sa isang pribadong paaralan na gumagamit ng Ingles bilang pangunahing midyum ng pagtuturo.

Susing Salita: antas ng pag-unawa, pagsasalin, baitang 12, pre-test, post-test

2. Introduksiyon

Ang pagkatuto ng mga mag-aaral sa asignaturang Filipino ay isa sa mga mahahalagang kaalaman na dapat mayroon ang isang Pilipino. Ngunit paano magkakaroon ng kaalaman kung ang sarili mismong lengguwahe ay hindi maintindihan. Ang pagkatuto ng Filipino ay magsisilbing pundasyon sa bawat mag-aaral na Pilipino upang lalong mapalalim at mas mapalawak ang kaalaman at ideya ng mga ito sa sarili mismong wika. Katulad na lamang sa pagbasa, na isa sa mga maaaring gamitin ng mga mag-aaral upang mas mapalalim ang kanilang pagkatuto. Ayon kay Quintero (2019), ang pag-unawa sa binasa ay isang kakayahang nagbibigay-daan sa isang estudyante upang sabay-sabay na magamit ang pag-unawa, kamalayan sa ponema, palabigkasan, at makabuluhang pakikipag-ugnayan sa isang teksto. Dagdag pa ni Maluto (2026), ang pagbasa ay hindi lamang sapat na makabasa ng nakasulat at masabi ang mga ito kundi lalong higit na maunawaan, mapakahulugan, makabuo ng personal na reaksiyon at pananaw hinggil sa teksto, mapalawak at malinang ang kaalaman ng bumabasa at mapataas ang uri ng pagkatuto sa binabasa. Batay sa mga inilathala, makikita natin na mahalaga ang pag-unawa sa binabasa upang mas madaling matutunan ang mga paksang pinag-aaralan.

Gayunpaman, ilan sa mga kinakaharap ng mga mag-aaral, lalo na ang mga nasa pribadong paaralan na kung saan nahihirapan at hindi maintindihan ang isang paksa na nakasulat sa Filipino, ay isa itong malaking hamon sa kanilang pagkatuto sa asignaturang Filipino na ang lahat ay nakasulat sa wikang Filipino. Isa sa mga nagiging epekto nito ay ang pagbaba ng performance ng mga mag-aaral sa asignaturang Filipino sa kadahilananang hindi nila masyadong maunawaan ang tekstong binabasa o ang pagbaba ng score sa ginagawang pagsusulit sa asignaturang Filipino. Ayon sa pag-aaral nina Lausa et al. (2024), isa sa mga dahilan kung bakit bumababa ang score ng mga mag-aaral sa asignaturang Filipino sa mga pribadong paaralan ay ang kakulangan sa praktikal na paggamit ng wika sa tahanan, labis na exposure sa Ingles, at ang maling pananaw na "madali" lang ang Filipino. Bagama't nakatira sa Pilipinas, maraming mag-aaral sa pribadong eskwelahan ang mas bihasa sa Ingles, kaya nahihirapan silang unawain ang malalalim na estruktura at bokabularyo ng sariling wika.

Sa pamamagitan ng iba't ibang paraan ng pagtuturo, maiibsan ang ganitong suliranin ng mga mag-aaral na hindi gaanong nakaiintindi ng mga salitang Filipino; isa na rito ang pagsasalin. Ang pagsasalin sa wikang mas madaling maunawaan ng mga mag-aaral ay isa sa mga pinakamagandang gawain, gayon ay mas mapadali ang pag-unawa ng mga mag-aaral sa asignaturang Filipino. Sa inilathala ng Philippine Daily Inquirer (2025), ang pagtuturo ng asignaturang Filipino gamit ang wikang Ingles sa mga pribadong paaralan ay isinasagawa upang mapataas ang kahusayan ng mga mag-aaral. Sentro rito ang layuning maihanda sila sa globalisasyon, mapalakas ang kanilang komprehensiyon, at maiwasan ang kalituhan sa pag-aaral ng iba pang asignatura. Makikita sa pag-aaral nina Culla-ag et al., (2025) na may layuning masuri at maunawaan ang mga hamon na hinaharap ng mga mag-aaral sa paggamit ng wikang Filipino sa aspetong pang-akademiko, pang-sikolohikal at pang-sosyal.

Ang kaibahan ng isinasagawang pag-aaral ay nakapokus lamang sa pagsasalin ng mga tanong mula sa wikang Filipino patungo sa wikang Ingles. Ang pag-aaral na ito ay nilimitahan sa pagsasalin ng guro sa mga tanong na kanyang ginawa, ngunit hindi sa pagsasalin sa buong talakayan. Ayon pa ni McLeod (2025), ito ay nagsasaad na ang pagkatuto at pag-unlad n kaisipan ng tao ay nakasalalay sa pakikipag-ugnayan sa lipunan, kultura, at wika. Ang pag-aaral na ito ay nakatuon sa paghahambing ng magiging resulta ng pagsusulit na mayroong pagsasalin at pagsusulit na walang pagsasalin, upang makita kung ano ang kaibahan ng performans ng mga mag-aaral sa pagkatuto ng asignaturang Filipino. Layunin ng pag-aaral na ito na makita kung alin sa dalawa ang may malaking maiaambag sa pagkatuto ng mga mag-aaral sa isng pribadong paaralan na gumagamit ng wikang Ingles bilang medium ng pagkatuto.

Layunin ng Pag-aaral – Ang pag-aaral na ito ay naglayong makita ang antas ng pag-unawa at bisa ng pagsasalin sa pamamagitan ng pagkakaroon ng pre-test at post-test sa pagsukat ng pag-unawa ng bawat mag-aaral. Partikular, na nilalayong masagutan ang mga sumusunod: 1. Ano ang performans ng mga mag-aaral sa Baitang 12 bago talakayin ang aralin sa unang kwarter na may pagsasalin? 2. Ano ang performans ng mga mag-aaral sa Baitang 12 pagkatapos talakayin ang aralin sa unang kwarter na may pagsasalin? At, ano ang makabuluhang pagkakaiba ng performans ng mga mag-aaral sa Baitang 12, bago at pagkatapos talakayin ang mga aralin sa unang kwarter na may pagsasalin?

Saligang Teoretikal – Ang pag-aaral na ito ay nakatuon sa antas ng pagkatuto ng mga mag-aaral sa asignaturang Filipino, na nakabatay sa ilang mahalagang teorya sa edukasyon. Isa sa mga pangunahing teorya ay ang *Second Language Acquisition Theory* ni Stephen Krashen, na nagsasaad na mas epektibong natututo ang mga mag-aaral ng ikalawang wika kapag ang impormasyong ibinigay ay nauunawaan (*comprehensible input*). Dagdag pa ni Huang (2023), ang paggamit ng mga salitang mas naiintindihan ng mga mag-aaral ay magsisilbing tulay upang higit na maunawaan ng mga mag-aaral ang isang konsepto. Binigyang-diin naman ng Sociocultural Theory ni Lev Vygotsky na ang pagkatuto ay nagaganap sa pamamagitan ng pakikipag-ugnayan at paggamit ng mga kasangkapang pangkaisipan, at ang wika ang mga mahalagang kasangkapang tinutukoy ni Vygotsky. Ayon sa Cherry (2022), ito ay nagsasaad na ang pagkatuto at pag-unlad n kaisipan ng tao ay nakasalalay sa pakikipag-ugnayan sa lipunan, kultura, at wika.

Ang mga teorya ay ay naayon sa kasalukuyang pag-aaral sapagakat layunin makita ng pag-aaral na ito kung mayroong pagbabago ba sa antas ng pagkatuto ng mga mag-aaral sa baitang 12 kung isasalin sa wikang Ingles ang mga katanungan sa gagawing pre-test at post-test na konektado sa *Second Language Acquisition Theory* at kung papaano mas madaling matutunan ng mga mag-aaral sa isang pribadong paaralan ang asignaturang Filipino na may kaugnayan naman sa *Sociocultural Theory* dahil sa paggawa ng paraan ng mananaliksik upang maayon sa mas madaling maunawaan ng mga mag-aaral na wika.

3. Metodolohiya

Inilahad sa kabanatang ito ang mga pamamaraang ginamit ng mananaliksik, kabilang ang disenyo ng pag-aaral, kaligiran ng pag-aaral, at paraan ng pangangalap ng datos.

Disenyo ng Pag-aaral – Ang pag-aaral na ito ay isang kwantitatibong pananaliksik na gumamit ng pretest-

posttest control group design. Sa disenyon ito, hinati ang mga kalahok sa dalawang pangkat: ang eksperimental na pangkat at ang kontrol na pangkat. Ang eksperimental na pangkat ay sumasailalim sa estratehiyang pagsasalin ng mga tanong sa pagsasagawa ng pagsusulit, samantalang ang kontrol group ay hindi nakatanggap ng anumang treatment o estratehiya. Ayon pa kay Shuttleworth (2009), ang disenyon pretest-posttest ay ang mas piniling pamamaraan upang maihambing ang mga grupo ng kalahok at masukat ang antas ng pagbabago na nagaganap bilang resulta ng mga interbensyon. Angkop ang disenyon ito upang masukat ang antas at bisa ng isinagawang estratehiya at upang matukoy kung nakatutulong ba ito sa pagpapaunlad ng pag-unawa at pagkatuto ng mga mag-aaral. Ang pag-aaral na ito ay isinagawa sa isang pribadong paaralan sa Tacloban City, lalawigan ng Leyte.

Kalahok ng pag-aaral - Gumamit ang mananaliksik ng purposive sampling sapagkat pinili ang mga kalahok batay sa katangian at criteria na makikita sa layunin ng pag-aaral. Ayon pa kay Nikolopoulou (2023), ang purposive sampling ay isang uri ng non-probability sampling kung saan sadyang pinipili ang mga kalahok batay sa kanilang tiyak na katangian, karanasan, o kaalaman na akma sa layunin ng pananaliksik. Hindi ito isinasagawa nang paborito o nagkataon lamang.

Instrumento - Gumamit ang mananaliksik ng *self-made type of test* o talatanungan mula sa guro ng mga mag-aaral na siyang gumawa at nagsuri ng mga tanong na ibibigay sa mga mag-aaral o *teacher-made pre-test and post-test upang makuha ang karapatang datos na makukuha mula sa isinagawang pagsusulit*. Ayon pa kina Kumar at Lal (2024), Napakahalaga ng paggawa ng sariling pagsusulit o *teacher-made/self-made test* dahil ito ay angkop na angkop sa mga tinalakay sa klase, tumutukoy sa tunay na kakayahan ng mga mag-aaral, at nagbibigay ng agarang gabay sa guro

Konsiderasyong Etikal – Mahigpit na titiyakin ng mananaliksik na ang mga prinsipyong etikal ay maisasagawa sa buong proseso ng pag-aaral. Bago isagawa ang pangangalap ng datos, kukuha muna ng pahintulot ang mananaliksik mula sa administrasyon ng isang pribadong paaralan sa Tacloban. Ang paglahok sa pag-aaral ay ganap na boluntaryo, at ang mga kalahok ay bibigyan ng sapat na impormasyon tungkol sa layunin, pamamaraan, at kahalagahan ng pananaliksik bago sila lumahok. Kukuha rin ang mananaliksik ng malayang pahintulot (*informed consent*) mula sa mga kalahok at, kung kinakailangan, mula sa kanilang mga magulang o tagapag-alaga. Upang mapanatili ang pagiging kumpidensiyal ng mga kalahok, mga kodigo ang gagamitin sa halip na kanilang mga tunay na pangalan, at ang lahat ng impormasyong makakalap ay ituturing na lubos na kumpidensiyal. Higit pa rito, ang lahat ng datos na makokolekta ay gagamitin lamang para sa layuning akademiko at pananaliksik at ligtas na iingat upang maprotektahan ang pagkapribado ng mga kalahok. Ang mga etikal na gawaing ito ay naaayon sa mga prinsipyong etikal na itinakda ng American Psychological Association (2020), lalo na sa mga alituntunin hinggil sa malayang pahintulot, pagiging kumpidensiyal, boluntaryong paglahok, at responsableng pangangasiwa ng mga datos sa pananaliksik.

Paraan ng Pangangalap ng Datos – Sa pangangalap ng datos, binigyan ang mga respondente ng liham-pahintulot at ipinaliwanag ang layunin ng isinagawang pag-aaral. Isinagawa ang pre-test at post-test sa parehong paraan. Pagkatapos kumuha ng pagsusulit, ang mga respondente. Kinuha ng mananaliksik ang mga nakuhang puntos upang mabigyan ng pagpapakahulugan.

Pagpapakahulugan ng Datos - Upang masuri nang maayos ang mga nakalap na datos, gumamit ang mananaliksik ng paired sample t-test. Ayon sa inilathala ng Kent State University (2026), ang paired sample t-test (o dependent sample t-test) ay isang istatistikal na pamamaraan na ginagamit upang malaman kung may makabuluhang pagkakaiba sa pagitan ng dalawang hanay ng mga datos mula sa parehong indibidwal, bagay, o magkakaugnay na grupo. Madalas itong ginagamit sa mga pag-aaral na "Bago at Pagkatapos" (before-and-after). Ang pagsusulit na ibibigay ay naglalaman ng tatlong (30) katanungan. Kasunod nito, ginamit ang mean o average upang matukoy ang pangkalahatang marka ng bawat pangkat sa pre-test at post-test. Ginamit din ang standard deviation upang masukat ang pagkakaiba-iba ng mga marka sa bawat pangkat. Ang mga ito ay malaki ang naitutulong kung gaano kalayo o kalapit ang mga marka ng mga kalahok sa kanilang mean. Na kung saan makikita kung may pagbabago sa pagganap ng bawat pangkat bago at pagkatapos ng isinagawang interbensyon.

Antas ng pagkatuto sa asignaturang Filipino ng mga mag-aaral sa Baitang 12: Isang kwantitatibong pananaliksik
Ginamit rin sa pag-aaral na ito ang Wilcoxon Signed-Rank Test.

Ang Wilcoxon Signed-Rank Test ay isang non-parametric statistical test na ginagamit upang ihambing ang dalawang magkautang na pangkat ng datos, lalo na kung hindi natutugunan ang mga pangunahing palagay (assumptions) na kinakailangan sa paggamit ng paired samples t-test. Ang estadistikal na pamamaraang ito ay angkop sa pagsusuri ng mga datos na hindi sumusunod sa normal na distribusyon. Dahil dito, ginamit ang Wilcoxon Signed-Rank Test sa pag-aaral na ito upang matukoy kung may umiiral na makabuluhang pagkakaiba sa pagitan ng mga marka ng mga kalahok bago at pagkatapos ng isinagawang interbensiyon (Sapkota, 2025). Ang nasabing interpretasyon ay ginamit sa pre-test at post-test upang matukoy ang antas ng pagkatuto ng mga mag-aaral bago at pagkatapos ng interbensiyon. Akma ito sa ginagawang pag-aaral sapagkat layuning malaman kung may malaki bang pagkakaiba ang isinagawang treatment o estratehiya sa pagkatuto at pag-unawa ng mga mag-aaral sa pagkatuto ng asignaturang Filipino.

4. Resulta at Pagtalakay

Sa bahaging ito, makikita ang naging resulta at pagtalakay ng mananaliksik sa isinagawang pangangalap ng datos.

4.1 Performans ng mga mag-aaral sa Baitang 12 bago talakayin ang aralin sa unang kwarter na may pagsasalin

Talahanayan 1

Kaalaman ng mga mag-aaral bago simulan ang pagtalakay ng mga aralin

Pagsusulit	Mean Score	Standard Deviation
Experimental Group (pre-test)	19.18	3.49
Control Group (pre-test)	14.55	2.98

Makikita sa Talahanayan 1 na ang performans ng mga mag-aaral sa Baitang 12 bago talakayin ang aralin sa unang kwarter na may pagsasalin na ang *Experimental Group* ay nakapagtala ng mean score na ($\mu = 19.18$) at standard deviation na ($SD = 3.49$), samantalang ang *Control Group* ay may mean score na ($\mu = 14.55$) at standard deviation na ($SD = 2.98$). Ipinahihiwatig ng mga resulta na bago pa man isagawa ang interbensiyon o paggamit ng pagsasalin, mas mataas na ang antas ng performans ng mga mag-aaral sa experimental group kumpara sa control group. Ipinakikita rin ng standard deviation na ang mga marka ng experimental group ay may bahagyang mas malawak na pagkakaiba-iba kaysa sa control group, bagama't nananatiling magkakalapit ang mga marka ng mga mag-aaral sa bawat pangkat. Sa kabuuan, nagpapakita ang pre-test na hindi magkapantay ang paunang antas ng performans ng dalawang pangkat, kung saan mas mataas ang naitalang mean score ng experimental group. Ang resulta ay nagsisilbing batayang datos sa paghahambing ng magiging pagbabago sa performans ng mga mag-aaral pagkatapos maisagawa ang pagtuturo gamit ang pagsasalin.

3.2 Performans ng mga mag-aaral sa Baitang 12 pagkatapos talakayin ang aralin sa unang kwarter na may pagsasalin

Talahanayan 2

Ang pagganap ng mga mag-aaral pagkatapos talakayin ang mga aralin.

Pagsusulit	Mean Score	Standard Diviation
Experimental Group (post-test)	25.36	3.21
Control Group (post-test)	19.73	5.52

Makikita sa Talahanayan 2, makikita na ang *Experimental Group* ay nagtamo ng mas mataas na mean score na ($\mu = 25.36$) na may standard deviation na ($SD = 3.21$), samantalang ang *Control Group* ay nakapagtala ng mean score na ($\mu = 19.73$) na may standard deviation na ($SD = 5.52$) sa isinagawang post-test. Ipinahihiwatig ng mga resultang ito na ang mga mag-aaral sa Experimental Group ay nagpakita ng mas mataas na performans matapos talakayin ang aralin sa unang kwarter na may pagsasalin kumpara sa mga mag-aaral sa Control Group. Higit pa rito, ang mas mababang standard deviation ng Experimental Group ay nagpapakita na higit na magkakatatulad o

konsistent ang kanilang mga marka, samantalang ang mas mataas na standard deviation ng Control Group ay nagpapahiwatig ng mas malaking pagkakaiba-iba sa kanilang mga naging resulta. Sa kabuuan, ipinakikita ng mga natuklasan na ang paggamit ng pagsasalin sa pagtuturo ay may positibong kaugnayan sa pagpapataas ng performans ng mga mag-aaral sa Baitang 12 pagkatapos talakayin ang aralin sa unang kwarter.

4.2 Makabuluhang pagkakaiba ng performans ng mga mag-aaral sa Baitang 12, bago at pagkatapos talakayin ang mga aralin sa unang kwarter na may pagsasalin

Talahanayan 3

Makabuluhang pagkakaiba ng performans

Pagsusulit	Mean Score	SD	t-value	p<value
Experimental Group (pre-test)	19.18	3.49	3.35	0.003
Control Group (pre-test)	14.55	2.98		
Experimental Group (post-test)	25.36	3.21	2.92	0.008
Control Group (post-test)	19.73	5.52		

Makikita sa Talahanayan 3 ang paghahambing ng performans ng mga mag-aaral sa *Experimental Group* at *Control Group* bago at pagkatapos talakayin ang mga aralin sa unang kwarter. Sa pre-test, nagtala ang *Experimental Group* ng mas mataas na mean score ($\mu = 19.18$) at standard deviation ($SD = 3.49$) kaysa sa *Control Group* ($\mu = 14.55$) at standard deviation ($SD = 2.98$). Lumabas din na ang pagkakaibang ito ay makabuluhan ($t = 3.35$, $p = 0.003$), na nagpapahiwatig na magkaiba ang paunang antas ng pagganap ng dalawang pangkat. Samantala, sa post-test, tumaas ang mean score ng *Experimental Group* sa ($\mu = 25.36$) at standard deviation ($SD = 3.21$), habang ang *Control Group* ay nagtala ng ($\mu = 19.73$) at standard deviation ($SD = 5.52$). Ang resulta ng pagsusuri ay nagpakita rin ng makabuluhang pagkakaiba ($t = 2.92$, $p = 0.008$), na nagpapahiwatig na higit na mataas ang naging performans ng *Experimental Group* matapos ang pagtuturo na may pagsasalin.

Dahil ang p-value sa parehong pagsusulit ay mas mababa sa itinakdang antas ng kabuluhan na 0.05, tinatanggi ang null hypothesis. Ipinahihiwatig nito na may makabuluhang pagkakaiba sa performans ng mga mag-aaral sa pagitan ng *Experimental Group* at *Control Group*, at nagpapakita na ang paggamit ng pagsasalin bilang estratehiya sa pagtuturo ay nakatulong sa pagpapabuti ng pag-unawa at akademikong performans ng mga mag-aaral sa Baitang 12.

Ipinakikita nito na ang paggamit ng pasasalin bilang midyum o estratehiya sa pagsusulit ay may positibong ambag sa pagpapabuti ng akademikong performans ng mga mag-aaral sa asignaturang Filipino sa pribadong paaralan na ang midyum na wika ay Ingles. Dahil dito, napatunayan sa pag-aaral na ito na tama ang nasabi ng naunang pag-aaral nina Lausa et al. (2024) na isa sa mga dahilan kung bakit bumababa ang score ng mga mag-aaral sa asignaturang Filipino sa mga pribadong paaralan ay ang kakulangan sa praktikal na paggamit ng wika sa tahanan, labis na exposure sa Ingles, at ang maling pananaw na "madali" lang ang Filipino.

5. Kongklusyon at Rekomendasyon

Kongklusyon - Batay sa lumabas na resulta sa pag-aaral, makikita na ang mga mag-aaral sa baitang 12 sa isang pribadong paaralan sa Tacloban City, Leyte ay nakakuha ang *Experimental Group* ng mean score na ($\mu = 19.18$) at standard deviation na ($SD = 3.49$) at ang *Control Group* naman ay nakakuha ng mean score na ($\mu = 14.55$) at standard deviation na ($SD = 2.98$) sa isinagawang pre-test sa asignaturang Filipino. Habang sa isinagawang post-test naman, nakakuha ang *Experimental Group* ng mean score na ($\mu = 25.36$) at standard deviation na ($SD = 3.21$), habang ang *Control Group* naman ay nakakuha ng mean score na ($\mu = 19.73$) at standard deviation na ($SD = 5.52$). Ipinahihiwatig ng mga naging resulta na ang paggamit ng pasasalin bilang midyum o estratehiya sa pagsusulit ay may positibong ambag sa pagpapabuti ng akademikong performans ng mga mag-aaral sa asignaturang Filipino sa pribadong paaralan na ang midyum na wika ay Ingles.

Rekomendasyon

- Inirerekomenda sa susunod na mga mananaliksik na palawakin ang pagsusuri sa mga paraan o estratehiya ng pagtuturo sa pagpapadali ng pagkatuto ng mga mag-aaral mula sa pribadong paaralan sa asignaturang Filipino.
- Iminumungkahi rin na gamitin ang wikang Ingles sa pagsasalin ng mga aralin para sa mga mag-aaral na hindi masyadong makaunawa sa wikang Filipino sa pagkatuto.
- At, sanayin ang mga mag-aaral sa pagsasalita ng Filipino sa pagtuturo at pagkatuto ng asignaturang Filipino.

AI Use Disclosure. Ginamit ang AI sa pagwasto ng ilang mga salita upang makatiyak na madaling maunawaan ang mga ginamit na salita sa buong artikulo ng isinagawang pananaliksik. Sinuri, binigyang-katotohanan, at inedit ng mga may-akda ang lahat ng output, kabilang ang fact-checking. Walang kumpidensyal o personal na impormasyon ang inilagay sa mga AI tool. Ang mga may-akda ang may buong pananagutan sa nilalaman.

Authors Contribution: **Alvin De Mesa:** Validation; Writing – Review & Editing; Formal Analysis (supporting); Review of the manuscript; Checking of format; and manuscript revisions. **Stephen P. Cinco:** Conceptualization (lead); Methodology (lead); Data Gathering (lead); Data Analysis (lead); Writing – Original Draft (lead); Writing – Review & Editing (lead)

6. Sanggunian

- American Psychological Association. (2020). *Publication Manual of the American Psychological Association* (7th ed.).
- Cherry, K. (2022). What is Sociocultural Theory? VeryWell Mind. Sinipi sa: <https://www.verywellmind.com/what-is-sociocultural-theory-2795088>
- Culla-ag, J., Cosente, G., Chadya-as, B., Dirampaten, N., Eguia, M.L. (2025). *Mga Hamon Sa Epektibong Paggamit Ng Wikang Filipino Sa Pagsasalita*. Cognizance Journal. Sinipi sa: <https://cognizancejournal.com/vol5issue1/V5I115.pdf>
- Den. (2015). *DepEd Order No. 8, s. 2015 (Policy Guidelines on Classroom Assessment for the K to 12 Basic Education Program)*. DepEd. Sinipi sa: <https://tangub.deped.gov.ph/2015/05/deped-order-no-8-s-2015-policy-guidelines-on-classroom-assessment-for-the-k-to-12-basic-education-program/>
- Huang, X. (2023). *A Review of Research on the Role of Translation in Second Language Acquisition*. EWA Publishing. Sinipi sa: <https://lnep.ewapub.com/article/view/7505>
- Kent State University. (2026). *Paired Sample T-test*. Libguides. Sinipi sa: <https://libguides.library.kent.edu/spss/pairedsamplesttest>
- Kumar, R., Lal, K. (2024). *TEACHER-MADE TEST*. IJCRT. Sinipi sa: <https://www.ijcrt.org/papers/IJCRT2403279.pdf>
- Lausa, M., Leopoldo, D.R., Dabalos, L.J. (2024). *Mga hamon ng mga mag-aaral sa Asignaturang Filipino sa Senior High School*. THEAJHSSR. Sinipi sa: https://www.theajhssr.com/vol-7-iss-2/THEAJHSSR_F0706307801020.pdf
- Maluto, A. (2025). *Kahulugan at Kahalagahan ng Pagbasa*. SCRIBD. Sinipi sa: <https://www.scribd.com/presentation/622904053/Kahulugan-at-Kahalagahan-ng-Pagbasa>
- McLeod, S. (2025). *Vygotsky Theory of Cognitive Development*. SimplyPsychology. Sinipi sa: <https://www.simplypsychology.org/vygotsky.html>
- Nikolopoulou, K. (2023). *What is Purposive Sampling?* Scribbr. Sinipi sa: <https://www.scribbr.com/methodology/purposive-sampling/>
- Sapkota, R. (2025). *Wilcoxon signed rank test*. Slideshare. Sinipi sa: <https://www.slideshare.net/slideshow/wilcoxon-signed-rank-test-109799280/109799280>
- Shuttleworth, M. (2009). *Pretest – Posttest Designs*. Explorable. Sinipi sa: <https://explorable.com/pretest-posttest-designs>
- Philippine Daily Inquirer. (2025). *Experience of Private School Proves folly of DepEd's Mother Tongue policy*.

PDI. Sinipi sa: <https://opinion.inquirer.net/146037/experience-of-private-schools-proves-folly-of-depeds-mother-tongue-policy>

Quintero, J. W. (2019). *Estratehiya sa pagbasa ng mga estudyanteng nasa unang taon sa programang Bachelor of Elementary Education Special Education (SPED) sa Pamantasan ng Timog-Silangang Pilipinas*.

Sinipi sa: Academia.edu. <https://www.academia.edu/24000939/>

Academic performance of Grade 10 students in Araling Panlipunan: Pre-test and post-test as a measuring tool

De Mesa, Alvin R. ✉

Leyte Normal University, Philippines (ar_demesa@ymail.com)

Superable, Lorica C.

Leyte Normal University, Philippines (lorsuperable29@gmail.com)



ISSN: 2243-7703
Online ISSN: 2243-7711

OPEN ACCESS

Received: 28 July 2026

Available Online: 10 August 2026

Revised: 8 August 2026

DOI: 10.5861/ijrse.2026.26375

Accepted: 9 August 2026

Abstract

The study focused on the use of researcher-made pre-test and post-test as measuring tools in determining the academic performance of Grade 10 students in Araling Panlipunan. The participants were 44 Grade 10 students enrolled in the subject Contemporary Issues, comprising 25 females and 19 males. A letter was submitted to the School Principal to request permission to conduct the study, and consent forms were provided to the students prior to the conduct of the study. Hence, their participation was voluntary. The pre-test was administered before the lesson discussion, while the post-test was administered after the teacher had conducted the lesson. The findings revealed a significant difference between the students' pre-test and post-test results. The paired-samples *t*-test showed a significant difference in the Grade 10 students' performance in Araling Panlipunan before ($M = 19.60$, $SD = 4.78$) and after ($M = 21.50$, $SD = 3.97$) instruction, $t(43) = 2.81$, $p = .007$. The researcher also administered a survey questionnaire to determine the students' perceptions of how the pre-test and post-test contributed to their learning and to provide a basis for identifying appropriate instructional interventions. Based on the findings, interventions such as differentiated instruction, remediation sessions, small-group instruction, peer-assisted learning, formative assessments, and timely feedback may be employed by teachers to address students' learning needs and improve the teaching and learning process.

Keywords: academic performance, Araling Panlipunan, pre-test, post-test, instructional interventions, differentiated instruction, remediation sessions, formative assessment

Academic performance of Grade 10 students in Araling Panlipunan: Pre-test and post-test as a measuring tool

1. Introduction

Education is a basic right that each child must acquire. It is where they are exposed to different learning experiences that serve as avenues for them to grow, learn, and improve. Hence, it is necessary to measure their academic performance as evidence of their learning. In this regard, Araling Panlipunan (AP) plays an important role in students' education as it develops their understanding of history, culture, governance, and economics. As one of the subjects taught in Junior High School, AP focuses on the consistent and standardized implementation of Social Studies curriculum. It seeks to foster functional literacy and shape students into analytical, responsible, and patriotic citizens who value and understand significant issues affecting society in both the past and present (Araling Panlipunan, n.d.)

Educational evaluation is a fundamental process used to assess students' competencies, determine the effectiveness of teaching strategies, and support the ongoing enhancement of educational outcomes (Fitriani et al., 2025). The United Nations Educational, Scientific and Cultural Organization (UNESCO) says, that educational evaluation involves a systematic assessment of the quality and effectiveness of educational programs, instructional practices, and students' learning outcomes to determine whether educational goals are being achieved. Levy-Feldman (2025) argues that Assessment is a fundamental component of the educational process, closely connected to teaching and learning. It not only influences these core elements but also informs decisions that affect students, teachers, school administrators, policymakers, and the broader community. Rather than merely evaluating students' prior learning, effective assessment generates meaningful data that teachers can use to make informed instructional decisions, identify learning needs, and implement appropriate interventions before students experience greater learning difficulties (Agarwal, 2025). One of the measuring tools used in education is the pre-test and post-test, a written exam given to the students before and after a discussion. Pre- and post-testing are crucial elements of research and assessment techniques used in a variety of disciplines, such as marketing, psychology, education, and healthcare (Majka, 2024). Araling Panlipunan is an interdisciplinary subject that integrates concepts and knowledge from the different fields of the social sciences (Baguio et al., 2025).

A pre-test is an ungraded assessment administered to identify students' existing knowledge before instruction begins (Berry, 2008). It helps the teacher to measure what the students already know on a certain topic and determine the areas in which students struggle the most, enabling the teacher to tailor the discussion to address those learning needs. On the other hand, a post-test is an essential component of research and evaluation, as it is used to determine the effectiveness and impact of interventions, programs, or treatments (Majka, 2024). The primary purpose of these tests is to evaluate the effectiveness of instructional methods and monitor students' progress (Ariante, 2024). Pre-test/post-test and post-test-only designs are valuable assessment methods used to evaluate the effectiveness of a course or lesson. These approaches provide direct evidence of student learning and help educators identify areas for instructional improvement (Malik & Alam, 2019). Language is a fundamental component of education, serving not only as the means of delivering instruction, but also as a tool that supports learning and promotes understanding. In the Philippine educational system, both Filipino and English are commonly used as languages of instruction.

In the context of Philippine education, one of the major problems that the country faces is the continued decline in the reading comprehension of students that negatively affects their performance. The ability to comprehend written texts is fundamental to academic success, yet numerous young learners continue to face challenges in reading comprehension (Camino & Laro, 2025). It plays an important role in answering assessment tools such as pre-tests and post-tests, as it enables students to understand and respond accurately to test questions. This has been a concern in the country that calls for immediate action to be taken by the Department of Education

and its partners. According to the United Nations, Sustainable Development Goal (SDG) 4, Quality Education, aims to ensure inclusive and equitable education while promoting lifelong learning opportunities for all. This goal emphasizes the importance of improving students' learning outcomes through effective educational practices and continuous assessment. In line with this objective, the present study examines the academic performance of Grade 10 students in Araling Panlipunan by analyzing their pre-test and post-test results. The findings of the study may provide valuable information on students' learning progress and identify areas that require greater instructional focus, thereby supporting efforts to improve the quality of education.

The study conducted aims to determine the significant difference in the results of the pre- and post-test given to the same set of students in Grade 10 studying Araling Panlipunan. The use of this measuring tool contributes a lot to determining their academic performance from the moment that the pre-test was administered until the conduct of the post-test. Teachers can use the results in measuring the learning of the students in certain topics and formulate plans for remediation to the low-performing students. The research also used survey questionnaires, which provided additional information on how the pre-test and post-test help the students in their learning process. Kuphanga (2024) says that questionnaires are widely recognized as versatile and efficient tools for data collection in different areas of research. Their structured format facilitates the systematic collection, organization, and analysis of data, making them especially appropriate for quantitative research studies.

Statement of the Problem - This study aims to answer the following problems that will clarify the Academic Performance of Grade 10 Students in Araling Panlipunan;

1. What is the academic performance of Grade 10 students in Araling Panlipunan based on their pre-test results?
2. What is the academic performance of Grade 10 students in Araling Panlipunan based on their post-test results?
3. Is there a significant difference in the Academic Performance of Grade 10 students in Araling Panlipunan based on the results in the pre-test and post-test?
4. What instructional interventions can teachers implement based on the findings of the study to further improve the academic performance of Grade 10 students in Araling Panlipunan?

2. Methods

Research Design - The study used a descriptive quantitative research design. A descriptive research design is used to systematically describe the characteristics of a population or phenomenon under investigation. It aims to provide a clear understanding of the subject by collecting data through methods such as surveys, interviews, or observations. This design addresses questions related to who, what, when, where, why, and how (Creswell, 2018).

Research Locale - The study was conducted at Notre Dame of Jaro, Incorporated, formerly known as Jaro Institute, the only private Catholic secondary school in Jaro, Leyte. The school is located on Msgr. Lino Gonzaga Street, District II, Poblacion, Jaro, Leyte, and is managed by the Sisters of the Oblates of Notre Dame. Founded in 1963, the institution has continuously provided quality education to Junior and Senior High School students and remains committed to academic excellence and holistic development.

Research Participants - The participants of this study consist of Grade 10 students enrolled at Notre Dame of Jaro, Incorporated, who are currently taking the subject Araling Panlipunan 10: Kontemporaryong Isyu. There are 44 students in total, composed of 25 females and 19 males.

Research Instrument - In this study, the research instruments consisted of a researcher-made pre-test and post-test, and a survey questionnaire. The pre-test and post-test were used to collect quantitative data based on the students' scores. Meanwhile, the survey questionnaire was administered to gather additional information from the

students, particularly regarding how these assessments contributed to their learning process.

Data Gathering Procedure and Analysis - Data were collected by administering a pre-test and a post-test to the students. The pre-test was administered before the start of the lesson, while the post-test was given after the discussion to measure the students' academic performance. The results of the pre-test and post-test were analyzed using the dependent samples t-test and Shapiro – Wilk test to determine whether there is a significant difference between the mean scores of the two related sets of observations. The dependent samples t-test is a statistical method used to determine whether there is a significant difference between the mean scores of two related sets of observations. It is appropriate when the two sets of scores are obtained from the same participants, such as in pre-test and post-test measurements (Academic Success Center, 2026). After the administration of the pre-test and post-test, a survey questionnaire containing closed-ended questions was administered to the students to gather additional information regarding how the pre-test and post-test contributed to their learning process. For Statements of the Problem 1 and 2, descriptive statistics were employed to analyze the pre-test and post-test results by determining the mean, median, mode, and standard deviation. These statistical measures were used to describe and determine the academic performance of the participants based on their pre-test and post-test scores. Siregar (n.d.) explained that descriptive statistics provides a systematic approach to organizing, summarizing, and presenting data using frequency tables, graphical representations, and measures of central tendency and variability, including the mean, median, mode, and standard deviation. In addition, the study also used descriptive statistics specifically the weighted mean to measure the effectiveness of pre-test and post-test to the learning of the students. By identifying the weighted mean, it helps the researcher knows how many students agreed to each statement in the survey questionnaire that will serve as the basis in identifying instructional interventions.

Ethical Considerations - Before the conduct of the study, a Letter of Request to Conduct the Study was submitted to the school directress/principal to obtain permission to carry out the research. The researcher also coordinated with their subject teacher in Araling Panlipunan to ask for the topics that will be included in the test. Before administering the pre-test, the researcher explained the purpose, objectives, and procedures of the study to the participants. Sufficient time was also allotted to address the students' questions and clarifications regarding their participation. Thereafter, a consent form was distributed to the students to obtain their voluntary approval to participate in the research. The results of the study will be used solely for academic purposes and will be treated with utmost confidentiality. Participation in the study is entirely voluntary, and no participant will be forced to take part. Upon the completion of the study, the findings will be shared with the participants and their teacher to provide insights that may be used to improve the teaching and learning process.

3. Results and Discussion

3.1 Academic performance of Grade 10 students in Araling Panlipunan based on their pre-test results.

Table 1
Pre-test results

	N	Mean	Median	Mode	SD	Variance	Range	Shapiro-Wilk	
								W	P
Pre-test	44	19.6	20.0	19.0	4.78	22.9	19	0.964	0.179

Note: More than one mode exists, only the first is reported.

The pre-test is a 35-item researcher made test with $N=44$ respondents. The result of Shapiro - Wilk test showed that the assumption of normality was not violated. $W = 0.96$, $p = 0.18$. The central tendency $M = 19.6$, $Mdn = 20$, $Mo = 19$ are very close to each other which confirms a normally distributed score. The results show that the average score of the students in the pre-test is 19.6. Pre-test scores ranged from a minimum to maximum span of 19 units, demonstrating a sample variance of 22.9. The standard deviation ($SD = 4.78$) tells us how far each score is in relation to the mean, which in this case, shows that most individual scores fall within approximately 5 points of the mean score $M = 19.6$.

3.2 Academic Performance of Grade 10 students based on their post-test results.

Table 2*Post-test results*

	N	Mean	Median	Mode	SD	Variance	IQR	Range	Shapiro-Wilk	
									W	P
Post-test	44	21.5	22.0	19.0	3.97	15.7	6.00	6.00	0.9333	0.014

The post-test is a 35-item researcher made test with N = 44 respondents. The result of the Shapiro – Wilk test showed that the assumption of normality was violated, $W = 0.93$, $p = 0.01$. The measure of central tendency is $M = 21.5$, $Mdn = 22$, $Mo = 19$. Because the mean is slightly lower than the median, the distribution has a slight negative skew. However, with the $IQR = 6$ compared to the $Mdn = 22$, this IQR means that the scores are relatively clustered. The result shows that the average score of the students in the post-test is 21.5. Post-test scores ranged from a minimum span of 19 units, demonstrating a sample variance of 15.7. The standard deviation ($SD = 3.97$) tells us how far each score is in relation to the mean, which in this case, shows that most individual scores fall within approximately 4 points of the mean score $M = 21.5$.

3.3 Significant difference in the academic performance of Grade 10 students in Araling Panlipunan based on their pre-test and post-test results.

Table 3*Significant differences of the pre-test and post-test results*

Paired Samples T-test								
		Statistic	df	p	Mean Difference	SE Difference	Effect Size	
Post-test	Pre-test	Student's t	2.81	43.0	0.007	1.91	0.680	Cohen's d
								0.424

Note: Note. H_a , μ Measure 1 – Measure 2 $\neq 0$

Table 4*Normality Test (Shapiro-Wilk)*

	W	p
Post-test	0.975	0.452

Note: A low p-value suggests a violation of the assumption of normality.

Table 5*Descriptives*

	N	Mean	Median	SD	SE
Post-test	44	21.5	22.0	3.97	0.598
Pre-test	44	19.6	20.0	4.78	0.721

The academic performance of Grade 10 students in Araling Panlipunan was measured using a 35-item researcher-made test. Before conducting the analysis, Shapiro – Wilk statistics were computed to examine the assumption of normality for the paired samples t-test. The result of the Shapiro – Wilk test showed that the assumption of normality was not violated, $W = 0.98$, $p = 0.45$. The result of the paired sample t-test reveals that there is a significant difference between the Grade 10 students' performance in Araling Panlipunan before ($M = 19.6$, $SD = 4.78$) and after ($M = 21.5$, $SD = 3.97$) instruction, $t(43) = 2.81$, $p = .007$. The effect size for this analysis (Cohen's $d = 0.42$) was found to approach Cohen's (1988) convention for a medium effect ($d = 0.5$). The findings suggest that there is a medium effect on the academic performance of Grade 10 students in Araling Panlipunan.

3.4 Instructional Interventions that teachers can implement based on the findings of the study to further improve the academic performance of Grade 10 students in Araling Panlipunan.

The researcher administered a survey questionnaire to the Grade 10 students to gather their perceptions regarding the use of the pre-test and post-test in the teaching-learning process. The results were used to formulate instructional interventions that teachers may use in improving the academic performance of Grade 10 students in

Araling Panlipunan.

Table 6*Interpretation*

Weighted Mean Range	Interpretation
4.21 – 5.00	Strongly Agree
3.41 – 4.20	Agree
2.61 – 3.40	Neutral
1.81 – 2.60	Disagree
1.00 – 1.80	Strongly Disagree

Table 7*Weighted Mean and Interpretation of Grade 10 Students' Responses to the Survey Questionnaire*

Statement	5 SA	4 A	3 N	2 D	1 SD	Weighted Mean	Interpretation
The pre-test helped me identify my prior knowledge before the lesson.	25	14	3	2	0	4.41	Strongly Agree
The pre-test encouraged me to pay closer attention during the lesson.	21	15	6	1	1	4.23	Strongly Agree
The post-test helped me determine how much I learned after the lesson.	23	17	4	0	0	4.43	Strongly Agree
The pre-test and post-test allowed me to monitor my learning progress.	22	12	9	1	0	4.25	Strongly Agree
Taking the pre-test and post-test increased my understanding of the lesson.	25	9	7	1	2	4.23	Strongly Agree
The questions in the pre-test and post-test were appropriate for the topics discussed.	21	18	4	0	1	4.32	Strongly Agree
The pre-test and post-test motivated me to improve my academic performance.	20	12	11	0	1	4.14	Agree
I became more confident in answering questions after taking the post-test.	19	12	13	0	0	4.14	Agree
The use of the pre-test and post-test helped my teacher identify my learning needs.	24	13	6	0	1	4.34	Strongly Agree
Overall, the use of the pre-test and post-test was effective in improving my learning in Araling Panlipunan.	30	11	2	1	0	4.59	Strongly Agree

Overall Weighted Mean 4.31 Strongly Agree

Note: Legend: SA – Strongly Agree; A – Agree; N – Neutral; D – Disagree; SD – Strongly Disagree

Based on the findings of the study, the respondents generally strongly agreed that the use of pre-tests and post-tests contributed positively to their learning, as evidenced by the Grand Weighted Mean of 4.31. It is recommended that teachers adopt an assessment-informed instructional approach by systematically utilizing pre-test and post-test results to guide instructional planning and decision-making. Pre-test results should be analyzed to identify students' prior knowledge and least-mastered competencies, while post-test results should be used to evaluate learning gains and determine the effectiveness of instruction. Based on these findings, teachers may implement targeted instructional interventions such as differentiated instruction, remediation sessions, small-group instruction, peer-assisted learning, formative assessments, and timely feedback to address identified learning gaps. Among the ten statements, Statement 10 obtained the highest weighted mean (4.59), while statements 7 and 8 received the

lowest weighted mean (4.14), both interpreted as Agree.

Overall, the findings suggest that students have a highly favorable perception of the use of pre-tests and post-tests in Araling Panlipunan. In addition, teachers may modify instructional strategies and learning materials according to students' needs to enhance mastery of competencies. Through these interventions, assessment results become a basis for improving instruction, promoting meaningful learning, and enhancing the academic performance of Grade 10 students in Araling Panlipunan.

4. Conclusion

The findings of this study conclude that there is a significant difference between the academic performance of Grade 10 students in Araling Panlipunan using pre-test and post-test as a measuring tool. The students' pre-test scores indicated that the assumption of normality was not violated. This result suggests that the scores were approximately normally distributed. For the post-test results, the Shapiro–Wilk test indicated that the assumption of normality was violated. However, further examination of the Q–Q plot and the Theoretical Quantiles revealed that the distribution of the data did not substantially deviate from normality. Based on the visual inspection of the Q–Q plot, the post-test scores were approximately normally distributed and were therefore deemed acceptable for the analysis. Using a survey questionnaire, the study revealed that the pre-test and post-test are effective assessment tools for determining the academic performance of students. Based on the findings, the study suggests several instructional interventions that teachers may implement to maximize the use of pre-tests and post-tests in the teaching and learning process based on the responses of the students. These interventions include differentiated instruction, remediation sessions, small-group instruction, peer-assisted learning, formative assessments, and timely feedback to address identified learning gaps and enhance students' academic performance.

Recommendations: This study suggests the following recommendations based on the findings:

- For the Schools - Schools should provide and support continuous professional development programs that enhance teachers' knowledge, pedagogical skills, and assessment practices. These programs should equip teachers with current instructional strategies and assessment approaches that are responsive to the evolving needs of learners and the changing demands of education.
- For the Teachers - Teachers should effectively utilize pre-tests and post-tests in the classroom to accurately assess students' prior knowledge and learning progress. In addition, teachers should employ other appropriate assessment tools that are responsive to students' learning needs to enhance instruction and improve academic performance.
- For Students - Students must be reminded on the importance of taking the pre-test and post-test seriously. They need to monitor their scores and performance in the subject area for them to know which part of the lesson they need to focus more.

AI Use Disclosure – We, the author of this study used an AI Tool specifically “ChatGPT” solely for the purpose of grammar checking and paraphrasing. All outputs are reviewed, verified, and edited by the authors including fact checking sources. No confidential or personally identifiable data were entered into AI tools. The authors take full responsibility for the content.

5. References

- Agarwal, A. (2026, July 8). Assessment Tools in Education: Characteristics, Types, & the Tools Needed in Today's Classrooms. *iDream Education*. <https://www.idreameducation.org/blog/assessment-tools-in-education/>
- Araling Panlipunan. (n.d.). Depedlacarlotacity. <https://www.depedlacarlotacity.com/araling-panlipunan.html>
- Arianti, S. F. (2024). The effectiveness of pre-tests and post-tests for teaching industrial ecology in an engineering management program. *Cendikia: Media Jurnal Ilmiah Pendidikan*.

- Assessment for improved learning outcomes. (2026, January 19). UNESCO.
<https://www.unesco.org/en/learning-assessments>
- Baguio, R., Barredo, J., Cabanilla, A. J., Gahi, K. F., Getaruelas, S. M., Lim, B. M. F., Ocaña, A. C., Pacaña, S., & Restauero, K. C. (2024). Readiness, Challenges, and Strategies in the Transition from English to Filipino Medium of Instruction in Araling Panlipunan. *International Journal of Multidisciplinary Research and Growth Evaluation*, 6.
- Berry, T. (2008). Pre-Test Assessment. *American Journal of Business Education*, 1.
- Camino, M., Laro, B., Reyes, C. A., & Pingot, L. P. (2025). Enhancing Reading Comprehension in Filipino among Grade 3 Learners through the Multisensory Approach. *Asian Journal of Education and Social Studies*, 51(8). <https://doi.org/10.9734/ajess/2025/v51i82241>
- Fitriani, N., Rahmadewi, S., Nurhadi, & Shuhada. (2025). Development and Role of Measurement Tools in Educational Evaluation. *Jurnal Manajemen Pendidikan Dan Pemikiran Islam*, 3.
- Kuphanga, D. (2024). Questionnaires in Research: Role, Advantages, and Key Aspects.
<https://www.studocu.com/ph/document/arellano-university-school-of-law/juris-doctor/questionnaires-in-research-role-advantages-and-key-aspects/132119855?sid=%24device%3Afaaf3b27-4f2a-4ac7-b07f-ed2d41baba361786107855>
- Levy-Feldman, I. (2025). The Role of Assessment in Improving Education and Promoting Educational Equity. *Education Sciences*, 15. <https://doi.org/10.3390/educsci15020224>
- LibGuides: Statistics Resources: Dependent Samples T-Test. (n.d.).
<https://resources.nu.edu/statsresources/DependentSamples>
- Majka, M. (2026, April 18). Understanding the importance of Pre and Post-Testing in research and evaluation.
<https://www.linkedin.com/pulse/understanding-importance-pre-post-testing-research-evaluation-majka-60fef>
- Malik, T. G., & Alam, R. (2018). Comparative Analysis Between Pretest/Post-test Model and Post-test-only Model in Achieving the Learning Outcomes. *Pakistan Journal of Ophthalmology*, 35.
- Singh, S., & Singh, S. (2026, June 28). What is Descriptive Research? Definition, Methods, Types and Examples. <https://researcher.life/blog/article/what-is-descriptive-research-definition-methods-types-and-examples/>
- Siregar, T. (n.d.). Descriptive Statistics Concepts Data Collection Methods and Sampling Techniques in Quantitative Research.
<https://www.scribd.com/document/1007468497/DescriptiveStatisticsConceptsDataCollectionMethodsandSamplingTechniquesinQuantitativeResearch-1>
- THE 17 GOALS | Sustainable Development. (n.d.). <https://sdgs.un.org/goals>

Language of instruction and content mastery: A quantitative assessment of Grade 10 students in Filipino-mediated Araling Panlipunan classes on *Mga Kontemporaryong Isyu*

De Mesa, Alvin R. ✉

Leyte Normal University, Philippines (ar_demesa@ymail.com)

Añoover, Hazel J.

Leyte Normal University, Philippines (hazelanover09@gmail.com)



ISSN: 2243-7703
Online ISSN: 2243-7711

OPEN ACCESS

Received: 28 July 2026

Available Online: 10 August 2026

Revised: 8 August 2026

DOI: 10.5861/ijrse.2026.26371

Accepted: 9 August 2026

Abstract

The language of instruction plays an important role in promoting students' understanding and content mastery in Araling Panlipunan. This study determined how the use of Filipino as the language of instruction influenced the content mastery of Grade 10 students during the introductory lessons on *Mga Kontemporaryong Isyu*. A quantitative one-group pretest-posttest design with a descriptive survey was employed involving 31 Grade 10 students selected through total population sampling. A researcher-made 30-item achievement test was used as the pre-test and post-test, while a Likert-scale questionnaire assessed students' perceptions. Data were analyzed using descriptive statistics and a paired-samples t-test through Jamovi. Results showed that the mean pre-test score (Mean = 15.40, SD = 4.79) increased to a mean post-test score (Mean = 22.90, SD = 3.91). A paired-samples t-test revealed a statistically significant difference between the pre-test and post-test scores, $t(30) = -10.90$, $p < .001$. Moreover, students generally agreed that Filipino facilitated their understanding of the lessons (Overall Mean = 3.87). The findings suggest that Filipino-mediated instruction supported students' content mastery and may serve as an effective language of instruction in teaching introductory lessons in Araling Panlipunan.

Keywords: language of instruction, Filipino-mediated instruction, content mastery, Araling Panlipunan, *Mga Kontemporaryong Isyu*

Language of instruction and content mastery: A quantitative assessment of Grade 10 students in Filipino-mediated Araling Panlipunan classes on *Mga Kontemporaryong Isyu*

1. Introduction

Language serves as the primary medium through which teaching and learning occur in educational institutions, influencing how students receive information, construct meaning, and demonstrate their understanding of lesson concepts. As the principal vehicle for classroom communication, it plays a crucial role in facilitating knowledge acquisition and cognitive development. Vygotsky (1978) emphasized that language is a fundamental tool for cognitive development, enabling learners to construct knowledge through social interaction and meaningful communication. Through this process, students internalize concepts, develop higher order thinking skills, and achieve deeper conceptual understanding. In the Philippine educational system, the language of instruction is recognized as a vital component of the teaching-learning process because it facilitates the effective delivery of knowledge while fostering meaningful interaction between teachers and learners. Supporting this view, Sardeshpande (2020) described language as the primary medium of instruction through which knowledge is conveyed in educational settings. The effective use of language in classroom instruction enhances students' comprehension, promotes active engagement, and contributes to improved learning outcomes.

In the context of Philippine education, Araling Panlipunan is one of the core learning areas that encompasses various disciplines, including history, geography, economics, politics, sociology, and culture. The subject requires learners to understand, analyze, and evaluate complex societal issues while developing critical thinking and informed decision-making skills. Consequently, the language used during instruction plays a significant role in helping students comprehend lesson content and achieve content mastery. Since many concepts in Araling Panlipunan involve abstract ideas and contextual discussions, presenting lessons in a language that learners readily understand may facilitate deeper comprehension and more meaningful learning. Cummins (2000) argued that learners develop academic proficiency more effectively when instruction is delivered in a language they understand. Likewise, Sumipo (2020) reported that the medium of instruction significantly influences students' comprehension and learning outcomes.

The importance of Filipino as the prescribed medium of instruction for Araling Panlipunan is anchored in the provisions of the 1987 Philippine Constitution, which recognizes Filipino as the national language and promotes its use as a medium of instruction. This is further supported by the Department of Education through the K to 12 curriculum, where Araling Panlipunan continues to be taught primarily in Filipino. This policy recognizes the role of the national language in promoting cultural identity and making socially relevant concepts more accessible to Filipino learners. Despite this mandate, language preferences and proficiency among students vary across educational settings. In many private schools, English is frequently used as the primary language of classroom communication, potentially influencing students' learning experiences when Araling Panlipunan is taught in Filipino.

The use of Filipino in teaching Araling Panlipunan is intended to make lessons more meaningful, contextualized, and culturally relevant to learners. By using a language that is familiar to students, teachers may be able to explain complex concepts more clearly, encourage active classroom participation, and foster deeper understanding of contemporary social issues. Baguio et al. (2025) reported that while teachers demonstrated high readiness to teach Araling Panlipunan using Filipino, they continued to encounter linguistic and pedagogical challenges, particularly in contexts where English had traditionally been the dominant language of instruction. Likewise, research has shown that learners are more likely to develop content mastery when instruction is delivered in a language that supports meaningful understanding rather than mere memorization. Previous studies have highlighted the influence of the language of instruction on students' learning in Social Studies. Gorgonio (2012) found that both Filipino and English-mediated instruction significantly improved students' academic performance,

suggesting that either language can effectively facilitate learning depending on the educational context. More recently, Ablao et al. (2024) reported that Grade 10 students performed better when Filipino was used as the medium of instruction and that the difference in performance between Filipino- and English-mediated instruction was statistically significant. Collectively, these findings underscore the importance of selecting an appropriate language of instruction to enhance students' comprehension and content mastery in Social Studies.

Unlike previous studies that primarily compared Filipino and English as media of instruction or examined teachers' readiness to implement Filipino-mediated instruction, the present study specifically investigates how Filipino as the language of instruction influences the content mastery of Grade 10 students during the lessons on *Mga Kontemporaryong Isyu*. Moreover, this study was conducted in a private school setting where English is commonly used in classroom communication, providing additional evidence on the role of Filipino as a language of instruction in a different educational context. The findings contribute to the limited literature on Filipino-mediated instruction and content mastery in Araling Panlipunan.

Addressing the gap, this research seeks to determine how the use of Filipino as the language of instruction influences the content mastery of Grade 10 students in Araling Panlipunan classes on *Mga Kontemporaryong Isyu*. It further aims to determine the students' level of content mastery before and after Filipino-mediated instruction, examine whether a significant difference exists between their pre-test and post-test scores, and describe their perceptions regarding the use of Filipino as the language of instruction in facilitating their understanding of the lessons.

Statement of the Problem - This study aims to determine how the use of Filipino as the language of instruction influences the content mastery of Grade 10 students in Araling Panlipunan classes on *Mga Kontemporaryong Isyu*. Specifically, it seeks to answer the following questions: 1. What is the level of content mastery of the Grade 10 students in Araling Panlipunan before and after the discussion as measured by the pre-test and post-test? 2. Is there a significant difference between the pre-test and post-test scores of the Grade 10 students after the Filipino-mediated instruction? And, 3. How do Grade 10 students perceive the use of Filipino as the language of instruction in facilitating their understanding of the lessons on *Mga Kontemporaryong Isyu*?

Theoretical Framework - This study is primarily anchored on Vygotsky's Sociocultural Theory (1978) and is supported by Cummins' Theory of Language Proficiency (2000). These theories explain the role of language in facilitating learning and developing students' understanding of academic concepts.

According to Vygotsky (1978), language is a fundamental tool for cognitive development because learners construct knowledge through meaningful communication and social interaction. Through classroom discussions and interactions with teachers and peers, students internalize concepts and develop higher order thinking skills. In this study, Filipino serves as the language of instruction through which learning takes place during Araling Panlipunan classes on *Mga Kontemporaryong Isyu*. The theory suggests that the language used in instruction can influence how learners process information and construct understanding.

Supporting this perspective, Cummins (2000) argued that students develop academic proficiency more effectively when instruction is delivered in a language they can understand. Language proficiency allows learners to focus on comprehending lesson concepts rather than decoding unfamiliar vocabulary or expressions. In the context of this study, the use of Filipino as the language of instruction provides an opportunity to examine how it influences the content mastery of Grade 10 students in Araling Panlipunan.

These theories provide the foundation for the present study by explaining the relationship between the language of instruction and students' learning. They support the investigation of whether Filipino-mediated instruction influences the content mastery of Grade 10 students during Araling Panlipunan lessons on *Mga Kontemporaryong Isyu*.

2. Method

This section shows the research design and the process of conducting the research. The following are included here:

Research Design – This study used a quantitative approach using a one-group pretest-posttest design to determine how the use of Filipino as the language of instruction influences the content mastery of Grade 10 students in Araling Panlipunan classes on *Mga Kontemporaryong Isyu*. The one-group pretest-posttest design enabled the researcher to measure the students' level of content mastery before and after the Filipino-mediated instruction through the administration of the same assessment instrument. According to Campbell and Stanley (1963), this design is commonly used in educational research to determine changes that occur following an intervention by comparing participants' pretest and posttest performances. In addition, a descriptive survey was conducted to determine the students' perceptions regarding the use of Filipino as the language of instruction. Descriptive survey research is suitable for describing attitudes, opinions, and perceptions of a target population (Creswell & Creswell, 2018).

Research Participant – The participants of the study consist of all 31 Grade 10 students enrolled in a private school in Tacloban City during the School Year 2026–2027. Since the entire Grade 10 population have been included in the study, total population sampling was employed. This sampling is appropriate when the target population is relatively small and all members meet the inclusion criteria, allowing the researcher to collect comprehensive data from the entire population (Etikan et al., 2016). The participants were selected because they were enrolled in Araling Panlipunan and had not yet received formal instruction on the lessons of *Mga Kontemporaryong Isyu*, making them suitable respondents for the study.

Research Instrument – The study utilized a researcher-made 30-item achievement test and a perception questionnaire as its primary research instruments. The achievement test served as both the pre-test and post-test and consisted of identical items covering the primary lessons on *Mga Kontemporaryong Isyu*. The pre-test was administered prior to the Filipino-mediated instruction to determine the students' initial level of content mastery, while the post-test was administered after the instructional intervention to measure pre-to-post change. According to Fraenkel et al., (2019), researcher-made achievement tests are appropriate when standardized instruments do not adequately measure the specific learning outcomes targeted by the study. A researcher-made Likert-scale questionnaire was likewise administered after the post-test to determine the students' perceptions regarding the use of Filipino as the language of instruction in facilitating their understanding of the lessons. To ensure the validity of the instruments, they were reviewed and validated by expert teachers in Araling Panlipunan who taught 3 years and more in the field before their administration.

Data Gathering Procedure – Prior to the conduct of the study, the researcher has secured approval from the school administration to administer the research instruments and conduct the instructional intervention. Upon receiving approval, the participants were informed of the purpose of the study, and informed consent was obtained from the students and their parents or guardians whenever necessary. The researcher had first administered the pre-test to determine the students' initial level of content mastery. This was followed by the discussion of the primary lessons on *Mga Kontemporaryong Isyu* using Filipino as the sole language of instruction. After the completion of the lessons, the same achievement test was administered as the post-test to measure the students' content mastery. Finally, the participants have answered the perception questionnaire regarding the use of Filipino as the language of instruction. Following the recommendations of Creswell and Creswell (2018), data collection procedures were conducted systematically to ensure consistency, minimize bias, and maintain the reliability of the collected data. The data was then organized, encoded, and prepared for statistical analysis.

Data Analysis – The data gathered from the study were analyzed using both descriptive and inferential statistics. The mean and standard deviation were used to describe the students' level of content mastery based on the pre-test and post-test scores. To determine whether a significant difference existed between the students' pre-

test and post-test scores after the Filipino-mediated instruction, a paired-samples t-test was employed at a 0.05 level of significance. The paired-samples t-test is appropriate when comparing the means of two related measurements obtained from the same participants before and after an intervention (Field, 2018). Meanwhile, the students' perceptions regarding the use of Filipino as the language of instruction was analyzed using the weighted mean and standard deviation. The mean was interpreted using the following five-point scale: 4.21-5.00 (Very High), 3.41-4.20 (High), 2.61-3.40 (Moderate), 1.81-2.60 (Low), and 1.00-1.80 (Very Low). All statistical analysis was performed using the Jamovi statistical software, which was utilized to compute the descriptive and inferential statistics and facilitate the interpretation of the study's findings.

Ethical Considerations – The researcher ensured that ethical principles were strictly observed throughout the conduct of the study. Permission to conduct the research was obtained from the school administration prior to data collection. Participation in the study was voluntary, and the participants were informed of the objectives, procedures, and significance of the research before they participate. Informed consent was secured from the participants and, when necessary, from their parents or guardians. The identities of the participants were kept confidential by assigning codes instead of using their names, and all information gathered were treated with the utmost confidentiality. Furthermore, the data collected was used solely for academic and research purposes and are stored securely to protect the participants' privacy. These ethical practices are consistent with the ethical principles outlined by the American Psychological Association (2020), particularly those concerning informed consent, confidentiality, voluntary participation, and the responsible handling of research data.

3. Results and Discussion

This section presents, analyzes, and discusses the findings of the study based on the data gathered from the participants. The results are organized according to the Statement of the Problem and interpreted using appropriate statistical analyses and relevant literature.

3.1 Level of Content Mastery Before and After Filipino-Mediated Instruction

Table 1
Content Mastery Before and After Filipino-Mediated Instruction

	<i>N</i>	Missing	Mean	Median	<i>SD</i>	Minimum	Maximum
Pre-Test Scores	31	0	15.4	16	4.79	5	24
Post-Test Scores	31	0	22.9	23	3.91	13	29

Table 1 presents the descriptive statistics of the Grade 10 students' pre-test and post-test scores in Araling Panlipunan. A total of 31 students participated in both assessments. The pre-test yielded a mean score of 15.40 ($SD = 4.79$), while the post-test obtained a mean score of 22.90 ($SD = 3.91$). The increase in the mean score indicates that the students obtained higher scores after the Filipino-mediated instruction than before the discussion. Likewise, the median increased from 16 in the pre-test to 23 in the post-test, indicating an overall improvement in students' performance. The minimum score also increased from 5 to 13, while the maximum score improved from 24 to 29, suggesting that both the lowest- and highest-performing students achieved higher scores in the post-test. Furthermore, the lower standard deviation in the post-test indicates that the students' scores became less dispersed, reflecting more consistent performance after the instructional intervention.

These findings are consistent with previous studies highlighting the importance of the language of instruction in facilitating learning. Gorgonio (2012) found that both Filipino- and English-mediated instruction improved students' academic performance in Social Studies, while Ablao et al. (2024) reported higher achievement among Grade 10 students when Filipino was used as the medium of instruction. However, whether the observed improvement between the pre-test and post-test scores is statistically significant is examined in the succeeding section through the paired-samples t-test.

3.2 Significant Difference Between the Pre-test and Post-test Scores

Table 2

Paired-Samples t-Test Comparing the Pre-test and Post-test Scores of Grade 10 Students

Pre-Test Scores	Post-Test Scores	Student's t	statistic	df	p	Mean difference	SE difference	95% Confidence Interval	
								Lower	Upper
			-4.53	24.0	<.001	-4.24	0.936	-Inf	-2.64

Note. $H_a: \mu_{\text{Measure 1}} - \mu_{\text{Measure 2}} < 0$

Table 2 presents the results of the paired-samples t-test conducted to determine whether a significant difference existed between the pre-test and post-test scores of the Grade 10 students after the Filipino-mediated instruction. The analysis revealed a statistically significant difference between the two sets of scores, $t(30) = -10.90$, $p < .001$. Since the obtained p-value is less than the 0.05 level of significance, the null hypothesis was rejected. This indicates that the students' post-test scores differed significantly from their pre-test scores after the Filipino-mediated instruction. The results further showed a mean difference of -7.48 (*shown in Table 1*), indicating that the post-test scores were, on average, 7.48 points higher than the pre-test scores. Moreover, the effect size (Cohen's $d = -1.96$) indicates a very large effect, suggesting that the observed improvement was substantial in practical terms. These findings imply that the students demonstrated significantly higher content mastery after the instructional intervention.

The results support Vygotsky's Sociocultural Theory (1978), which emphasizes that language serves as an essential tool for cognitive development and knowledge construction through classroom interaction. The findings also align with Cummins' Theory of Language Proficiency (2000), which suggests that learners are better able to understand academic concepts when instruction is delivered in a language they can effectively process. While this study does not claim that Filipino is inherently superior to English as a medium of instruction, the findings suggest that Filipino-mediated instruction was associated with a significant improvement in the students' content mastery of Araling Panlipunan classes on *Mga Kontemporaryong Isyu*.

3.3 Grade 10 Students' Perceptions of Filipino as the Language of Instruction

Table 3

Perceptions of Grade 10 Students of Using Filipino as the Language of Instruction

Statement	5 SA	4 A	3 N	2 D	1 SD	Mean	SD	Interpretation
Nakatulong ang paggamit ng wikang Filipino upang mas maunawaan ko ang mga panimulang aralin sa Mga Kontemporaryong Isyu.	6	15	8	2	0	3.81	0.833	Agree
Naging mas malinaw sa akin ang mga konsepto sa Araling Panlipunan dahil sa paggamit ng Filipino bilang wikang panturo.	4	19	7	1	0	3.84	0.688	Agree
Madali kong nasundan ang talakayan nang gamitin ang Filipino sa pagtuturo.	4	18	9	0	0	3.84	0.638	Agree
Nakatulong ang paggamit ng Filipino upang mas maging aktibo ako sa pakikilahok sa talakayan sa klase.	6	17	6	2	0	3.87	0.806	Agree
Mas naunawaan ko ang mga paliwanag at halimbawang ibinigay ng guro dahil sa paggamit ng Filipino.	7	17	6	1	0	3.97	0.752	Agree
Naging mas madali para sa akin ang pagpapahayag ng aking mga ideya at opinyon gamit ang Filipino sa klase.	4	15	10	2	0	3.68	0.791	Agree

Language of instruction and content mastery: A quantitative assessment of Grade 10 students

Nakatulong ang paggamit ng Filipino upang maiugnay ko ang mga aralin sa aking sariling karanasan at sa mga pangyayari sa lipunan.	11	16	4	0	0	4.23	0.669	Strongly Agree
Naging komportable akong matuto ng Araling Panlipunan gamit ang Filipino bilang wikang panturo.	6	17	7	1	0	3.90	0.746	Agree
Ang paggamit ng Filipino bilang wikang panturo ay angkop sa pagtuturo ng mga panimulang aralin sa Mga Kontemporaryong Isyu.	13	13	5	0	0	4.26	0.729	Strongly Agree
Sa kabuuan, nakatulong ang paggamit ng Filipino bilang wikang panturo sa aking pag-unawa sa mga aralin sa Araling Panlipunan.	6	17	6	2	0	3.87	0.806	Agree
Overall Mean						3.93		Agree

Note: SA – Strongly Agree; A – Agree; N – Neutral; D – Disagree; SD – Strongly Disagree

Table 3 presents the perceptions of the Grade 10 students regarding the use of Filipino as the language of instruction during Araling Panlipunan lessons on *Mga Kontemporaryong Isyu*. The results showed an overall mean of 3.93, interpreted as Agree, indicating that the students generally viewed Filipino as helpful in understanding the lessons. Among the statements, the highest mean ($M = 4.26$, $SD = 0.729$) was obtained by "Ang paggamit ng Filipino bilang wikang panturo ay angkop sa pagtuturo ng mga panimulang aralin sa Mga Kontemporaryong Isyu," which was interpreted as Strongly Agree. This suggests that the students considered Filipino an appropriate language for teaching the Araling Panlipunan lessons. On the other hand, the lowest mean ($M = 3.68$, $SD = 0.791$) was recorded for the statement about expressing ideas and opinions in Filipino. Although still interpreted as Agree, this finding suggests that while students generally agreed that Filipino supported their learning, some may have experienced greater difficulty expressing their thoughts in Filipino. This is understandable given that the participants came from a private school where English is more commonly used in classroom communication.

Overall, the findings suggest that the students had a positive perception of using Filipino as the language of instruction. This supports the idea of Vygotsky (1978) that language plays an important role in learning and understanding concepts through classroom interaction. Likewise, the findings are consistent with the studies of Gorgonio (2012) and Ablao et al. (2024), which reported that the language of instruction can positively influence students' understanding and learning in Araling Panlipunan.

While the findings indicate that Filipino-mediated instruction was associated with improved content mastery and positive student perceptions, the results should be interpreted in light of several limitations. The study employed a one-group pretest-posttest design without a comparison group, making it difficult to attribute the observed improvements solely to the language of instruction. In addition, the participants were limited to 31 Grade 10 students from a single private school, which may limit the generalizability of the findings to other educational settings. Finally, the study focused only on the primary Araling Panlipunan lessons on *Mga Kontemporaryong Isyu*; therefore, the findings may not necessarily apply to other Araling Panlipunan topics or grade levels.

4. Conclusion

This study determined how the use of Filipino as the language of instruction influenced the content mastery of Grade 10 students in Araling Panlipunan during the lessons on *Mga Kontemporaryong Isyu*. The findings revealed that the students' level of content mastery improved after the Filipino-mediated instruction, as evidenced by the higher post-test mean ($\mu = 22.9$) compared to the pre-test mean ($\mu = 15.4$). Furthermore, the paired-samples t-test indicated a statistically significant difference between the pre-test and post-test scores, suggesting that the students demonstrated better academic performance following the instructional intervention conducted in Filipino.

Moreover, the students generally agreed that the use of Filipino as the language of instruction facilitated their understanding of the lessons on *Mga Kontemporaryong Isyu*. Although the participants came from a private school where English is commonly used in classroom communication, the findings suggest that Filipino remained an

effective medium for presenting and explaining lesson concepts. Overall, the study indicates that the use of Filipino as the language of instruction can support students' content mastery and promote meaningful learning in Araling Panlipunan.

Practical Educational Implications - The findings of this study provide practical implications for teachers, school administrators, and students. The improvement in students' content mastery and their positive perceptions suggest that Filipino may be an effective language of instruction for primary lessons in Araling Panlipunan. These findings may guide teachers in enhancing instructional practices, assist school administrators in supporting language-responsive instruction, and encourage students to actively participate in classroom learning.

Recommendations - In light of the findings and conclusions of this study, the following recommendations are offered to improve teaching practices and guide future research.

1. Araling Panlipunan Teachers or practitioners may continue using Filipino as the language of instruction during lessons on Mga Kontemporaryong Isyu while incorporating learner-centered instructional strategies that encourage active participation, discussion, and critical thinking.

2. Schools may provide professional development opportunities and instructional resources that support the effective implementation of Filipino-mediated instruction while recognizing the diverse linguistic backgrounds of learners.

3. Students are encouraged to actively engage in Filipino-mediated classroom discussions and learning activities to strengthen their understanding of lesson concepts and improve their content mastery in Araling Panlipunan.

4. Future Researchers may employ larger and more diverse samples, include multiple schools, or utilize experimental or quasi-experimental research designs to further examine the influence of the language of instruction on students' content mastery in different educational contexts and subject areas.

AI Use Disclosure - ChatGPT 5.5 was used for language editing, paraphrasing, organization of ideas, and reference formatting. All outputs were reviewed, verified, and edited by the authors, including fact-checking sources and validating statistical results and interpretations. No confidential or personally identifiable information was entered into AI tools. The authors take full responsibility for the content of this manuscript.

Authors Contribution - **Alvin R. De Mesa**: Validation; Writing – Review & Editing; Formal Analysis (supporting); Review of the manuscript; Checking of format; and manuscript revisions. **Hazel J. Añover**: Conceptualization (lead); Methodology (lead); Data Gathering (lead); Data Analysis (lead); Writing – Original Draft (lead); Writing – Review & Editing (lead).

5. References

- Ablao, J. B., Esperat-Reambonanza, H., Gregorio, S. J. B., & Musa, A.-M. I. (2024). Comparing the effectiveness of English and Filipino as media of instruction in teaching Social Studies to Grade 10 students. *American Journal of Humanities and Social Sciences Research*, 8(7), 292–297.
<https://www.ajhssr.com/wp-content/uploads/2024/07/ZH24807292297.pdf>
- American Psychological Association. (2020). *Publication Manual of the American Psychological Association* (7th ed.).
- Baguio, R., Barredo, J., Cabanilla, A., Jr., Gahi, K. F., Getaruelas, S. M., Lim, B. M. F., Ocaña, A. C., Pacaña, S., & Restauero, K. C. (2025). Readiness, challenges, and strategies in the transition from English to Filipino medium of instruction in Araling Panlipunan. *International Journal of Multidisciplinary Research and Growth Evaluation*, 6(6), 260–271.
- Campbell, D. T., & Stanley, J. C. (1963). *Experimental and quasi-experimental designs for research*. Houghton Mifflin.
- Creswell, J. W., & Creswell, J. D. (2018). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (5th ed.). SAGE Publications.

- Cummins, J. (2000). Language, power and pedagogy: Bilingual children in the crossfire. *Multilingual Matters*, Vol. 10, pp. 12-19.
- Department of Education. (2013). K to 12 Curriculum Guide for Araling Panlipunan.
- Etikan, I., Musa, S. A., & Alkassim, R. S. (2016). Comparison of convenience sampling and purposive sampling. *American Journal of Theoretical and Applied Statistics*. 5(1), 1–4.
- Executive Order No. 210, s. 2003. (2003, May 17). Establishing the policy to strengthen the use of the English language as a medium of instruction in the educational system. *Official Gazette of the Republic of the Philippines*. <https://www.officialgazette.gov.ph/2003/05/17/executive-order-no-210-s-2003/>
- Field, A. (2018). *Discovering Statistics Using IBM SPSS Statistics* (5th ed.). Sage Publications.
- Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2019). *How to Design and Evaluate Research in Education* (10th ed.). McGraw-Hill Education.
- Gorgonio, J. P. R. (2012). Use of Filipino and English in Social Studies Learning. *University of San Carlos Graduate Journal*. 29.
- Republic of the Philippines. (1987). The 1987 Constitution of the Republic of the Philippines. <https://www.officialgazette.gov.ph/constitutions/1987-constitution/>
- Sardeshpande, M. (2020). Role of language in education. *Journal of Critical Reviews*, 7(8), 3852–3855. <https://www.jcreview.com>
- Sumipo, J. M. (2020). Effects of the Medium of Instruction in Comprehending Mathematical Word Problems. *Asian Journal of Social Sciences and Management Studies*, 7(1), 58–61. <https://doi.org/10.20448/journal.500.2020.71.58.61>
- Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press.

Male teachers in home economics education: A systematic review in instructional practices, gender norms, and students' perceptions

Manuel, Vivian V. ✉

Don Mariano Marcos Memorial State University, North La Union Campus, Philippines
(vy.manuel06@gmail.com)



ISSN: 2243-7703

Online ISSN: 2243-7711

OPEN ACCESS

Received: 28 July 2026

Available Online: 10 August 2026

Revised: 8 August 2026

DOI: 10.5861/ijrse.2026.26377

Accepted: 9 August 2026

Abstract

Home economics education plays a crucial role to student lives' because it helps learners to develop essential knowledge, practical skills, positive attitudes, and competencies that are useful in their daily lives. Its function is not only enhancing students' technical abilities but also promotes responsible behavior and personal development. However, issues related to gender stereotypes, emerging instructional practices, and students' perceptions remain important concerns in Home Economics education. This study aimed to review published articles from 2021 to 2025 that examined gender norms, instructional practices, and students' perceptions in Home Economics education. There were 80 studies discovered. After applying the inclusion and exclusion criteria, 20 studies met the eligibility requirements which is included in the final systematic literature review. Three themes emerged: gender norms and stereotypes in home economics education, innovative teaching methods and their impact on student competencies, and students' perceptions of home economics education and its impact. The review reveals that positive attitude towards the gender equality is becoming increasingly prominent. Despite this, gender bias continues to impact teachers identify, student engagement and students' perceptions of Home Economics education. In addition, an innovative and student centered, technology-integrated instruction, experiential learning, and professional development contributes to outstanding teaching and students' practical skills. Whereas positive perceptions also foster involvement and increase the application of learned skills in practical contexts. Besides, it also highlights how crucial it is to ensure gender equality, improve teacher preparation, and implement and develop practices and creative strategies in home economics education. For educators, legislators, and researchers who wish to enhance various aspects of education, the evaluation implications are crucial.

Keywords: home economics education, gender norms, instructional practices, students' perceptions, systematic literature review

Male teachers in home economics education: A systematic review in instructional practices, gender norms, and students' perceptions

1. Introduction

The progression of practical life skills, common sense, and values that fosters individual, family and community well-being is greatly enhanced by home economic education. This is a cross-functional subject that integrates an information from the discipline such as food and nutrition, clothing and textiles, household resource management, consumer awareness, financial literacy, health and sustainability. It equip students with a vast range of practical knowledge and skills from the basic essential household tasks, cooking, the food presentation and design, the proper cleaning, to laundry and ironing. More importantly it develops students' entrepreneurial mindset by encouraging creativity, innovation, and development of marketable products. However, Home Economics has long been perceived as a subject primarily intended to women. This gender stereotype may influence students' perceptions of the subject and affect their academic choices, discouraging some learners, particularly males, from pursuing Home Economics related programs despite that interest and abilities.

Male students and educators in Home Economics predominantly face gender biases, which might affect their professional identity such as the sense of acceptance, professional personality, and enthusiasm within the discipline. Hence, understanding gender norms function pertaining to Home Economics is pivotal for developing more an inclusive learning environments as education continues to evolve in an increasingly diverse society. Educational effectiveness plays a vital role in shaping students' learning experiences and academic outcomes. Innovative and pedagogical approaches emphasize student-centered learning through various experiential activities, collaborative learning, technology integration, and authentic assessments that fosters both the higher-order thinking skills and practical competencies. Various studies have shown that these teaching approach enhance learners' motivation, strengthen the problem-solving abilities, and improve the application of knowledge in real-world contexts. Consequently, examining the influence of pedagogical approaches on the achievement of learning outcomes remains a significant area of educational research.

Student's perspective toward Home Economics contributes to their engagement, confidence and perceived value of the subject. The students' enthusiasm regarding the subject are the factors that made it more motivated to engage actively in various learning activity, and apply the knowledge and skills acquired beyond the classroom. On the other hand, negative perceptions are associated with gender stereotypes and traditional belief potentially reducing students' interest and reinforce misconceptions in relevance to the subject's educational value. Hence, examining students' perception is crucial as it provides valuable insights in curriculum enhancement, strengthen instructional practices while promoting an inclusive and meaningful learning experiences.

Previous studies have extensively examined gender norms, various teaching methods and student perspectives. However, these areas have been explored independently rather than interconnected factors. Existing literature provides a limited integration on how gender dynamics impact teaching practices, and somehow shape students' perceptions of Home Economics. Moreover, there is limited empirical evidence in examining the experiences of male teachers as well as the evolving nature of gender roles in today's contemporary classrooms. Addressing these research gaps is crucial for curriculum development, a guide for more establish educational policy, enhance teacher preparation, and provide direction for future studies. Thus, this systematic literature review synthesizes empirical studies which published between 2021 and 2025 to assess the relationship among gender norms, student perceptions, and instructional strategies in Home Economic education. Drawing from research conducted across diverse educational contexts, it discerns methodological approaches, prevailing trends, research gaps, and practical implications for enhancing the leaching and learning practices while promoting inclusivity within the discipline.

Statement of the Problem- As home economics evolves into a more inclusive discipline, male teachers

continue to encounter challenges associated with gender norms, teaching practices and students' perceptions. This systematic literature review examines the existing accumulate research on gender norms, instructional practices, and students' perceptions in Home Economics education.

Objectives- This review seek to answer the following questions:

- Evident of gender norms and stereotypes in Home Economics education
- Instructional practices influence the teaching effectiveness and student learning in home economics education
- The perceptiveness of home economics education and its relevance
- Find trends, themes and research gaps in the studies on gender norms, instructional practices, and student perception
- Implications of the findings for Home Economics education

Significance to Researchers, Practitioners and Policymakers- The findings of this systematic literature review provide a substantial insight for researchers, educational practitioners, and policymakers through examining collectively the current evidence on the interrelationship among gender norms, instructional practices, and students' perceptions in Home Economics education. It identifies an existing research gap that can shape a future study while highlighting the need for an inclusive, student-centered, and technology-enhanced instructional approaches which fosters teaching effectiveness, student engagement, and practical life skills. Moreover, the findings provide evidence to inform a gender-equity-oriented educational policies, enhance professional development and teacher preparation, improve an access to instructional resources and promote an equitable involvement within the discipline. Cumulatively, these contributions strengthen the continuous improvement of Home Economics education by fostering an inclusive, relevant and high-quality teaching and learning experiences.

2. Methodology

The study employed an approach guided by the Preferred Reporting Items for Systematic Reviews and Meta-Analysis, the Systematic Literature Review (SLR). It provides a systematic and structured process for identifying, evaluating, and synthesizing the findings from an existing research. The review is dedicated to instructional strategies and students' perceptions in Home Economics education which includes key phases such as systematic literature searching, study screening, eligibility assessment, data extraction, quality appraisal, and thematic analysis (PRISMA, 2020). The Google Scholar and the Education Resources Information Center (ERIC) database was primarily used during the literature search. This is chosen as an extensive access to peer-reviewed research in education, specifically in areas for instance Home Economics, teaching practices, gender-related norms, and student attitudes.

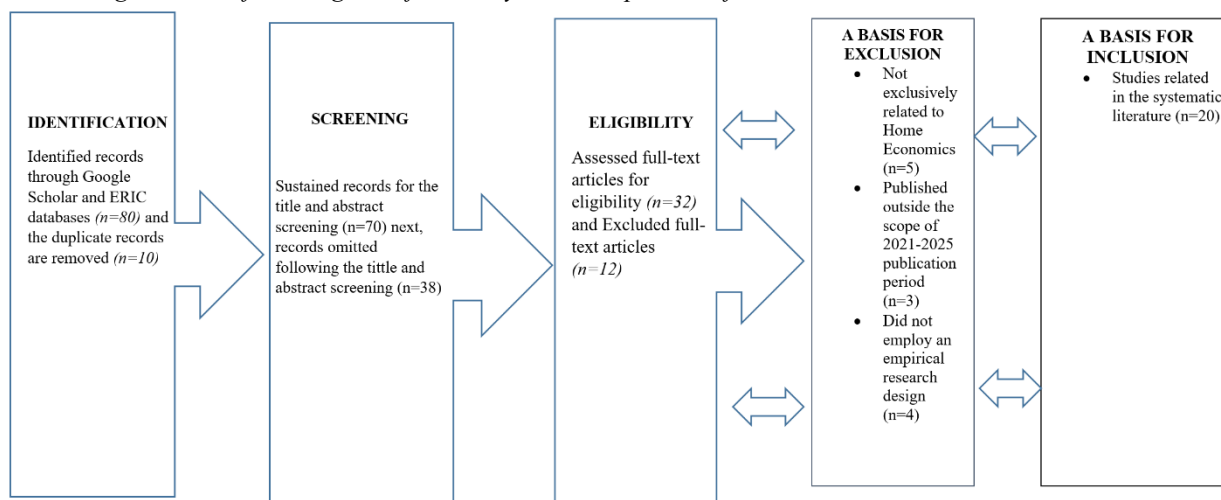
The combinations of key terms and Boolean operators (AND, OR) are the combinations used in the search strategy through Google Scholar and ERIC. Various core search phrases included are among the following key terms, home economics education, family and consumer sciences, gender norms, male home economics teacher, instructional practices, teaching strategies, students' and gender-based perceptions. To strengthen the search, filters were incorporated to include English-language only, peer-reviewed journal articles which is published between the window period of 2021-2025. Whereas, pre-screening of titles and abstracts showed which studies needs a full-text review for eligibility. Furthermore, the study screening process strictly complies in the PRISMA 2020 framework. All of the records which is being recovered through the databases were compiled, de-duplicated, and screened in stages.

After the thorough removing of the duplicates, the titles and abstracts were reviewed alongside the inclusion and exclusion criteria. The full texts of credible entitlement studies were then assessed in detail. The empirical, peer reviewed studies published during the span of 2021 and 2025 which investigates the following, gender norms, instructional strategies, and student perceptions the field of Home Economics education were incorporated in the

final analysis. The complete selection process in the PRISMA 2020 flow diagram illustrates the identification, screening, eligibility assessment, and the inclusion of the reviewed studies. The review incorporated a peer-reviewed empirical studies published in English between the year 2021-2025 and employed quantitative, qualitative, or even mixed-method approaches which solely focused on home economics or family and consumer sciences education, specifically in connection with gender norms, instructional approaches, and students' perceptions. Editorials, conference papers, commentaries, theses, dissertations, studies unrelated to Home Economics education were excluded.

The same data extraction template was used in the evaluation of the study. The authors' names, year of publication, the country of origin, research design, characteristics of participant, study objectives, sample size, data collection techniques, main findings, and thematic emphasis. Altogether, these details helped to create a table for study characteristics which is solely used in the thematic analysis. To clarify the findings included from the studies, thematic synthesis method was employed. Secondly, various Data were coded through recurrent concepts and organized to following comprehensive themes; Firstly, the Gender Norms in Home Economics Education, Secondly, Instructional Approaches in Home Economics Education. Lastly, the Students' Perceptions of Home Economics Education. Through this analysis, it emphasized the similarities and differences, methodology design, and the gaps in existing research showcasing the coherent overview of the recent evidence. As a results, searches in Google Scholar and ERIC accumulated 80 results, following the removal of ten duplicates, 70 titles and abstracts were carefully reviewed. There were 38 excluded which did not meet the inclusion criteria, while 32 full-text articles were carefully reviewed for eligibility purposes. In addition, due to limited relevance to the variable of interest there were also 12 rejected, also the publication outside the period within 2021-2025 nor did not report such empirical data.

Figure 1: The flow diagram of the study selection process of PRISMA 2020



Literature Matrix- The author/year, country, design, participants, variables, findings, limitations, and relevance to male teachers in home economics education, instructional practices, gender norms and student's perception were summarized in a literature matrix.

Author/ Year	Country	Design	Participants	Key Variables	Major Findings	Limitations
Jun 2021	South Korea	Q methodology	High school students	Gender norms	Students perceived male home economics teachers primarily based on competence, professionalism, and teaching effectiveness, although some traditional gender stereotypes remained.	Limited generalizability
Kim et al. (2024)	South Korea	Quantitative	Home Economics Teachers	Instructional Practices	Teachers at different professional development stages demonstrated varying perceptions of effective home economics instruction.	Context-specific findings
Jun (2024)	South Korea	Qualitative	Novice Home Economics Teachers	Instructional Practices	Mentoring, classroom management and professional identity influenced	Methodological differences

Home economics educ.: A systematic review in instructional practices, gender norms, and students' perceptions

					instructional effectiveness among beginning teachers.	
Ha (2025)	South Korea	Quantitative	Pre-Service Home Economics teachers	Instructional Practices	Teaching methods courses significantly improved instructional competence and perceptions of effective teaching.	Limited scope
Hara & Rodriguez-Planas (2025)	Japan	Quasi-Experimental	Secondary school students	Gender Norms	Curriculum reform integrating Industrial Arts and Home Economics reduced traditional gender-role attitudes and promoted more egalitarian perspectives	Short-term evaluation
Dao et al. (2025)	Australia	Quantitative	Initial Teacher Education graduates	Gender Norms	Persistent gender imbalance continues to affect recruitment and completion of male Home Economics teachers.	Need for further research
Pendergas et al. (2025)	Australia	Survey	Home Economics teachers	Instructional Practices	In-field teachers demonstrated higher teaching self-efficacy than out-of-field teachers, emphasizing the importance of professional preparation.	Context-specific
Peñaflorida (2025)	Philippines	Descriptive	Home Economics educators	Instructional practices	ICT integration significantly enhanced pedagogical competence and teaching-learning practices	Results may vary across settings
Mangayayam & Java (2025)	Philippines	Descriptive	Home Economics educator	Instructional Practices	Adequate instructional materials positively influenced teaching practices and student performance.	Findings may not be universally applicable
Galicha & Java (2025)	Philippines	Descriptive-correlational	Home Economics teachers and students	Instructional practices	Video blogs produced significantly higher learning gains than traditional instructional videos	Evidence is limited to specific learning contexts
Jung & Lee (2024)	South Korea	Program development and validation	Nine home economics teachers (expert validators)	Instructional Practices	Developed and validated a 10-session-AI integrated Home Economics education program that enhance AI literacy and digital consumer competencies.	Require more robust evidence
Ogbonna et al. (2022)	Nigeria	Descriptive survey	57 home economics teachers, 50 education officials and 6,481 students	Instructional practices	E-learning supported Home economics instruction but was limited by inadequate teacher preparation, unstable internet connectivity, electricity, interruptions, and challenges in teaching practical skills online.	Context-dependent
Malama (2023)	Zambia	Descriptive survey	35 Home Economics lectures	Instructional Practices	Teaching effectiveness was constrained by inadequate facilities, insufficient funding, limited instructional materials, large class sizes, and overloaded teaching schedules.	Subject to contextual constraints
Ko and Jee (2023)	South Korea	Program Development	Middle school students	Instructional practices	Developed a 12-session Home economics program promoting housing value orientation, practical problem-solving, and independent living skills.	Requires broader evaluation
Janhonen, Olsson, and Waling (2025)	Finland	Qualitative	Teachers and students	Instructional Practices	Collaborative school meal activities strengthened participation, sustainability education, and authentic learning experiences.	Context-dependent
Andres (2025)	Philippines	Mixed methods	Junior high school students	Instructional practices	Effective home economics instruction significantly improved students' Practical life skills, with teacher expertise identified as a significant predictor of life-skills acquisition.	Limited in generalizability
David et al. (2025)	Philippines	Quantitative	Junior high school students	Students' perceptions	Students frequently applied home economics competencies in everyday life but reported lower confidence in advanced practical skills	Based on context-specific findings
Drnovsek and Lovsin Kozina (2025)	United Kingdom	Quantitative	Sixth-grade students	Students' Perceptions	Students perceived home economics as highly relevant for developing everyday life skills and responsible decision-making	Based on self-reported perceptions
Canessa-Pollard et al. (2022)	United Kingdom	Quantitative	Children	Students' perceptions	Occupational gender stereotypes influenced children's competence beliefs and perceptions of gender-appropriate careers, highlighting the importance of addressing stereotypes through education	Context-dependent
Shu et al. (2022)	China	Cross-cultural quantitative	Students	Students' perceptions	Gender stereotypes influenced students' beliefs about intellectual ability, emphasizing the importance of reducing gender bias in educational setting.	Context-dependent

Theoretical Framework- This systematic literature review is grounded in Social Learning Theory (Bandura, 1977), Gender Schema Theory (Bem, 1981) and Transformative Learning Theory (Mezirow, 1991). Through Social Learning Theory's perspective, students develop attitudes toward Home Economics by social interaction and observation which strengthens or challenge traditional gender stereotypes. While, gender schema theory emphasizes that socially constructed beliefs regarding gender, shape students' shape perceptions of Home Economics as a gendered subject, affecting participation and acceptance of male teachers. On the other hand, Transformative Learning Theory posits that student-centered and experiential learning process can overcome existing assumptions, promote an inclusive perspectives, and cultivate positive attitudes toward the discipline. Collectively, these theories provide a framework as a basis for understanding how gender norms, instructional practices, and student perceptions jointly shape teaching and learning in Home Economics education.

3. Discussion

The systematic literature review consolidate empirical research within the published year of 2021 and 2025 in relevance to teaching methods, student perspectives and gender norms in Home Economics education. The data demonstrates that these three areas are closely interconnected and impact the outcome of the instruction and learning outcomes. Besides, instructional methods gained the greatest attention, closely followed by student perspectives, and lastly gender norms. Generally, the findings showed that inclusive instructional practices, learner-centered pedagogies together with positive student perceptions of the subject enhance the educational outcomes while providing an adequate support to address the prolonged gender stereotypes within the discipline.

4. Conclusion

New about your study- This systematic literature review strengthens the growing body of knowledge through integrating recent empirical evidence in relevance to gender norms, instructional methods, and student perspectives in Home Economics education through a holistic synthesis. Whereas previous studies often assessed these dimensions separately, this review exemplifies how it influence the teaching practices, learning experiences, and educational outcomes. It also reveals research gaps, specifically the experiences of male Home Economics teachers and the insufficient examination of the three dimensions together. These findings provide a foundation for curriculum enhancement, professional development for teachers', future research and an informed educational policy that fosters an inclusive and effective Home Economics education.

Gaps Noted- Several limitations identified in the existing literature. Firstly, limited research which has directly explored the perspectives and experiences of male Home Economics teachers, in spite of growing attention toward inclusivity and gender equity in education. Next, numerous existing research depended on prevalence-based studies, showing a limited insight how student perceptions and instructional practices evolve over the period of time. Thirdly, the comparative studies that assessing Home Economics education in cultural aspects on different countries remain scarce. Lastly, a limited studies have jointly investigated the linked relationship among teaching methods, student perceptions and gender norms through a single research framework. To fill these gaps, employing mixed-methods and cross-cultural research of future studies to establish a more comprehensive understanding Home Economics education.

Importance of the Gaps- An inadequate attention given to the experiences of male Home Economics teachers hinders efforts to fosters a gender-inclusive teaching and challenge persistent stereotypes. In a similar manner, the predominance of prevalence studies provides only a scarce current condition and offers a limited knowledge into how various instructional practices and student perceptions emerge over the period. Hence, the scarcity of cross-cultural research also constrains the adaptability of the current findings across diverse educational contexts. Furthermore, assessing gender norms, instructional practices, and student perceptions, separately results in lack of an integrated understanding of its interconnected impact on teaching and learning. Addressing these gaps would yield more thorough evidence to support curriculum improvement, teacher professional development, and evidence-informed educational policies which foster an inclusive and effective home economics education.

Practical Educational Implications- The synthesized findings highlight some practical implications.

- *For Educational Leaders and School Administrators-* The findings highlight the role of educational leaders and school administrators in fostering an inclusive and high-quality home economics education through supporting a gender-responsive practices, providing an appropriate and adequate instructional resource, encouraging technology integration, and investing in teachers' professional growth. Wherein school leaders can create a holistic learning environment that improve the effectiveness of the teaching and enhance the students' learning experiences.
- *For Policy Makers-* The finding accumulates evidence which can guide a policymaker in strengthening gender-responsive educational policies, improving teacher preparation, and ensuring an equitable access to a quality learning resource. Supporting, an inclusive curricula, professional development, and technology integration that can help to enhance the quality and relevance of Home Economics education while mitigating gender stereotypes.
- *For Educators/Practitioners-* The findings emphasize the need for continuous professional development that equips every educator with inclusive, student-centered, and technology enhanced teaching strategies. It can strengthen teachers' instructional skills, address a gender bias related problem in the classroom, and enhance students' engagement, develop more the confidence, and the practical learning outcomes in the discipline of home economics education.

Significance of the Findings

- *For Educational Leaders and School Administrators-* The significant findings are crucial for educational leaders and school administrators as they provide a valuable insight into the importance of implementing an inclusive and high-quality home economics education. The results highlight the need to support gender-responsive approach, allocate adequate instructional resources, incorporate a technology-integrated, and invest in teachers' professional development. Through these significant efforts, school leaders can strengthen a holistic learning environment that enhances both teaching effectiveness and students' overall learning experiences.
- *For Policymakers-* The findings are significant for policymakers as they provide a thorough evidence that can establish the enhancement of gender-inclusive educational policies, equitable access to quality learning resources, and to teacher preparation programs. Through supporting the inclusive curricula, initiatives of investing in professional development, integration of technology, policymakers can improve the relevance and quality of Home Economics education while addressing a persistent gender stereotype within the discipline.
- *For Educators and Practitioners-* The findings are crucial for educators and practitioners as they highlight the value of the continuous professional development and the adaptability of an inclusive, student-centered, and technology-enhanced teaching strategies. Through these approaches, it can address gender-related biases in the learning environment, strengthen the instructional practices, promote student engagement, and improve the overall practical learning outcomes in Home Economics education.

Generally, the practical implications of this review emphasize the joint responsibility of educational leaders, policymakers, and educators in fostering the Home Economics education. Through promoting a gender-inclusive practices, supporting teacher development, providing enough resources, and encouraging an innovative instructional approach, stakeholders can strengthen in creating an equitable and holistic learning environment. These efforts are significant in enhancing the teaching effectiveness and student engagement while ensuring that Home Economics education remains relevant and responsive to the diverse needs of learners.

AI Use Disclosure- I used Quillbot (v44.66.0), and ZeroGPT.com in language editing. All outputs were reviewed, verified, and edited by the author/s including fact checking [fact-checking sources, validating code/results, redrawing figures]. No confidential or personally identifiable data were entered into AI tools. The author/s take full responsibility for the content.

5. References

- Dao, L., Allen, J. M., Pullen, D., & Cowie, S. (2025). Tackling Australia's male teacher shortage: Insights from initial teacher education (ITE) completion data. *Australian Journal of Teacher Education*, 50(3). <https://doi.org/10.14221/1835-517X.6270>
- David, S. C., Zabala, V. B., Achondo, I. C., & Ruales, S. T. P. (2025). Students' application of curriculum-based Home Economics competencies in everyday living. *Center for Educational Policy Studies Journal*. <https://doi.org/10.26529/cepsj.2181>
- Drnovšek, N., & Lovšin Kozina, F. (2025). Perception of sixth-grade students on the role of Home Economics subject in everyday life. *Problems of Education in the 21st Century*, 83(6), 752–766.
- Galicha, J. G., & Aguila, C. B. (2025). Utilization of video blogs (vlogs) versus video presentations: A comparison of learning gains in Home Economics among senior high school learners. *Romblon State University Research Journal*, 7(2), 23–29.
- Ha, O. S. (2025). The impact of the Home Economics teaching materials and instructional methods course on pre-service Home Economics teachers' perceptions of the importance and performance of good teaching. *Journal of Home Economics Education Research*, 37(1), 173–187. <https://doi.org/10.19031/jkheea.2025.3.37.1.173>
- Hara, H., & Rodríguez-Planas, N. (2025). Long-term consequences of teaching gender roles: Evidence from desegregating industrial arts and Home Economics in Japan. *Journal of Labor Economics*, 43(2), 349–425. <https://doi.org/10.1086/728428>
- Janhonen, K., Olsson, C., & Waling, M. (2025). Collaborative participation in a Home Economics context: Using school meals as a part of sustainable education. *Education Inquiry*, 16(1), 88–103. <https://doi.org/10.1080/20004508.2022.2163073>
- Jung, Y. J., & Lee, K. W. (2024). Development of a Home Economics education program for the consumer life area to enhance artificial intelligence literacy in middle school students. *Human Ecology Research*, 62(3), 517–530. <https://doi.org/10.6115/her.2024.036>
- Jun, M. (2021). A subjectivity on high school students' perception of male Home Economics teachers. *Journal of Home Economics Education Research*, 33(3), 1–22. <https://doi.org/10.19031/jkheea.2021.9.33.3.1>
- Jun, M. (2024). Exploring the experiences of novice Home Economics teachers using photovoice. *Journal of Home Economics Education Research*, 36(1), 19–38. <https://doi.org/10.19031/jkheea.2024.3.36.1.19>
- Kim, S. S., Kwon, B. R., & Park, M. J. (2024). Home Economics teachers' perception of good instruction according to teacher developmental stages. *Journal of Home Economics Education Research*, 36(3), 65–83. <https://doi.org/10.19031/jkheea.2024.9.36.3.65>
- Malama, E. (2023). Challenges of teaching and learning of Home Economics in selected colleges of education in Zambia. *Journal of Lexicography and Terminology*, 7(2), 85–99. <https://journals.unza.zm/index.php/jlt/article/view/1141>
- Mangay-ayam, B. G., & Java, M. B. (2025). Adequacy and usability of instructional materials in Technical-Vocational-Livelihood Home Economics on teaching practices and performance: Insights of MAT-LITE students. *Pantao International Journal of Humanities and Social Sciences*, 4(2). <https://doi.org/10.69651/PIJHSS040220>
- Ogbonna, K. P., Eze, N. M., Adeniji, O. O., Onyeka, F. N., & Adeyemi, M. A. (2022). E-learning utilization in junior secondary school Home Economics program in Oyo State, Nigeria. *Journal of Home Economics Research*, 29(2), 130–141. <https://doi.org/10.66731/jher.v29i2.51>
- Peñaflorida, L. M. (2025). Enhancing pedagogical competence and ICT integration: An evaluation of teaching-learning practices of Home Economics educators in state universities and colleges of Western Visayas. *International Journal on Culture, History, and Religion*, 7(Special Issue 2), 605–623. <https://doi.org/10.63931/ijchr.v7iSI2.231>

- Pendergast, D., McManus, S., Du Plessis, A., & Deagon, J. (2025). Investigating the perceptions of self-efficacy of in-field and out-of-field Home Economics teachers. *Family and Consumer Sciences Research Journal*. <https://doi.org/10.1111/fcsr.70006>
- Shu, Y., Hu, Q., Xu, F., & Bian, L. (2022). Gender stereotypes are racialized: A cross-cultural investigation of gender stereotypes about intellectual talents. *Developmental Psychology*, 58(6), 1128–1141. <https://doi.org/10.1037/dev0001356>

Students' preferences for assessment methods and academic performance in Araling Panlipunan 10: A descriptive-correlational research

De Mesa, Alvin R. ✉

Leyte Normal University, Philippines (ar_demesa@ymail.com)

Ramirez, Jonathan Jr. R.

Eastern Visayas State University, Philippines (jonathan.ramirezjr@evsu.edu.ph)



ISSN: 2243-7703
Online ISSN: 2243-7711

OPEN ACCESS

Received: 28 July 2026

Available Online: 10 August 2026

Revised: 8 August 2026

DOI: 10.5861/ijrse.2026.26370

Accepted: 9 August 2026

Abstract

Assessment remains instrumental in measuring students' learning acquisition and informing teachers' instructional decisions. As one of the fundamental components of the teaching-learning process, assessment contributes to the delivery of inclusive, equitable, and quality education in pursuit of the United Nations Sustainable Development Goals (SDGs), specifically Quality Education (SDG 4). In solidarity with this goal, this study was conducted to describe the students' preferences for assessment methods, such as traditional and authentic assessments, and examine its relationship with academic performance in Araling Panlipunan 10. To address these problems, a descriptive-correlational research design was used as the operational blueprint of the study, and survey questionnaires on a 5-point Likert scale were administered to the forty (40) Grade 10 students selected through disproportionate stratified random sampling. Furthermore, the data were analyzed using descriptive statistical measures, particularly the weighted mean and standard deviation, and an inferential statistical test like the Pearson's correlation coefficient (r). As a result, the findings revealed that the students expressed favorable preferences for both assessment methods, where traditional assessment was marginally higher than authentic assessment, with a negligible 0.01 difference. On the other hand, the correlation analysis between students' assessment preferences and academic performance showed no statistically significant relationship, thus suggesting that the former is not a sufficient predictor of the latter. Ultimately, the results led to the formulation of recommendations contextualized based on the findings, such as adopting a balanced, competency-based, and evidence-oriented approach to classroom assessment while being responsive to the diverse students' assessment experiences.

Keywords: assessment methods, traditional assessment, authentic assessment, academic performance, Araling Panlipunan, descriptive-correlational

Students' preferences for assessment methods and academic performance in Araling Panlipunan 10: A descriptive-correlational research

1. Introduction

Assessment for learning involves any form of assessment method that is primarily designed and implemented to measure students' learning and support continued academic development, as collectively stated by Black et al. (2004). This way of understanding assessment fortifies its position beyond the idea that it is just a mechanism used for quantifying students' academic performance while disregarding its fundamental role in both the teaching and learning process as an instrument that informs teachers' instruction, guides students' progress, and fosters reflective practice. In this light, it all the more shows how important it is that any assessment not only measures but also influences the learning experiences of every student.

In the education setting, assessment has always been a central component that influences learning and teaching (Levy-Feldman, 2025). It is defined as a process of gathering and interpreting evidence helpful in making sound judgements about students' achievements (Harlen, 2007, as cited in Earle, 2021). Through assessment, teachers get to provide instant feedback on how students perform in the classroom and, at the same time, the students are made aware by the teachers about their performance. This is where assessment can be as highly significant because it captures the students' level of learning acquisition, which becomes a basis for teachers to modify instructions and cater to the diverse learning needs of every student. Metu et al. (2024) affirm that assessment benefits both the students and teachers, with the former using it to draw constructive feedback to improve future performance, while the latter employs it as an objective reference for the assigning of grades. Indeed, assessment encompasses several purposes, showing how it is a reliable source of information about students' learning and the quality of teaching (Fletcher, Meyer, Anderson, Johnston & Rees, 2012, as cited in Sewagegn, 2019).

In the field of social studies, otherwise known as Araling Panlipunan in the Philippine basic education, assessment is essential in a way that its emphasis transcends mere factual recalling but, more so, fosters students' ability to demonstrate civic competence—allowing them to think critically, engage reflectively, and apply knowledge to the world outside the four-walled classroom. According to the order issued by the Department of Education through DepEd Order No. 015, s. 2026, there is a series of assessments to be provided as embedded in daily instruction, from formative to summative assessments that will develop students' critical thinking and reasoning. Additionally, the order stipulates the grading system, i.e., written works (20%), performance tasks (50%), and examination (30%), which highlights equal consideration to different assessment methods that may be preferred by students, such as traditional and authentic assessments. While the said order prescribes the grading components and their corresponding weights for public schools, private schools may adopt and implement grading systems and assessment weightings based on the existing institutional policies, provided that these strictly comply with national educational standards. These reframed guidelines on classroom assessment present the need to balance the traditional paper-and-pencil test with the emerging trend of the hands-on, contextualized, and experiential nature of assessment. That is why Lee et al. (2024) asserted that assessment as a component of instructional design should not utilize a one-size-fits-all approach but instead be adaptive and responsive to the ever-changing needs and preferences of students.

Furthermore, several studies presented findings that students' preferences for assessment methods are diverse, often shaped by differing demographic classifications, and are strongly linked to perceptions of fairness, motivation, and performance. For example, Brin et al. (2026) found that students at the elementary level demonstrate subject-based preferences, with the study showing how students preferred the objective type of tests for Mathematics while preferring performance tasks for Music, Arts, Physical Education, and Health (MAPEH), which underscores the importance of aligning the assessments to the demands of the subject and preferences of the students. On one level, another study has documented a gender-based difference in academic performance in

secondary schools, suggesting that assessment preferences are not uniform but mediated by individual characteristics (Lebosada & Cutillas, 2024). In a global lens, Simion et al. (2025) revealed that Romanian and South African students at the higher education level have formidably favored authentic assessment over one-shot exams for reasons concentrated on stress reduction and deeper engagement. A study by Enano and Gallego (2025) has also emphasized that students' learning preferences in General Education courses have significantly influenced their performance, which ultimately implies that the instructional materials (IMs), including assessment practices ought to be tailored to the learners' needs, respectively.

While many scholars have demonstrated interest in studying the students' assessment preferences and academic performance, there remains an area left underexplored—that is, to describe students' preferences for assessment methods and examine the relationship of these preferences for assessment methods to their academic performance, specifically in Araling Panlipunan 10. For this reason, the study sought to answer questions about students' preferences in traditional and authentic assessments, how preferences are different across demographic categories, how these preferences are related to academic performance, and the evidence-based recommendations to be formulated as determined by the outcomes of the study to help improve future assessment practices in Araling Panlipunan. Addressing this gap is necessary to design assessment practices that show balanced respect and consideration to students' agency and complexities of social studies as a subject.

Statement of the Problem – The study described students' preferences for assessment methods and examined their relationship with their academic performance in Araling Panlipunan 10. Specifically, it aimed to address the following problems:

1. What assessment methods are most preferred by students in Araling Panlipunan 10:
 - 1.1 Traditional Assessment; and
 - 1.2 Authentic Assessment?
2. How do students' preferences for traditional and authentic assessment methods differ when grouped according to:
 - 2.1 Sex;
 - 2.2 Student's Allowance;
 - 2.3 Ability Grouping;
 - 2.4 Learning Style; and
 - 2.5 Language Preference?
3. What is the relationship between students' preferred assessment methods and their academic performance in Araling Panlipunan 10?
4. What evidence-based recommendations are formulated to improve assessment practices in Araling Panlipunan 10?

Theoretical Framework – The theoretical underpinning of this study is the Expectancy-Value Theory, primarily introduced by John William Atkinson and later further developed by Jacquelynne Eccles and Allan Wigfield. It posits that academic choices are driven by individuals' expectations for success and their attached subjective value to a specific task (Leaper, 2011). Hence, these interplaying variables influence motivation, academic performance, and choices of activities (Renninger & Hidi, 2019). In a simple sense, this theory proposes that students' engagement and performance in activities are likely shaped by their perceptions of how valuable, meaningful, and aligned the activities are to their interests and preferences.

In the context of this study, the Expectancy-Value Theory provides the theoretical basis for describing the students' assessment preferences for traditional and authentic assessments collectively and individually based on the participants' demographic characteristics, as well as for examining the relationship of their preferences for these assessment methods to academic performance in Araling Panlipunan 10. Subsequently, addressing these problems would lead to using its findings as a guide in the formulation of evidence-based recommendations for the improvement of assessment practices. Thus, this theory serves as a viable conceptual and interpretive lens all

throughout the study.

2. Methodology

Research Design – The study utilized descriptive-correlational research. As cited by Barooah (2026), descriptive-correlational research design is a non-experimental quantitative method used to describe and measure the relationship between two or more variables. In this study, descriptive-correlational research was employed to describe students' preferences between traditional and authentic assessments overall and in each demographic category, and examine the significant relationship between the students' assessment preferences and their academic performance in Araling Panlipunan 10. In doing so, the teachers and the larger school community, with the help of the selected students, were able to formulate evidence-based recommendations that are developmentally appropriate, student-centered, and inclusively aligned to the students' assessment preferences in order to enhance future assessment practices.

Research Locale – The study was conducted in one of the leading private and Catholic basic education institutions in Tacloban City. As one of the private schools in the region, it provided rich and substantive data that offered a balanced representation of the population studied. To uphold due ethical consideration in the confidentiality of the participating institution, any information about it will not be disclosed.

Research Participants – The study employed a disproportionate stratified random sampling with a predetermined total sample size of forty (40) Grade 10 students with ten (10) randomly selected participants from each of the four (4) strata. Roscoe's (1975) as cited in Memon et al. (2020) formidably supported this sampling decision, stating that a sample size greater than 30 and less than 500 is appropriate for behavioral studies. Moreover, the researchers' decision to delimit the number of participants was in paramount consideration of the time available for data collection and the viability of conducting the survey within the approved schedule to avoid class disruptions. While the sample did not statistically represent the population of Grade 10 students, resulting in its findings not being generalizable, it remained sufficient to obtain meaningful empirical evidence about assessment preferences and academic performance of the selected participants within the selected locale—serving as the baseline data for future related studies.

Research Instrument – A survey questionnaire structured in a 5-point Likert scale was used as the research instrument to determine the students' assessment preferences in Araling Panlipunan 10 and its relationship to academic performance. Mohn (2021) defined the Likert scale as a generally used tool in social science research to measure people's opinions and attitudes by means of a structured rating system. In this study, a 5-point Likert scale was intentionally employed to gauge the participants' level of agreement with each statement presented between two assessment methods, such as the traditional and authentic assessments, necessary in describing the participants' assessment preferences and examining their relationship to academic performance.

Data Gathering Procedures – For this study, proper and ethical data gathering procedures were observed. It started with the submission of a request letter addressed to the school principal, seeking official and formal approval to conduct a study in a selected educational institution. Once approved, the researchers communicated directly to the teachers handling the subject, Araling Panlipunan in Grade 10, and made some arrangements about the schedule for the actual data collection. However, before the collection of data, the survey questionnaire was first subjected to validation by experts. After the validation process, it proceeded immediately to the administration of the instrument to the sample identified in each of the strata, provided that informed consent had been obtained beforehand. Throughout the data gathering, ethical procedures were strictly followed to protect the identities of the participants and institutions involved.

Data Analysis – In the analysis and interpretation of data, both descriptive and inferential statistics were employed given the hybrid orientation of the research problems to be addressed. Byrne (2007) stated that descriptive statistics is used to describe and summarize data, while inferential statistics is utilized in drawing conclusions. For this study, descriptive statistics was operationally used to compute the mean scores and standard

deviations, which were respectively instrumental in determining the level of students' preferences for the assessment methods, as well as in describing the variability of the responses. Meanwhile, inferential statistics was applied, particularly Pearson's correlation coefficient (r), to examine the relationship of the two central variables of the study, such as the students' preferences for assessment methods and their academic performance. With the aid of Jamovi as a statistical software, the data sets were processed, resulting in the obtainment of essential data, such as the correlation coefficient and the p -value from which interpretations are drawn. Generally, all necessary data were analyzed and interpreted carefully with due regard to existing ethical procedures.

Ethical Considerations – To uphold ethical standards and procedures, the researchers adopted the ethical considerations framework published by Bhandari (2021). In view of the participants' involvement, informed consent was first obtained with stipulation of voluntary participation where students have the right to join and withdraw from the study at any time without penalty. Once they participated, all information provided by the participants, including their identities and responses, will be anonymized and treated with utmost confidentiality. Although the nature of the study shows no room for potential risks, the researchers still reiterated and guaranteed the participants that their involvement would pose more benefits than harm, as it sought to improve assessment practices in Araling Panlipunan 10 and the broader context of the selected educational institution. More importantly, the researchers assured that the works intellectually owned by credible authors in reputable journals are appropriately acknowledged and properly cited in order to promote ethical sensitivity and moral responsibility.

3. Results and Discussions

The findings drawn from the data gathered from the participants were analyzed and interpreted using both descriptive and inferential statistics. The former was used to describe the students' preferences for assessment methods, while the latter examined the relationship between assessment preferences and academic performance.

3.1 Students' Preferences for Assessment Methods in Araling Panlipunan 10

Table 1

Students' Preferences for Traditional Assessment in Araling Panlipunan 10

Indicators	Mean	SD	Interpretation
I prefer multiple-choice examinations over other assessment methods.	4.18	0.903	Agree
I feel more confident answering written quizzes and tests.	3.85	0.921	Agree
I believe paper-and-pencil tests accurately measure my learning.	3.38	1.030	Neither agree nor disagree
I perform better in objective examinations.	3.53	0.877	Agree
I prefer short quizzes instead of performance tasks.	3.60	1.057	Agree
I like identification, matching type, and true-or-false tests.	4.00	0.934	Agree
Traditional examinations motivate me to study harder.	3.68	0.944	Agree
I prefer assessments that have only one correct answer.	3.38	1.148	Neither agree nor disagree
Overall Weighted Mean	3.70	0.566	Agree

Five-Point Scale Interpretation (Suebongsuawan & Nomniam, 2020): Strongly agree (4.21 – 5.00), Agree (3.41 – 4.20), Neither agree nor disagree (2.61 – 3.40), Disagree (1.81 – 2.60), Strongly disagree (1.00 – 1.80).

Table 1 presents the students' preferences for traditional assessment methods in Araling Panlipunan 10. Quansah (2018) defined traditional assessment as a conventional mode of testing, including multiple-choice, true or false, short answers, and essay. Based on the tabular presentation, the indicated composite mean of 3.70 and a standard deviation of 0.566 report that traditional assessment is preferred by the participants, with relatively low variation that shows high consistency in the pattern of responses. Overall, the findings suggest that students' favorable preference for traditional assessment was due to its objective orientation in test structure, wherein a single correct response is expected.

Table 2 depicts students' preference for the authentic assessment method in Araling Panlipunan 10. Authentic assessment pertains to the application of knowledge and skills in a real-world context (Messier, 2022). Based on the presented table above, the composite mean of 3.69 and a standard deviation of 0.634 indicated that authentic

assessment is likewise preferred by the participants, showing a low variability that is generally interpreted as consistency in the collected and analyzed responses. These findings implied that students also prefer authentic assessment, which highlights the importance of integrating it into classroom assessment to improve and facilitate active and meaningful engagement.

Table 2*Students' Preferences for Authentic Assessment in Araling Panlipunan 10*

Indicators	Mean	SD	Interpretation
I prefer performance tasks over written examinations.	3.15	1.122	Neither agree nor disagree
I enjoy completing projects that apply what I have learned.	3.83	0.958	Agree
I prefer group activities as part of classroom assessment.	3.83	0.874	Agree
Role-playing, debates, and simulations help me demonstrate my learning.	3.65	0.975	Agree
I enjoy creating presentations, posters, or portfolios.	3.28	1.132	Neither agree nor disagree
Authentic assessments allow me to express my creativity.	3.85	0.736	Agree
I learn better when assessments involve real-life situations.	4.15	0.802	Agree
Performance-based assessments better reflect what I know and can do.	3.83	0.903	Agree
Overall Weighted Mean	3.69	0.634	Agree

Five-Point Scale Interpretation (Suebongsuawan & Nomniam, 2020): Strongly agree (4.21 – 5.00), Agree (3.41 – 4.20), Neither agree nor disagree (2.61 – 3.40), Disagree (1.81 – 2.60), Strongly disagree (1.00 – 1.80).

Table 3*Descriptive Statistics of Students' Preferences for Two (2) Assessment Methods in Araling Panlipunan 10*

Assessment Method	Mean	SD	Interpretation
Traditional Assessment	3.70	0.566	Agree
Authentic Assessment	3.69	0.634	Agree

Five-Point Scale Interpretation (Suebongsuawan & Nomniam, 2020): Strongly agree (4.21 – 5.00), Agree (3.41 – 4.20), Neither agree nor disagree (2.61 – 3.40), Disagree (1.81 – 2.60), Strongly disagree (1.00 – 1.80).

In this table, the two (2) assessment methods commonly utilized in Araling Panlipunan 10 were compared to determine the students' level of preferences between traditional and authentic assessments. In summation, the findings revealed that both traditional and authentic assessments are preferred by the participants, indicating favorable preferences for both assessment methods. The traditional assessment obtained a mean of 3.70 with a standard deviation of 0.566, while the authentic assessment had a mean of 3.69 and a standard deviation of 0.634. Observably, the traditional assessment was just marginally and slightly higher than the authentic assessment in terms of its composite mean with a 0.01 difference, suggesting that students have very close or almost the same level of preferences for both assessment methods. As a result, the findings emphasize the need to use a balanced and integrated assessment approach between traditional and authentic assessment to address diverse student preferences in assessment.

3.2 Students' Assessment Preferences in Araling Panlipunan 10 Based on Demographic Characteristics

Table 4

Descriptive Statistics of Students' Preferences for Traditional and Authentic Assessments in Araling Panlipunan 10 Based on the Participants' Demographics

Profile	Category	Traditional		Authentic	
		Mean (SD)	Interpretation	Mean (SD)	Interpretation
Sex	Male	3.76 (0.501)	Agree	3.79 (0.703)	Agree
	Female	3.64 (0.627)	Agree	3.61 (0.568)	Agree
Student's Allowance (Weekly)	Below ₱250	3.87 (0.567)	Agree	3.55 (0.713)	Agree
	₱250 - ₱499	3.48 (0.233)	Agree	3.73 (0.425)	Agree
	₱500 - ₱749	3.58 (0.694)	Agree	3.66 (0.520)	Agree
	₱750 above	3.76 (0.571)	Agree	3.92 (0.791)	Agree
Ability Grouping	Outstanding	3.76 (0.593)	Agree	3.78 (0.641)	Agree
	Very Satisfactory	3.40 (0.319)	Neither agree nor disagree	3.29 (0.464)	Neither agree nor disagree
	Satisfactory	3.25	Neither agree nor disagree	3.50	Agree
	Fairly Satisfactory				

Learning Style	Visual	3.76 (0.535)	Agree	3.80 (0.710)	Agree
	Auditory	3.30 (0.986)	Neither agree nor disagree	3.88 (0.739)	Agree
	Reading & Writing	3.76 (0.414)	Agree	3.57 (0.483)	Agree
	Kinesthetics	3.63 (0.530)	Agree	3.13 (0.354)	Neither agree nor disagree
Language Preference	English	3.75 (0.589)	Agree	3.67 (0.695)	Agree
	Filipino	3.56 (0.497)	Agree	3.77 (0.450)	Agree

Five-Point Scale Interpretation (Suebongsuawan & Nomnian, 2020): Strongly agree (4.21 – 5.00), Agree (3.41 – 4.20), Neither agree nor disagree (2.61 – 3.40), Disagree (1.81 – 2.60), Strongly disagree (1.00 – 1.80).

In the table above, it summarizes the descriptive statistics of students' preferences between traditional and authentic assessments based on the participants' demographic characteristics. As a result, the findings revealed that the participants across varied groups have collectively expressed positive and favorable preferences for both of the assessment methods, as supported by the obtained mean scores, with most interpretations falling within the "agree" level. Thus, the findings report that students consider both assessment methods on the same level of value notwithstanding their demographic classifications. In terms of sex, the male and female students have shown preferences for the two (2) assessment methods. The male students obtained slightly higher mean scores for both traditional assessment ($M = 3.76$, $SD = 0.501$) and authentic assessment ($M = 3.79$, $SD = 0.703$) than female students, with recorded mean scores of 3.64 and 3.61 and standard deviations of 0.627 and 0.568, respectively.

When grouped based on weekly allowance, the findings illustrated that all groups preferred both assessment methods, regardless of the participant's socioeconomic condition as operationally defined through weekly allowance. With reference to the opposite extreme categories of this group, it showed that the students receiving a weekly allowance below ₱250 have displayed the highest preference for traditional assessment with a mean score of 3.87 and standard deviation of 0.567, while those with ₱750 and above highly prefer authentic assessment ($M = 3.92$, $SD = 0.791$). These results indicate that students' assessment preferences are generally consistent in different categories within the group; however, students with higher weekly allowances tend to be more open and receptive to authentic assessment.

In the ability grouping, the students classified in the "Outstanding" category expressed favorable preferences for both traditional and authentic assessments with respective mean scores of 3.76 and 3.78. On the contrary, those students in the "Very Satisfactory" category have mutually demonstrated neutral preferences toward both assessment methods, while those in the "Satisfactory" category showed an exclusive preference for authentic assessment only. Similarly, with respect to the learning style, both the visual and reading/writing learners expressed favorable preferences for both assessment methods, while auditory and kinesthetic learners exhibited exclusive and favorable preferences for authentic and traditional assessments, respectively. These findings suggest that students' learning styles may influence the choice of assessment methods that best align with and accommodate their preferred ways of learning.

Lastly, in the language preference, both students who prefer English and Filipino as the assessment language have demonstrated favorable preferences for both traditional and authentic assessments, with a negligible difference in the mean scores obtained. The results showed that the participants who preferred English have expressed a slightly higher preference for traditional assessment ($M = 3.75$, $SD = 0.589$) than authentic assessment ($M = 3.67$, $SD = 0.695$), whereas those who preferred Filipino have exhibited a marginally higher preference for authentic assessment ($M = 3.77$, $SD = 0.450$) than traditional assessment ($M = 3.56$, $SD = 0.497$). Therefore, these two languages indicated as a category have shown comparable levels of preferences for both assessment methods, with minimal variations in the mean scores only. Overall, the descriptive findings indicate that students' preferences for assessment methods are generally positive across demographic classifications, although with slight variations to certain categories, which suggest that students may respond differently to assessment methods depending on demographic characteristics.

3.3 The Relationship of Students' Assessment Preferences and Academic Performance in Araling Panlipunan 10

Table 5

A Correlation Matrix Between Students' Assessment Preferences and Academic Performance in Araling Panlipunan 10

Variables		Pearson's r	Degree of Relationship	p-value	Interpretation	Decision
Academic Performance	Traditional Assessment	-.088	Very Weak (Negative)	.590	Not significant	Fail to reject null hypothesis (H ₀)
	Authentic Assessment	.028	Very Weak (Positive)	.862	Not significant	Fail to reject null hypothesis (H ₀)

Note: * $p < .05$, ** $p < .01$, *** $p < .001$

In Table 5, it illustrates the relationship between students' preferences for assessment methods (i.e., traditional and authentic assessments) and their academic performance. In this study, it must be noted that the level of preferences for the assessment methods was determined through the administration of a survey questionnaire with a 5-point Likert scale, while the academic performance was operationally defined through the students' final grade in Araling Panlipunan of the previous grade level, which served as the most recently completed measure of academic performance at the time of data collection. Based on the findings, the students' preference for traditional assessment showed a very weak negative relationship to academic performance with a correlation coefficient of -0.088, while their preference for authentic assessment showed a very weak positive relationship with a 0.028 correlation coefficient. Moreover, with respective p -values of 0.590 and 0.862, these relationships were confirmed to be not statistically significant, as it exceeded the 0.05 alpha value or level of significance, failing to reject the null hypothesis. Therefore, the results indicate that students' preferences for the two assessment methods have no significant relationship with their academic performance, thus implying that assessment preferences may not be a total indicator or at least a sufficient indicator of academic performance in Araling Panlipunan 10.

3.4 The Evidence-Based Recommendations for Assessment Practices in Araling Panlipunan 10

In light of the general findings of the study, it reveals that the students have collectively expressed favorable preferences for both of the assessment methods, such as traditional and authentic assessments, with a marginal and negligible difference. With this result, it highly recommends integrating a balanced assessment approach that capitalizes on and leverages the complementary strengths of both methods in assessing and measuring students' learning acquisition. Dela Peña et al. (2025) stated that a balanced approach to assessment promotes higher-order thinking skills so necessary in preparing and leading every student for both academic and professional success.

Furthermore, it also presents an unexpected but interesting result when the assessment methods and academic performance are correlated, thereby showing that these variables have no significant relationship at all. It means that neither traditional nor authentic assessment influences the students' performance in class. Hence, this result emphasizes that teachers should not make use of students' preferences in assessment as a basis for the selection of assessment methods but rather must be aligned to the intended learning competencies set depending on the nature of the topics to be assessed. This idea is supported with the theory of constructive alignment, which posits that teaching and assessment methods should be aligned to the intended learning outcomes (Biggs, 2014). As a result, teachers are recommended to adopt a balanced, competency-based, and evidence-oriented approach to classroom assessment while being responsive to the diverse students' assessment experiences.

4. Conclusions

Based on the findings of the study, the following conclusions were drawn:

- All selected students in the study have shown favorable preferences for both assessment methods, such as traditional assessment and authentic assessment. It means that the former manifests a marginally higher preference level in comparison to the latter, with a negligible 0.01 difference. To put it simply,

both assessment methods were generally perceived and received positively.

- The preferences for assessment methods of students across different demographic categories have illustrated varying descriptive patterns. This result implies that most categories expressed mutual preferences for both traditional assessment and authentic assessment, while some showed a relatively higher preference for one assessment method over the others. Therefore, these noticeable patterns indicate that student characteristics may influence their perceptions, attitudes, and preferences for assessment methods.
- In examining the relationship between students' assessment preferences and academic performance, a statistical test was administered and found that the aforementioned variables have no significant relationship. This result implies that students' assessment preferences alone are insufficient predictors of their academic performance in Araling Panlipunan 10, suggesting that there may be other factors with greater influence on it. Through this inference, it may shift the focus and open a new research direction for those scholars interested in further exploring this area under study.
- The evidence-based recommendations formulated were based on the empirical findings of the study and supplemented with existing relevant literature and studies. Considering the marginal and negligible difference in the level of preferences of students for both traditional and authentic assessments, a balanced approach in assessment was recommended, as it tends to be more inclusive and has been proven to have displayed a promising result (Dela Peña et al., 2025). On the other hand, the statistically insignificant relationship between the two central variables of the study has paved the way for the introduction of the constructive alignment theory proposed by John Biggs in 1996, which helps interpret and justify the findings through a theoretical lens. Overall, the recommendations were only on ensuring balanced and outcome-based classroom assessment practices with due consideration to assessment experiences.

Recommendations – Based on the findings, the study suggests these recommendations to the following:

- *Students.* The findings are important in increasing students' awareness that assessment preferences do not necessarily determine their academic performance, specifically in Araling Panlipunan 10, thus encouraging students to be more open and adaptive to diverse assessment methods.
- *Teachers.* The findings provide teachers with empirical and evidence-based data about students' favorable preferences for traditional and authentic assessment methods, indicating the need to adopt balanced and instructionally aligned assessment practices in Araling Panlipunan 10.
- *School.* The findings serve as a foundation for school administrators to review, strengthen, and further improve their existing assessment practices that remain consistent and grounded with the curriculum standards, intended learning outcomes, and the diverse learning needs of students.
- *Future Researchers.* The results contribute to the proliferating literature and studies regarding students' assessment preferences and academic performance. Considering the delimitations reasonably set for the study, it all the more justifies the need to further investigate similar research areas but involving different educational institutions, larger and proportionate samples, or other factors that may truly influence academic performance.

AI Use Disclosure – The authors acknowledge the minimal use of artificial intelligence (AI) tools, such as ChatGPT, Microsoft Copilot, and Quillbot through content organization, structural alignment, and language refinement to ensure the academic rigor of the research manuscript. All outputs were reviewed, verified, and edited by the authors, including fact-checking sources, validating results, and drawing conclusions. No confidential or personally identifiable data were entered into AI tools. The authors take full responsibility for the content.

Authors' Contributions – Alvin R. De Mesa: Conceptualization, Methodology, Validation, Formal Analysis, Writing – Review & Editing, Supervision. Jonathan R. Ramirez Jr.: Conceptualization, Methodology, Investigation, Writing – Original Draft,

5. References

- Barooah, I. (2026, June 11). Descriptive correlational research design: Best practices and examples. *Merren*. <https://merren.io/descriptive-correlational-research/>
- Bhandari, P. (2021). Ethical considerations in research | types & examples. *Scribbr*. <https://www.scribbr.com/methodology/research-ethics/>
- Biggs, J. (2014). Constructive alignment in university teaching. *Higher Education Research and Development Society of Australasia*. <https://herdsa.org.au/herdsa-review-higher-education-vol-1/5-22>
- Black, P., Harrison, C., Lee, C., & Marshall, B. (2004). Working inside the black box: Assessment for learning in the classroom. *Sage Journal*. <https://doi.org/10.1177/003172170408600105>
- Brin, S. R., Gutierrez, J. F., Paghid, J. L. P., Sumaya, M. M., Lapuz, M. Y., Torres, D. R. G., Sale, M. L. C., Malinao, R. M., & Siat, G. O. (2026). Analyzing student preferences for assessment methods across various academic disciplines. *International Journal of Research Publication and Reviews*. <https://doi.org/10.55248/gengpi.07.0326.0464>
- Byrne, G. (2007). A statistical primer: Understanding descriptive and inferential statistics. *Evidence-Based Library and Information Practice*, 2(1), 32-47. <https://doi.org/10.18438/B8FW2H>
- Dela Peña, H., Galigao, R., & Gabutero, A. (2025). Assessment for learning: Balancing traditional and innovative evaluation. *International Journal of the Humanities and Social Science*. <https://pantaojournal.com/2025/06/11/v4-i2-147/>
- DepEd Order No. 015, s. 2026: Revised Grading System Guidelines & Electronic Class Record Download. (n.d.). *Deped Tambayan*. <https://www.depedtambayanph.net/2026/06/deped-order-no-015-s-2026-revised.html>
- Enano, J. B., & Gallego, M. G. O. (2025). Students' learning preferences and academic performance in GE 201 subject: Basis for instructional materials development. *Psychology and Education: A Multidisciplinary Journal*, 39(9), 1108-1124. <https://doi.org/10.70838/pemj.390901>
- Fletcher, R. B., Meyer L. H., Anderson, H., Johnston, P., & Rees, M. (2012) as cited in Sewagegn, A. (2019). A study on the assessment methods and experiences of teachers at an Ethiopian university. *International Journal of Instruction*, 12(2), 605-622. <https://files.eric.ed.gov/fulltext/EJ1211023.pdf>
- Harlen, W. (2007) as cited in Earle, S. (2021). Principles and purposes of assessment in the classroom. *The Chartered College of Teaching*. https://my.chartered.college/impact_article/principles-and-purposes-of-assessment-in-the-classroom/
- Leaper, C. (2011). More similarities than differences in contemporary theories of social development? A plea for theory bridging. *Advances in child development and behavior*, 40, 337-378.
- Lebosada, J. O., & Cutillas, A. L. (2024). Learning preferences and academic outcomes: Insights from Franciscan-managed schools. *International Journal of Multidisciplinary: Applied Business and Education Research*, 5(12). <https://doi.org/10.11594/ijmaber.05.12.02>
- Lee, M., Cutler, S., Zappe, S. E., Spiegel, S., & Osunbunmi, I. S. (2024). Student preferences and performance in active learning online environments. *American Society for Engineering Education (ASEE)*. <https://peer.asee.org/student-preferences-and-performance-in-active-learning-online-environments>
- Levy-Feldman, I. (2025). The role of assessment in improving education and promoting educational equity. *Education Sciences*, 15(2), 224. <https://doi.org/10.3390/educsci15020224>
- Messier, N. (2022). Authentic assessments. *University of Illinois Chicago*. <https://teaching.uic.edu/cate-teaching-guides/assessment-grading-practices/authentic-assessments/>
- Metu, I. C., Agu, N. N., & Eleje, L. I. (2024). Students' perceptions of and preferences for assessment feedback in higher education: Implication for evaluators. *Futurity of Social Sciences*, 2(2), 21-37. <https://doi.org/10.57125/FS.2024.06.20.02>
- Mohn, E. (2021). Likert scale. *EBSCO*. <https://www.ebsco.com/research-starters/psychology/likert-scale>
- Quansah, F. (2018). Traditional or performance assessment: What is the right way in assessing learners?

- Research on Humanities and Social Sciences*, 8(1), 21-24.
<https://www.iiste.org/Journals/index.php/RHSS/article/view/40787/41942>
- Renninger, K., & Hidi, S. (2019). *Expectancy-value theory and its relevance for student motivation and learning*. Cambridge University Press.
- Roscoe, J. T. (1975) as cited in Memon, M. A., Ting, H., Cheah, J., Thurasamy, R., Chuah, F., & Cham, T. H. (2020). Sample size for survey research: Review and recommendations. *Journal of Applied Structural Equation Modeling*, 4(2). https://jasemjournal.com/wp-content/uploads/2020/08/Memon-et-al_JASEM_Editorial_V4_Iss2_June2020.pdf
- Suebwongsuawan, W. & Nomnian, S. (2020). Thai hotel undergraduate interns' awareness and attitudes towards English as a lingua franca. *Indonesian Journal of Applied Linguistics*, 9(3), 704-714.
<https://doi.org/10.17509/ijal.v9i3.23221>
- Simion, A., Albulescu, I., & Stan, C. (2025). Enhancing learning environments: A study of student perspectives on learning, engagement and assessment in higher education. *Revista Românească pentru Educație Multidimensională*, 17(1). <https://doi.org/10.18662/rrem/17.1/948>

Evaluation of the Alternative Learning System Senior High School Program in the Schools Division of Candon City, Ilocos Sur, Philippines: Basis for a development plan

Mangay-Ayam, Reynaldo V. Jr. ✉

Don Mariano Marcos Memorial State University – North La Union Campus, Philippines
(reynaldo.mangayayam@deped.gov.ph)



ISSN: 2243-7703
Online ISSN: 2243-7711

OPEN ACCESS

Received: 28 July 2026

Available Online: 12 August 2026

Revised: 8 August 2026

DOI: 10.5861/ijrse.2026.26372

Accepted: 10 August 2026

Abstract

The Alternative Learning System Senior High School (ALS-SHS) program provides a flexible route to senior high school completion for learners who cannot readily participate in conventional schooling. This study plans to evaluate the implementation of the ALS-SHS program in the Schools Division of Candon City, Philippines, using the context, input, process, and product (CIPP) evaluation model. A census of eligible ALS-SHS graduates from four implementing schools during school years 2022–2023 to 2024–2025 will be invited to participate (N = 167). The study will use a bilingual, researcher-developed questionnaire that assesses program relevance, resources and personnel, delivery and learner support, perceived learner outcomes, and implementation barriers. Instrument development will include expert review, bilingual translation procedures, cognitive review, pilot testing, and reliability assessment. The planned evaluation will provide evidence for a division-level development plan. Because the study uses retrospective self-reports from graduates, it will evaluate perceived implementation and outcomes rather than establish causal program impact.

Keywords: alternative learning system, senior high school, CIPP model, program evaluation, non-formal education, Philippines

Evaluation of the Alternative Learning System Senior High School Program in the Schools Division of Candon City, Ilocos Sur, Philippines: Basis for a development plan

1. Introduction

Flexible and inclusive pathways to basic education are important for young people and adults whose work, caregiving, economic circumstances, health, or prior school experiences impede continuous participation in conventional schooling. In the Philippines, the Alternative Learning System (ALS) provides a parallel pathway for learners outside the formal system. The Enhanced ALS 2.0 policy incorporated senior high school into ALS, extending opportunities equivalent to Grades 11 and 12 (Department of Education [DepEd], 2019). The Schools Division of Candon City implements ALS-SHS in Candon City High School, Candon City Information Technology National High School, Dr. Ricardo Gacula Memorial National High School, and Sto. Tomas National High School. Division records indicate 167 ALS-SHS graduates across school years 2022–2023 to 2024–2025. The number of graduates increased from 38 in 2022–2023 to 77 in 2024–2025. This expansion makes a systematic evaluation timely because decision makers require evidence about program relevance, implementation quality, resources, learner support, barriers, and graduates' perceived readiness for their next steps.

This study is designed as a program evaluation, not as a causal impact study. A graduate survey without baseline measures, longitudinal follow-up, or a comparison group cannot determine whether ALS-SHS caused changes in education, employment, or well-being. It can provide evidence about graduates' assessments of program implementation, perceived outcomes, and priority areas for improvement. The CIPP model is appropriate because it organizes evaluation around context, input, process, and product information for program improvement and decision making (Stufflebeam, 2003).

Purpose of the Study - The purpose of this study is to evaluate the ALS-SHS program in the Schools Division of Candon City using the CIPP model and to develop an evidence-informed development plan responsive to identified strengths and priority needs.

Research Questions

- How do ALS-SHS graduates assess the program's context, inputs, processes, and perceived products?
- What implementation barriers did ALS-SHS graduates encounter?
- Do CIPP ratings and reported barriers differ by implementing school, graduation cohort, and selected learner characteristics?
- What development-plan priorities are indicated by the planned quantitative and qualitative findings?

2. Method

Research Design - The study will use a descriptive cross-sectional program-evaluation design guided by the CIPP model. Quantitative survey data will estimate graduates' assessments across four CIPP domains. An open-ended question will allow participants to identify barriers and recommendations not captured by closed-ended questions. These findings will be integrated to identify priorities for the development plan.

Setting and Participants - The target population comprises all ALS-SHS graduates from the four implementing schools in the Schools Division of Candon City for school years 2022–2023, 2023–2024, and 2024–2025 (N = 167). The study will use total population sampling; all eligible graduates will be invited to participate. The final manuscript will report the number invited, number responding, usable responses, and response rate overall and by school and graduation cohort.

Instrument Development and Content - The primary instrument will be a researcher-developed bilingual questionnaire in English and Filipino. It will include four CIPP domains, selected respondent characteristics, a barrier checklist, and an open-ended item. The questionnaire is intended to measure participants' perceptions and experiences; it will not be presented as a direct measure of causal program impact. The **context** domain will assess program accessibility, relevance, flexibility, and alignment with learners' needs and future goals. The **input** domain will assess the adequacy and accessibility of modules, facilities, connectivity, equipment, and personnel. The **process** domain will assess instructional delivery, schedule flexibility, feedback, learner support, and implementation practices. The **product** domain will assess perceived academic readiness, digital skills, career readiness, employment-related confidence, and socio-personal outcomes.

All evaluative items will use the same 5-point agreement scale: *3 – strongly agree, 2 – agree, and 1 – disagree*. The scale is used to describe participants' agreement with each statement; it must not be labelled "high impact," "low impact," or "no impact." A neutral midpoint is retained to avoid forcing respondents to express agreement or disagreement when neither reflects their experience. Selected descriptive questions may include implementing school, graduation cohort, current education status, and current employment status. No names, student numbers, exact home addresses, or other unnecessary identifying information will be collected. The barrier checklist will permit multiple responses and will include an "Other: please specify" option. The open-ended question will ask: *What one improvement to ALS-SHS would have most helped you complete the program or prepare for your next step?*

Item-Construction Rules - Questionnaire items will be revised before expert review using the following rules:

- Each item will measure one idea only. For example, "The modules were easy to understand and updated" will be separated into an item about clarity and an item about currency.
- Neutral, experience-based wording will replace leading or emotional wording. For example, "The modules were clear and understandable" is preferable to "The modules really helped me succeed."
- A defined time frame will be used. Context, input, and process items will begin with "During my ALS-SHS enrollment ..."; product items will begin with "Since completing ALS-SHS ...".
- Inputs and processes will not be duplicated. Resources, staffing, equipment, and facilities belong to Input; delivery, feedback, flexibility, and learner support belong to Process.
- Items about budget adequacy and DepEd policy compliance will be removed from the learner questionnaire because graduates may not have direct knowledge to assess them accurately. These matters may instead be assessed through document review or key-informant interviews.
- Educational continuation, employment, digital skills, self-confidence, and civic participation will be treated as distinct perceived-outcome areas rather than combined into one overall impact score.

Content Validation and Bilingual Review - At least three independent experts with relevant expertise in ALS, senior high school curriculum, educational measurement, or program evaluation will review the instrument. They will assess each item for relevance, clarity, language appropriateness, and alignment with the intended CIPP domain. The research team will document revisions made in response to the reviewers' feedback. For the Filipino version, a bilingual expert will translate the English questionnaire into Filipino. A second bilingual reviewer, who has not seen the original instrument, will back-translate it into English. The research team will compare the back-translated and original versions, resolve differences, and revise wording to preserve the intended meaning. Cognitive review interviews with approximately 5–10 individuals similar to the target respondents will be used to identify unclear instructions, difficult words, or unintended interpretations.

Data-Collection Procedure - After obtaining required division, school, and ethics approvals, authorized school personnel will distribute a recruitment notice to eligible graduates. The notice will state the study purpose,

eligibility criteria, voluntary nature of participation, data-protection measures, and availability of digital and paper-survey options. Teachers and school heads will not know who participates and will not view individual responses. Participants will first review an informed-consent form. Those who consent may complete either a secure digital survey or a sealed paper questionnaire. A non-identifying response code may be used only to prevent duplicate responses. Paper questionnaires will be kept in sealed envelopes and entered into a password-protected data file by authorized research personnel.

Ethical Considerations and Data Protection - Participation will be voluntary. The informed-consent form will explain the study's purpose, procedures, anticipated risks, potential benefits, confidentiality limits, withdrawal options, researcher contact information, and intended use of the findings. Participants may decline or withdraw without penalty. Consent must be freely given, specific, and informed (National Privacy Commission, 2023). The study will collect only data necessary for the research questions. Data will be de-identified, stored in encrypted or password-protected files, and accessible only to the research team. Data will be retained for a period of time and then securely destroyed. Findings will be reported only in aggregate form. Small subgroups that could permit identification of individual participants will be suppressed or combined in reporting.

Planned Data Analysis - Because this manuscript concerns instrument planning, no blank results tables or statistical values are included. After data collection, the research team will screen responses for duplicate entries, missing data, and out-of-range values. The final article will report the number invited, number responding, usable questionnaires, and response rate. For the full study, respondent characteristics will be summarized with frequencies and percentages for categorical variables. Each CIPP domain will be summarized using the number of valid responses, mean, standard deviation, confidence interval, and internal-consistency estimate. The study will specify in advance how missing data will be handled; for example, a subscale score may be calculated only when a respondent answers at least 80% of the items in that subscale.

Barrier checklist data will be summarized with frequencies and percentages, recognizing that participants may select more than one barrier. Barriers will be ranked by the percentage of respondents selecting them. Responses to the open-ended question will be analyzed through conventional content analysis. Two coders will independently develop and apply codes, reconcile differences through discussion, and report themes with de-identified illustrative quotations. If subgroup comparisons are undertaken, they will be reported as exploratory and interpreted cautiously.

3. Development of the Plan

The development plan will be derived from a pre-specified decision process. Priority actions will be identified from: (a) lower CIPP-domain ratings; (b) barriers selected by a meaningful proportion of respondents, such as 25% or more; and (c) recurring qualitative themes. Each action in the plan will identify the priority need, proposed activity, responsible office or personnel, timeline, required resources, expected output, and monitoring indicator.

Planned Reporting and Interpretation - The completed article will report participant flow and response rate, respondent characteristics, validity and reliability evidence, CIPP-domain results, reported barriers, open-ended themes, and resulting development-plan priorities. Results should be presented only after the survey is conducted and analyzed. The discussion will interpret findings in relation to the CIPP framework, local implementation context, and verified literature. It should use wording such as "graduates reported," "participants perceived," "the evaluation identified," and "findings suggest priorities for improvement." It should not state that ALS-SHS caused improved employment, academic outcomes, or well-being unless a later study uses a design capable of supporting causal inference.

Limitations - The study will be limited by its retrospective cross-sectional design, reliance on self-reported outcomes, possible nonresponse bias, and absence of a comparison group or pre-program baseline. Findings will describe participating graduates in the Schools Division of Candon City and should not automatically be generalized to all ALS learners or other divisions.

Implications - The planned evaluation can inform division-level improvements in learner outreach, resource allocation, scheduling, digital access, instructional support, transition advising, and monitoring. A subsequent longitudinal study may examine objective outcomes, such as further education enrollment, credential completion, employment, or livelihood status, at 6 and 12 months after graduation.

4. References

- Stufflebeam, D. L. (2003). The CIPP model for evaluation. In T. Kellaghan & D. L. Stufflebeam (Eds.), *International handbook of educational evaluation* (pp. 31–62). Kluwer Academic Publishers. https://doi.org/10.1007/978-94-010-0309-4_4
- Department of Education. (2019, June 25). *Policy guidelines on the implementation of Enhanced Alternative Learning System 2.0* (DepEd Order No. 13, s. 2019). <https://www.deped.gov.ph/2019/06/25/june-25-2019-do-013-s-2019-policy-guidelines-on-the-implementation-of-enhanced-alternative-learning-system-2-0/>
- National Privacy Commission. (2023, June 15). *Implementing rules and regulations of the Data Privacy Act of 2012*. <https://privacy.gov.ph/implementing-rules-regulations-data-privacy-act-2012/>

Antas ng kakayahang pagbasa at pag-unawa ng mga mag-aaral sa Baitang 10 batay sa PISA Reading Literacy Framework

De Mesa, Alvin R. ✉

Leyte Normal University, Philippines (ar_demesa@ymail.com)

Pedotera, Aldrin M.

Leyte Normal University, Philippines (rcps0315@gmail.com)



ISSN: 2243-7703
Online ISSN: 2243-7711

OPEN ACCESS

Received: 29 July 2026

Available Online: 14 August 2026

Revised: 12 August 2026

DOI: 10.5861/ijrse.2026.26386

Accepted: 13 August 2026

Abstract

Layunin ng pag-aaral na ito na suriin ang antas ng kakayahang pagbasa at pag-unawa ng mga mag-aaral sa Baitang 10 batay sa PISA Reading Literacy Framework at ihambing ito sa kanilang kasalukuyang antas ng pagbasa batay sa Phil-IRI. Gumamit ang pag-aaral ng deskriptibong-komparatibong disenyo at *discrepancy analysis*. Walumpung (80) mag-aaral mula sa dalawang pampublikong paaralan ang naging respondente. Ginamit ang umiiral na resulta ng Phil-IRI ng mga kalahok at isang PISA-based Reading Assessment Tool na sumusukat sa tatlong kognitibong proseso: paghahanap ng impormasyon, pag-unawa, at pagsusuri at pagninilay. Ang instrumento ay sumailalim sa content at face validation at nakapagtala ng Cronbach's Alpha na .894 matapos ang pilot testing. Batay sa resulta, 18 mag-aaral ang nakategoryang Independent, 42 Instructional, at 20 Frustration sa Phil-IRI, samantalang 10, 43, at 27 mag-aaral naman ang napabilang sa parehong kategorya batay sa PISA-based assessment. Labinlima (15) o 18.75% ng mga mag-aaral ang nakaranas ng pagbaba ng kategorya sa mas komplikadong pagtataya. Gayunpaman, natukoy ang malakas na positibong ugnayan sa pagitan ng dalawang panukat ($r = .788, p < .001$). Ipinakikita nito na bagama't magkaugnay ang pagganap sa dalawang pagtataya, hindi ganap na nasasalamatin ng isang panukat ang lahat ng dimensiyon ng reading literacy. Samakatuwid, iminumungkahi ang paggamit ng Phil-IRI kasama ng iba pang angkop na pagtataya, kabilang ang mga panukat na nakaangkla sa PISA Reading Literacy Framework, upang magkaroon ng mas komprehensibong pagtataya at mas angkop na batayan sa pagpapaunlad ng kakayahang pagbasa ng mga mag-aaral sa Baitang 10

Keywords: Phil-IRI, PISA Reading Literacy Framework, reading literacy, reading comprehension, reading assessment tool

Antas ng kakayahang pagbasa at pag-unawa ng mga mag-aaral sa Baitang 10 batay sa PISA Reading Literacy Framework

1. Introduksiyon

Ang pagbasa ay hindi lamang isang saligang kasanayan kundi isang mekanismo para sa pag-unlad ng pag-iisip, pagpapasya, at aktibong partisipasyon sa lipunan. Sa konteksto ng edukasyong Pilipino, ang Kagawaran ng Edukasyon (DepEd) ay may umiiral na sistema sa pagtataya ng kasanayan sa pagbasa sa pamamagitan ng Philippine Informal Reading Inventory (Phil-IRI) — isang panukat na binubuo ng mga de-gradong pasaheng ginagamit upang alamin ang antas ng oral reading, silent reading, at listening comprehension ng mag-aaral, kung saan sila inuuri bilang Independent, Instructional, o Frustration reader (DepEd, 2018). Ipinag-utos ang paggamit nito sa ilalim ng DepEd Order No. 14, s. 2018 para sa mga mag-aaral sa elementarya, ngunit sa praktika, patuloy itong ginagamit hanggang sa junior high school, kabilang na ang Baitang 10 sa maraming paaralan (Omaque & Tudlasan, 2025), sa kabila ng orihinal nitong disenyo para sa mas mababang antas ng edukasyon.

Kasabay nito, ang bansa ay kasalukuyang lumalahok sa Programme for International Student Assessment (PISA), isang internasyonal na pagtataya na sumusukat sa kakayahan ng mga 15-taong-gulang na mag-aaral hindi lamang sa literal na pag-unawa, kundi sa mas mataas na antas ng pag-iisip: paghahanap ng impormasyon, pag-unawa, at pagsusuri at pagninilay (evaluate and reflect) gamit ang iba't ibang uri ng teksto tulad ng tuloy-tuloy, hindi tuloy-tuloy, at magkahalong teksto (OECD, 2023). Sa PISA 2022, ang Pilipinas ay nakakuha ng average iskor na 347 sa reading isang bahagyang pagtaas mula sa 340 noong 2018. Ngunit ang iskor na ito ay malayo pa rin ito sa pandaigdigang average na 476 (OECD, 2023). Higit pa rito, tinatayang 19% lamang ng mga mag-aaral na Pilipino ang nakaabot sa Level 2, ang pinakamababang na antas ng functional proficiency ayon sa PISA (Funa et al., 2025).

Sa madaling salita, habang inuuri ng Phil-IRI ang karamihan ng mga mag-aaral bilang “Independent”, “Instructional” o “Frustration” na mambabasa, ang parehong grupo ng mag-aaral, kung susukatin gamit ang pamantayang internasyonal, ay maaaring hindi pa nakaabot sa pinakamababang antas ng functional reading literacy. Sa katunayan sa sistematikong pagsusuri nina Descartin et al. (2023), kanilang binigyang diin na bagaman layunin ng kurikulum na hasain ang kakayahan ng mga mag-aaral sa kritikal na pag-iisip, kakayahang pangkomunikasyon, at ilan pang component na may kaugnayan sa pagbabasa, ay hindi ito nakakamit ng mga mag-aaral. Ayon sa kanila, nangangahulugan ito na kinakailangan ng pagsusuri sa mga nilalaman ng kurikulum partikular sa mga bahaging may kinalaman sa pagbasa. Ito ang puwang na nais suriin ng pag-aaral na ito: hindi dahil hindi angkop o wasto ang Phil-IRI, kundi dahil ang kasangkapang na ginagamit upang sukatin ang kasanayan sa pagbasa ng mga mag-aaral sa Baitang 10 sadyang dinisenyo para sa mas batang mambabasa mula Baitang 1 hanggang 6, samantalang ang PISA Reading Literacy Framework ay partikular na idinisenyo para sukatin ang mas kumplikadong pangangailangan sa literasiya ng mga mag-aaral na malapit nang magtapos sa sekundarya. Dahil sa mga limitasyon ng Phil-IRI, ito marahil ang dahilan kung bakit nakasaad sa Phil-IRI Manual 2018 na ito ay nakapagbibigay ng datos tungkol sa kakayahan ng mga mag-aaral at maaaring gamitin kasabay ng iba pang maaasahang kasangkapan sa pagtataya (DepEd, 2018).

Ang pananaliksik na ito ay may layuning suriin ang antas ng kakayahang pagbasa at pag-unawa ng mga mag-aaral sa Baitang 10 batay sa PISA Reading Literacy Framework, at ihambing ang resultang ito sa kanilang umiiral na interpretasyon o kategorisasyon sa Phil-IRI, upang matukoy kung may makabuluhang pagkakaiba sa pagitan ng dalawang panukat. Sa pamamagitan nito, umaasang makapagbigay ng ebidensiya na maaaring gamitin bilang batayan sa pagsusuri kung sapat pa rin ang Phil-IRI bilang tanging panukat ng kasanayan sa pagbasa sa antas na ito, o kung kinakailangan ng karagdagan o pag-upgrade ng panukat na mas angkop sa hinihingi ng ika-21 siglong literacy.

Layunin ng Pag-aaral - Layunin ng pag-aaral na ito na masuri ang antas ng kakayahang pagbasa at pag-unawa ng mga mag-aaral sa Baitang 10 batay sa PISA Reading Literacy Framework, at ihambing ito sa kanilang umiiral na antas ng kasanayan sa pagbasa batay sa Phil-IRI, upang matukoy ang lawak ng pagkakaiba sa pagitan ng dalawang panukat na ito. Tinitiyak din na masasagot ng pag-aaral ang mga sumusunod na tanong: 1. Ano ang antas ng kakayahang pagbasa at pag-unawa ng mga mag-aaral sa Baitang 10 batay sa Phil-IRI at PISA Reading Literacy Framework? 2. Ano ang makabuluhang ugnayan ba sa pagitan ng antas ng kasanayan sa pagbasa ng mga mag-aaral batay sa PISA-based na panukat kumpara sa Phil-IRI? At, 3. Ano ang implikasyon at mungkahiing maibibigay batay sa naging resulta ng pag-aaral?

Teoretikal na Balangkas - Ang pananaliksik na ito na naglayong masuri at mailahad ang antas ng kakayahan sa pagbasa at pag-unawa ng mga mag-aaral sa baitang 10 gamit ang panukat na nakabatay sa PISA Reading Literacy Framework ay gagamitin ang mga teoryang Simple View of Reading nina Gough at Tunmer (1986) at Construction-Integration Model ni Kintsch (1988). Ipinaliliwanag ng Simple View of Reading na ang kakayahan sa pag-unawa sa binasa ay bunga ng dalawang pangunahing sangkap: ang *decoding* at ang *language/linguistic comprehension*. Kung kulang sa alinman sa dalawa, mahihirapan ang mambabasa sa pag-unawa, kahit pa mahusay siya sa isa. Angkop ang teoryang ito sa pag-aaral dahil ipinapaliwanag nito kung bakit maaaring hindi sapat ang Phil-IRI bilang tanging batayan ng pagsukat sa kahandaan sa pagbasa ng mga mag-aaral sa Baitang 10: posibleng magkaroon ng mataas na katumpakan sa decoding ang isang mag-aaral, ngunit kulang pa rin sa mas malalim na kasanayan sa pag-unawa na hinihingi ng higher-order, multi-text na gawain sa PISA-based na instrumento.

Samantala, Ang Construction-Integration Model ay isang teorya tungkol sa proseso na nagsasaad na dumadaan ang mambabasa sa dalawang yugto: (1) ang *construction*, kung saan bumubuo ang mambabasa ng mental na representasyon mula sa impormasyong tuwirang nakasaad sa teksto kasabay ng kanilang umiiral na kaalaman; at (2) ang *integration*, kung saan pinagsasama-sama ang mga ideyang ito upang makabuo ng mas malalim at magkakaugnay na *situation model* o ang kabuuang kahulugan ng teksto sa konteksto ng totoong mundo, hindi lamang ang literal na nilalaman nito. Angkop ang teoryang ito sa paksa ng pananaliksik sapagkat gamit ang teoryang ito ay masusuri natin ang pagkakaiba ng mga tekstong nasa Phil-Iri sa mga tekstong ginagamit sa PISA Reading Literacy Framework-based na pagtatasa. Maaaring maipakita nito na ang isang mag-aaral ay may sapat na kakayahan sa mga panukat tulad ng Phil-IRI ngunit may kakulangan sa mga mas mataas na antas ng pagbasang makikita sa PISA Reading Literacy Framework-based na panukat.

2. Metodolohiya

Disenyo ng Pananaliksik - Ang pag-aaral na ito ay gumamit ng Deskriptibong-Komparatibong Disenyo gamit ang *Discrepancy Analysis*. Deskriptibo ito sa bahaging inilalarawan ang antas ng kasanayan sa pagbasa ng mga respondente base sa bawat panukat, at komparatibo naman sa bahaging tinutukoy kung may makabuluhang pagkakaiba sa pagitan ng dalawang klasipikasyon para sa parehong grupo ng mag-aaral.

Respondente ng Pag-aaral - Ang mga respondente ay binubuo ng mga mag-aaral mula dalawang magkaibang klase sa Baitang 10 mula sa dalawang piling pampublikong paaralan. Gumamit ng convenience sampling sa pagpili ng paaralan batay sa lapit nito at bilang ng mga klaseng maaaring pagpilian upang mas mapadali ang pangangalap ng datos.

Instrumento ng Pananaliksik - Upang malaman ang antas ng kakayahan sa pagbasa ng mga respondente ay inalam ng mananaliksik ang markang nakuha ng bawat mag-aaral sa isinagawang Phil-IRI sa nagdaang opening block sa pagsisimula ng bagong taong panuruan. Ginamit ang PISA-based na *reading literacy assessment* na binuo ng mananaliksik na sumukat sa tatlong kognitibong proseso ng PISA Reading Literacy Framework: paghahanap ng impormasyon, pag-unawa, at pagsusuri/pagninilay, gamit ang tuloy-tuloy at hindi tuloy-tuloy na teksto.

Ang PISA-based reading assessment tool na ginamit bilang instrumento ay sumailalim sa malalim na pagsusuri ng tatlong eksperto sa pananaliksik upang matiyak ang katumpakan at kaangkupan nito sa pamamagitan ng content at face validity. Sinuri naman ang internal consistency ng ginamit na instrumento at ito ay nakapagtala

ng Cronbach's Alpha na .894 na nangangahulugang may mataas na internal consistency ang talatanungang ginamit matapos ang pilot testing sa 40 na mag-aaral.

Sa pagbibigay ng paglalarawan o kategorya sa mga nakuhang marka ng mga mag-aaral sa PISA reading assessment tool ay ginamit din na batayan sa pagmamarka ang *Reading Comprehension Scoring* mula sa Phil-Iri sa halip na gumamit ng OECD scale na sadyang nakadiseno para sa PISA. Inangkop ng mananaliksik ang *comprehension-percentage criteria* ng Phil-IRI bilang batayan ng pag-uuri para sa parehong instrumento. Makikita sa Talahanayan 1 sa ibaba ang ginamit na batayan mula sa Phil-IRI Manual 2018.

Talahanayan 1

Reading Comprehension Scoring ng Phil-IRI at PISA-based Reading Assessment Tool

Antas	Comprehension %	Bilang ng Tamang Sagot
Independent	80–100%	24–30
Instructional	59–79%	18–23
Frustration	58% pababa	0–17

Pamamaraan sa Pangangalap ng Datos - Upang matiyak ang maayos na pangangalap ng datos ay plinano at isinagawa ito batay sa pagkakasunod-sunod: 1. Paghingi ng pahintulot mula sa Schools Division Superintendent at mga Punongguro ng dalawang paaralan para sa (a) pangangasiwa ng PISA-based na instrumento at (b) access sa existing Phil-IRI records ng mga piniling seksyon. 2. Pagsagot ng liham pahintulot ng mga guro at mga magulang ng mga mag-aaral. 3. Pangangasiwa ng PISA-based na instrumento sa mga piniling seksyon, sa loob ng isang class period, sa ilalim ng pamamahala ng mananaliksik o mga awtorisadong guro. 4. Paghingi ng resulta ng nagdaang Phil-IRI mga mag-aaral mula sa talaan ng paaralan, at, 5. Paglalapat ng estadistikal na tritment upang masagot ang mga layunin ng pag-aaral.

Tritment ng mga Datos - Ang mga datos na nakalap para sa mga marka ng mga mag-aaral ay isinaayos batay sa antas upang mas madaling masuri. Ginamit bilang pangunahing estadistikal na tritment ang Pearson's Correlation dahil ito ay angkop para sa pares ng set ng datos na. Sinuri kung may ugnayan ba sa pagitan ng markang nakuha ng mga kalahok sa kanilang Phil-IRI at sa isinagawang *PISA-based reading assessment tool*. Ayon sa paalala ng Penn State (n.d), ang Pearson's R ay maaaring gamitin upang sukatin ang ugnayan ng dalawang kwantitatibong baryabol ng hindi nagpapakita ng *causation*.

Etikal na Konsiderasyon - Informed Consent/Assent. Kinuha ang nakasulat na pahintulot ng mga magulang/tagapag-alaga at assent ng mga mag-aaral, na malinaw na ipinaliwanag ang layunin, pamamaraan, at boluntaryong katangian ng pakikilahok. **Permiso mula sa punong-guro.** Humingi ng pahintulot mula sa punong-guro ng mga napiling paaralan upang mapatunayan na ang isinagawang pananaliksik ay sinang-ayunan at binigyan ng permiso. **Permiso mula sa guro.** Bilang sumusubaybay sa mga klaseng napili, ang pahintulot ng guro ay tiniyak na makuha rin bago magsimula ang pangangalap ng datos. Ito ay upang maipabatid ang layunin ng pag-aaral, ang kabuuang proseso ng pag-aaral, at ang makukuha nilang pakinabang sa paglahok. **Pagiging Kompidensiyal ng Datos.** Ang lahat ng personal na impormasyon (kabilang ang mga umiiral na Phil-IRI record) ay i-a-anonymize/i-co-code bago isailalim sa pagsusuri, alinsunod sa Data Privacy Act of 2012 (RA 10173). **Boluntaryong Partisipasyon.** Malayang makakatanggi o umatras ang sinumang mag-aaral sa anumang yugto ng pag-aaral nang walang parusa o epekto sa kanilang marka. **Paggamit ng Resulta.** Ang mga resulta ay ginamit lamang para sa layunin ng pananaliksik at hindi ginamit bilang batayan ng anumang administratibong desisyon tungkol sa indibidwal na mag-aaral.

3. Resulta at Pagtalakay

Sa bahaging ito ay tinalakay ang naging resulta ng pagsusuri ng mga datos gamit ang Pearson's Correlation upang masipat kung may ugnayan ba sa pagitan ng mga marking nakuha ng mga kalahok sa Phil-IRI at sa PISA-based reading assessment tool. Ginamit ang statistical software na Jamovi upang maisakatuparan ang pagsusuri at

Kakayahang pagbasa at pag-unawa ng mga mag-aaral sa Baitang 10 batay sa PISA Reading Literacy Framework
natuklasan ang mga sumusunod:

3.1 *Ano ang antas ng kakayahang pagbasa at pag-unawa ng mga mag-aaral sa Baitang 10 batay sa Phil-IRI at PISA Reading Literacy Framework*

Talahanayan 1

Antas ng kakayahang pagbasa at pag-unawa ng mga mag-aaral sa Baitang 10 batay sa Phil-IRI at PISA-based Reading Assessment Tool

	Independent	Instructional	Frustration
Phil-IRI	18	42	20
PISA-based Reading Assessment Tool	10	43	27

Mula sa talahanayan 3.1 ay makikita na mayroong labingwalo na mag-aaral ang kinilala bilang mga *Independent Readers* sa Phil-IRI ngunit nabawasan ito ng walo at naging sampu nalamang pagdating sa *PISA-based Reading Assessment Tool*. Apatnapu naman ang *Instructional Readers* batay sa Phil-IRI, at nadagdagan ito ng isa para sa *PISA-based Reading Assessment Tool*. Samantala, ang dalawampung mag-aaral na nasa *Frustration* na antas sa Phil-IRI ay naging dalawampu't pito sa *PISA-based Reading Assessment Tool*. Ang mga marking nakuha ay tumutugma sa mga pahayag nina Misanes at Pascual (2023) ng kanilang matuklasan sa kanilang pag-aaral na bagaman nakadiseno ang Phil-IRI sa mas mababang baitang ay ginagamit padin ito sa sekundarya at marami pa rin sa mga mag-aaral ang nakapagtatala ng mababang marka. Ganito din ang nakitang resulta sa pananaliksik nina Namol at Bacang (2024) sa mga mag-aaral na nasa baitang 7 kung saan karamihan sa mga mag-aaral ay nakapagtala ng marking nasa antas ng *frustration* pagdating sa pag-unawa sa binabasa. Matapos ang pagsusuri makikitang sa 18 mag-aaral na nakategorya bilang *Independent* batay sa Phil-IRI, 8 (44.4%) ang napabilang sa *Instructional* na antas sa *PISA-based Reading Assessment Tool*. Samantala, sa 42 mag-aaral na nakategorya bilang *Instructional* sa Phil-IRI, 7 (16.7%) ang bumaba sa *Frustration level* sa *PISA-based Reading Assessment Tool*. Sa kabuuan, 15 sa 80 mag-aaral (18.75%) ang nakaranas ng pagbaba ng kategorya sa mas komplikadong pagtataya. Ipinahihiwatig nito na bagama't may malakas na ugnayan ang performance sa dalawang pagtataya, ang pagiging *Independent* o *Instructional* sa Phil-IRI ay hindi nangangahulugang magkakaroon ng kaparehong antas ng pagganap sa isang pagtatayang sumusukat sa mas malawak na proseso at konteksto ng pagbasa tulad ng *PISA-based Reading Assessment Tool*. Ang resultang ito ay sumasalamain sa pagsusuri ni Zaim et al. (2021) na nagpapaliwanag na ang *PISA reading literacy assessment* ay higit na mas komplikado kung ihahambing sa mga standardisadong pagtatayang pagbasa na ginagamit batay sa mga sumusunod na aspekto: (1) Kognitibong proseso; (2) Pormat ng teksto; (3) Uri ng Pagtataya; (4) Sitwasyon; (5) Antas ng katanungan; (6) Uri ng tanong; (7) Midyum/Kalikasan ng Tanong.

Ang *PISA-based reading assessment tool* na ginamit ay ibinatay sa PISA reading literacy framework na siya namang nakapokus sa tatlong aspektong hindi tinataglay ng karaniwang istandardisadong pagtataya tulad ng Phil-IRI. Ito ang nagsisilbing dahilan kung bakit may mga mag-aaral na bumaba ang antas ng sumailalim sa nasabing PISA-based na pagtataya dahil ang mga katanungang taglay nito ay labis na nalalayo at mas komplikado kesa sa kanilang nakasanayang mga uri ng pagtataya. Kung titignan mula sa lente ng Construction-Integration Model ni Kintsch (1988), ang malawak na saklaw at iba't ibang anyo ng teksto at proseso ng bagong pagtatayang ginamit ay nakahahadlang sa prinsipyo ng integrasyon – o ang pagsasama-sama ng mga kahulugan upang mas lubos na maunawaan ang teksto. Patunay lamang ito na ang mga nasusukat ng Phil-IRI ay mas limitado kumpara sa ibang mas komprehensibong uri ng pagtataya para sa pagbasa. Ang resultang ito ay sumasang-ayon sa mungkahi nina Perez at Rodriguez (2021) na kinakailangang gumamit na ng mga katanungang hindi basta lamang sumusubok sa kakayahan sa pag-alala ng mga mag-aaral. Mas mainam na gumamit ng mga katanungang gumagamit ng iba't ibang uri ng teksto upang makabuo ng mas mataas na antas ng pag-iisip ang mga mag-aaral.

3.2 Makabuluhang ugnayan sa pagitan ng marka sa PHIL-IRI at PISA-based Reading Assessment Tool

Talahanayan 2

Makabuluhang ugnayan ba sa pagitan ng antas ng kasanayan sa pagbasa ng mga mag-aaral batay sa PISA-based na panukat kumpara sa Phil-IRI

Baryabol	Pearson's r	p-value	N	Interpretasyon
Phil-IRI Score at PISA-Based Reading Assessment Tool Score	.788	<.001	80	Strong Positive Correlation

Sa pamamagitan ng Pearson's Correlation, ay sinuri kung mayroong makabuluhang ugnayan sa pagitan ng mga marka ng mga mag-aaral sa Phil-IRI at *PISA-Based Reading Assessment Tool*. Batay sa resulta, ipinapakita nito na may malakas na positibong ugnayan sa pagitan ng mga marka ng dalawang baryabol na nagtala ng Pearson's $r = .788$, at p -value na $<.001$. Ipinahihiwatig nito na ang mga mag-aaral na nakakuha ng mataas na marka sa Phil-IRI ay karaniwang nakakuha rin ng mas mataas na marka sa *PISA-based assessment* at ang mga mag-aaral na nakakuha ng mababang marka sa Phil-IRI ay nakapagtala din ng mababang marka sa *PISA-Based Reading Assessment Tool*. Gayunpaman, ang malakas na ugnayan ay hindi nangangahulugang magkapareho ang dalawang pagtataya o na pareho ang ipinoprosesong dimensiyon ng pagbasa. Ang pagbaba ng antas ng ilang mag-aaral mula *Independent* patungong *Instructional*, at mula *Instructional* patungong *Frustration* na antas ay nagpapakita na bagaman may positibong ugnayan ang dalawa ay hindi maikakaila na ilan sa mga mag-aaral ang mas nakapagtala ng mas mababang marka. Ang dalawang pagtatayang ginamit bilang baryabol sa pananaliksik na ito ay parehong nakapokus sa pag-unawa, subalit magkaiba ng mga dimensyon o aspekto ng pagbasa ang sinusukat. Ang PISA-based na pagtataya ay sinusukat ang kakayahan ng mga mag-aaral sa paghahanap ng impormasyon, pag-unawa, at pagsusuri at pagninilay – naiiba sa mga aspektong sinusukat ng Phil-IRI na literal, inperensyal, at kritikal na pag-unawa.

Kung susuriin sa lente ng Simple View of Reading nina Gough at Tunmer (1986), ang mataas na markang nakuha ng mga mag-aaral sa Phil-IRI ay bunga ng kanilang husay sa decoding at linguistic comprehension – isang patunay na ang mga mag-aaral na nasa *Independent* at *Instructional* na antas ay matuturing na *proficient* sa pagbasa. Ngunit sa kabila ng positibong ugnayan sa pagitan ng markang nakuha sa Phil-IRI at *PISA-based reading assessment tool*, ang pagbaba ng antas ng ilan sa mga mag-aaral ay sinasalamin ang katotohanan na hindi naging sapat ang kakayahan nila bilang mga *proficient readers* kung ang babasahin ay mas komprehensibo at komplikado. Ang mga pagtatayang nakaangkla sa framework ng PISA ay dinisenyo upang subukin ang mga mag-aaral na unawain ang binasa at gamitin ito sa mga makatotohanang sitwasyon hindi katulad ng kalimitang nakapokus sa *rote memorization* na uri ng mga pagtataya (OECD, 2019). Kung ang framework ng PISA ay ilalapat sa mga pagtatayang pagbasa o mga panukat, malaki ang maitutulong nito sa pagpapa-unlad ng literasiya ng mga mag-aaral hindi lamang sa pagkilala ng mga salita, pagbasa ng mga pangungusap, kundi maging sa mga mas komplikadong proseso tulad ng pagninilay-nilay, at paglalapat ng mga konsepto sa totoong buhay. Sa katunayan, ang paggamit ng framework ng PISA sa mga reading assessment tools dahil sa pagiging epektibo nito sa paglinang ng literasiya sa pagbasa ng mga mag-aaral ay isinasagawa na katulad ng Web-Based Model gamit ang PISA framework nina Thongkhotr at Chaijaroen (2025). Maging ang kakayahan ng mga gurong gumawa ng mga pagtataya na nakabase sa PISA framework ay pinag-aaralan na rin tulad ng kanila Fadhillah at Emillia (2022) at Sujatna et al. (2023). Ang mga umiiral na pag-aaral na ito ay nagpapatunay na mainam na panukat o interbensyon ang mga pagtatayang nakabtatay sa PISA reading literacy framework, katulad ng assessment tool na ginamit sa pananaliksik na ito.

3.3 Implikasyon at mungkahi batay sa naging resulta

Batay sa resulta ng pag-aaral, may ilang mahalagang implikasyon sa kasalukuyang pagtataya ng kakayahang pagbasa ng mga mag-aaral sa Baitang 10. Una, bagaman nakitaan ng malakas at makabuluhang positibong ugnayan ang mga marka ng mga mag-aaral sa Phil-IRI at sa PISA-based Reading Assessment Tool, ipinakikita rin

ng pagbabago sa antas ng ilang mag-aaral na hindi ganap na magkatumbas ang dalawang panukat. Sa 80 mag-aaral na kalahok, 15 o 18.75% ang bumaba sa kanilang dating kategorya nang sila ay sumailalim sa mas komplikadong PISA-based na pagtataya. Nangangahulugan ito na ang pagiging Independent o Instructional reader batay sa Phil-IRI ay hindi awtomatikong nangangahulugan na ang isang mag-aaral ay may parehong antas ng kahandaan sa mga gawaing pagbasa na nangangailangan ng paghahanap at pag-uugnay ng impormasyon, pag-unawa sa iba't ibang anyo ng teksto, at pagsusuri at pagninilay batay sa mas makatotohanang konteksto.

Gayunpaman, hindi ipinahihiwatig ng resulta na hindi na epektibo o dapat nang palitan ang Phil-IRI. Sa halip, ipinakikita nito na may magkaibang dimensiyon ng pagbasa na nasusukat ang dalawang instrumento. Ang Phil-IRI ay mahalaga sa pagtukoy ng antas ng kasanayan sa pagbasa batay sa layunin at disenyo nito, samantalang ang PISA Reading Literacy Framework ay nagbibigay ng mas malawak na pagtingin sa kakayahan ng mag-aaral na gamitin ang kaniyang pag-unawa sa binasa sa mas komplikado at makatotohanang sitwasyon. Dahil dito, ang pangunahing implikasyon ng pag-aaral ay hindi ang ganap na pagpapalit sa Phil-IRI, kundi ang pangangailangang pag-isipan ang paggamit ng karagdagan at komplementaryong pagtataya para sa mga mag-aaral sa sekundarya, partikular sa Baitang 10.

Sa antas ng paaralan at guro, maaaring isaalang-alang ang pagsasama ng mga gawaing pagtataya na nakabatay sa mga proseso ng pagbasa sa PISA Reading Literacy Framework. Maaaring kabilang dito ang mga tanong at gawaing nangangailangan ng paghahanap ng impormasyon mula sa teksto, pag-unawa at pag-uugnay ng iba't ibang ideya, at pagsusuri at pagninilay sa nilalaman ng binasa. Mahalaga ring gumamit ng iba't ibang uri at pormat ng teksto upang higit na masuri kung paano nagagamit ng mga mag-aaral ang kanilang kasanayan sa pagbasa sa mga sitwasyong hindi lamang nakatuon sa literal na pagkuha ng impormasyon.

Ipinakikita rin ng resulta na may pangangailangang bigyang-pansin ang paglinang sa mga kasanayang maaaring hindi ganap na natataya ng karaniwang pagsusukat ng reading comprehension. Ang pagkakaroon ng mataas na antas sa isang pagtataya ay maaaring magpahiwatig na may sapat na kakayahan ang mag-aaral sa ilang aspekto ng pagbasa, ngunit ang pagbaba ng ilang mag-aaral sa PISA-based assessment ay nagpapakita na maaaring magkaroon pa rin sila ng kahinaan kapag ang gawain ay nangangailangan ng mas malalim na pagproseso at paglalapat ng impormasyon. Sa ganitong pananaw, maaaring gamitin ang PISA Reading Literacy Framework hindi lamang bilang batayan sa pagbuo ng karagdagang assessment tasks kundi bilang gabay sa pagdidisenyo ng mga gawaing pampagbasa na unti-unting humuhubog sa kakayahan ng mga mag-aaral sa mas mataas na antas ng pag-unawa.

Para sa mga tagapangasiwa at gumagawa ng mga programang pampagbasa, iminumungkahi ng pag-aaral na suriin ang kaangkupan ng iisang panukat sa pagtukoy sa kabuuang kakayahan sa pagbasa ng mga mag-aaral sa mas mataas na antas ng sekundarya. Dahil ang Phil-IRI ay maaaring gamitin kasabay ng iba pang maaasahang kasangkapan sa pagtataya, maaaring magsilbing batayan ang resulta ng pag-aaral na ito sa pagbuo o pagsubok ng isang karagdagang pagtatayang mas angkop sa pangangailangan ng mga mag-aaral sa Baitang 10. Ang naturang pagtataya ay hindi kinakailangang maging kapalit ng umiiral na instrumento, kundi maaaring magsilbing karagdagang batayan upang matukoy ang mga kasanayang nangangailangan ng higit na interbensiyon.

Maaari ring isaalang-alang ang paghahanda at pagsasanay ng mga guro sa pagbuo at paggamit ng mga pagtatayang nakatuon sa mas malawak na proseso ng reading literacy. Hindi sapat na magkaroon lamang ng PISA-like na mga tanong kung hindi rin malinaw sa mga guro ang mga kasanayang sinusukat ng mga ito at kung paano gagamitin ang resulta upang makapagplano ng angkop na pagtuturo at interbensiyon. Kaugnay nito, ang mga gawaing pagbasa ay maaaring ilapat sa mga aktuwal na aralin at hindi lamang gamitin sa pagsusulit upang ang pagtataya ay maging bahagi rin ng proseso ng pagpapaunlad ng kakayahang bumasa at umunawa.

Para naman sa mga susunod na mananaliksik, iminumungkahi ang pagpapalawak ng saklaw ng pag-aaral sa mas maraming paaralan, mag-aaral, at iba't ibang kontekstong pang-edukasyon upang masuri kung mananatili ang natuklasang pagkakaiba sa pagitan ng Phil-IRI at PISA-based na pagtataya. Maaari ring magsagawa ng pag-aaral na susuri sa partikular na dahilan kung bakit may mga mag-aaral na nananatili o bumababa ang antas kapag

lumilipat mula sa Phil-IRI patungo sa mas komplikadong pagtataya. Makabubuti ring siyasatin kung aling partikular na proseso ng PISA Reading Literacy Framework—paghahanap ng impormasyon, pag-unawa, o pagsusuri at pagninilay—ang higit na nagiging hamon sa mga mag-aaral.

Sa kabuuan, ipinakikita ng pag-aaral na ang Phil-IRI at PISA-based Reading Assessment Tool ay may malakas na ugnayan, subalit hindi sila ganap na mapagpapalit dahil sa pagkakaiba ng saklaw at dimensiyon ng pagbasa na kanilang sinusukat. Samakatuwid, ang resulta ay nagbibigay ng batayan upang isaalang-alang ang paggamit ng mas komprehensibo at komplementaryong paraan ng pagtataya para sa mga mag-aaral sa Baitang 10. Sa halip na umasa lamang sa isang klasipikasyon ng kakayahan sa pagbasa, maaaring maging higit na kapaki-pakinabang ang paggamit ng mga pagtatayang nagbibigay-daan upang matukoy hindi lamang kung gaano kahusay umunawa ang mag-aaral sa isang teksto, kundi kung paano niya nahahanap, inuunawa, sinusuri, pinagninilayan, at nagagamit ang impormasyon sa mas malawak na konteksto.

4. Kongklusyon

Batay sa mga resulta ng pag-aaral, maaaring ipagpalagay na ang Phil-IRI at PISA-based Reading Assessment Tool ay kapwa nakatutulong sa pagtukoy ng kakayahan sa pagbasa at pag-unawa ng mga mag-aaral, ngunit hindi ganap na magkapareho ang saklaw ng mga kasanayang kanilang nasusukat. Bagama't nagpakita ang dalawang pagtataya ng malakas na positibong ugnayan ($r = .788, p < .001$), ipinakita ng pagkakaiba sa pagkakategorya ng ilang mag-aaral na may mga kasanayan sa pagbasa na higit na nahahamon kapag ang mga gawain ay nangangailangan ng mas malawak na pagproseso ng impormasyon, paggamit ng iba't ibang anyo ng teksto, at pagsusuri at pagninilay sa binasa.

Ipinakikita rin ng resulta na ang pagkakaroon ng *Independent o Instructional* na antas batay sa Phil-IRI ay hindi nangangahulugang pareho rin ang antas ng pagganap ng mag-aaral sa isang pagtatayang nakatuon sa mas malawak na konsepto ng reading literacy. Sa ganitong pananaw, ang mga pagkakaibang nakita sa dalawang pagtataya ay hindi dapat unawain bilang patunay na hindi angkop ang Phil-IRI, kundi bilang indikasyon na hindi sapat ang iisang panukat upang mailarawan ang kabuuang kakayahan sa pagbasa ng mga mag-aaral sa Baitang 10. Sa halip, mas makabuluhang gamitin ang Phil-IRI at iba pang angkop na pagtataya nang komplementaryo upang matukoy kapwa ang kasalukuyang antas ng pag-unawa at ang mga kasanayang nangangailangan pa ng paglinang.

Sa kabuuan, ipinahihiwatig ng pag-aaral na mahalagang palawakin ang pagtataya sa pagbasa mula sa pagtukoy lamang kung nauunawaan ng mag-aaral ang isang teksto tungo sa pagsusuri kung paano niya hinahanap, inuunawa, sinusuri, pinag-uugnay, at pinagninilayan ang impormasyon sa iba't ibang konteksto ng pagbasa. Dahil dito, maaaring magsilbing mahalagang batayan ang PISA Reading Literacy Framework sa pagbuo ng mga karagdagang pagtataya at gawaing pampagbasa na mas angkop sa mga pangangailangan ng mga mag-aaral sa Baitang 10. Sa huli, ang mas komprehensibong paggamit ng mga panukat ay maaaring makatulong sa mga guro at paaralan na makabuo ng mas angkop na mga interbensiyon at estratehiya upang higit na mapaunlad ang reading literacy ng mga mag-aaral.

5. Sanggunian

- Department of Education. (2018). *Policy guidelines on the administration of the Revised Philippine Informal Reading Inventory* (DepEd Order No. 14, s. 2018). <https://www.deped.gov.ph/2018/03/26/do-14-s-2018-policy-guidelines-on-the-administration-of-the-revised-philippine-informal-reading-inventory/>
- Department of Education. (2018). *The Philippine Informal Reading Inventory manual 2018*. DepEd Learning Portal. <https://lrmds.deped.gov.ph/detail/13908>
- Descartin, D. M., Kilag, O. K., Groenewald, E., Abella, J., Cordova, N., Jr., & Jumalon, M. L. (2023). Curricular insights: Exploring the impact of Philippine K to 12 on PISA 2022 reading literacy achievement. *Excellencia: International Multi-Disciplinary Journal of Education*, 1(6), 334–342.
- Fadhillah, A. M., & Emilia, E. (2022). Exploring Teachers' Ability in Developing PISA-like Reading

- Tasks. *English Review: Journal of English Education*, 10(3), 1057-1068.
- Funa, A., Balisoro, J. A., & Gabay, R. A. (2026). Reading literacy assessment in Philippine basic education: A cross-sectional, school-based Phil-IRI study. *Journal of Basic Education Research*, 7(3). <https://doi.org/10.37251/jber.v6i3.2102>
- Gough, P. B., & Tunmer, W. E. (1986). Decoding, reading, and reading disability. *Remedial and Special Education*, 7(1), 6–10. <https://doi.org/10.1177/074193258600700104>
- Johnson, M. S., Kress, R. A., & Pikulski, J. J. (1987). *Informal reading inventories* (2nd ed.). International Reading Association.
- Kintsch, W. (1988). The role of knowledge in discourse comprehension: A construction-integration model. *Psychological Review*, 95(2), 163–182. <https://doi.org/10.1037/0033-295X.95.2.163>
- Landis, J. R., & Koch, G. G. (1977). The measurement of observer agreement for categorical data. *Biometrics*, 33(1), 159–174.
- OECD. (2019). PISA 2018 Assessment and analytical framework. Paris: OECD Publishing. <https://doi.org/10.1787/b25efab8-en>
- OECD. (2023). *PISA 2022 results (Volume I): The state of learning and equity in education*. OECD Publishing. <https://doi.org/10.1787/53f23881-en>
- Omaque, A. M., & Tudlasan, R. T., Jr. (2025). Appraising the Phil-IRI implementation for Grade 10 reading comprehension: Context-based intervention activities. *American Journal of Language, Literacy and Learning in STEM Education*, 3(11), 399–431. <https://grnjournal.us/index.php/STEM/article/view/8701>
- Penn State World Campus. (n.d.). 3.4.2 - Correlation. Penn State Department of Statistics Online Courses. <https://online.stat.psu.edu/stat200/book/export/html/67>
- Perez, M. L., & Rodriguez, R. J. (2023). Development of PISA-like reading comprehension test. *International Journal of Knowledge Management and Practices*, 11(2). <https://ssrn.com/abstract=4686303>
- Sujatna, E. T., Emilia, E., & Kurniasih, N. (2023). Readability of PISA-like reading texts: A lesson learned from Indonesian teachers. *World Journal of English Language*, 13(1).
- Thongkhotr, P., & Chaijaroen, S. (2026). Web-Based Constructivist Learning Environment Model to Foster Critical Reading and Reading Literacy within the PISA Framework: Comprehensive Development and Validation. *Journal of Education and Learning*, 15(1), 428-445.
- Zaim, M., Refnaldi, Zainil, Y., & Ramadhani, F. (2021). PISA reading literacy assessment and senior high school reading literacy assessments: How do they differ? *International Journal of Research in Counseling and Education*, 5(1), 72–78. <https://doi.org/10.24036/00466za0002>

Learning Activity Packet: Pagpapaunlad ng kaalaman ng mga mag-aaral sa panitikang Pilipino

De Mesa, Alvin R. ✉

Leyte Normal University, Philippines (ar_demesa@ymail.com)

Padiwan, Ray Vincent R.

Philippine Science High School -Eastern Visayas Campus in Leyte, Philippines
(rayvincentpadiwan@gmail.com)



ISSN: 2243-7703

Online ISSN: 2243-7711

OPEN ACCESS

Received: 29 July 2026

Available Online: 14 August 2026

Revised: 12 August 2026

DOI: 10.5861/ijrse.2026.26384

Accepted: 13 August 2026

Abstract

Ang pagsusulit ay isang mahalagang gawain sa pagsukat ng kaalamang natamo ng mga mag-aaral at ang pagiging epektibo ng guro sa proseso ng pagtuturo-pagkatuto. Higit na nagiging makabuluhan ang naturang proseso kung ang paghahatid ng karunungan ay nakasalig sa interes ng mga mag-aaral upang maging magaan ang kanilang pagkatuto. Ang kasalukuyang pag-aaral ay isinakatuparan sa pamamagitan ng *Learning Activity Packet* bilang panukalang interbensyon. Lumabas sa resulta ng pananaliksik na ang nabanggit na estratehiya ay epektibo sa pagpapaunlad ng kasanayan at kaalaman ng mga mag-aaral hinggil sa Panitikang Pilipino. Makikita ito mula sa markang kanilang nakuha sa pauna at panghuling pagsusulit na ang magandang pagbabago sa iskor ay natamo matapos isagawa ang interbensyon na uminog sa mga nilalaman kaugnay ng karunungang-bayan, awiting-bayan, at kuwentong-bayan. Sa madaling sabi, naipakita sa pananaliksik na ito ang pagiging epektibo ng LAP sa pag-unlad ng kasanayan at kaalaman ng mga mag-aaral. Bukod pa, inirekomenda rin sa pag-aaral na ito na magsagawa pa ng mga interbensyon na may kaugnayan sa Panitikang Pilipino, ngunit gamit naman ang ibang lunsaran.

Keywords: interbensyon, learning activity packet, lunsaran, pagsusulit, panitikan

Learning Activity Packet: Pagpapaunlad ng kaalaman ng mga mag-aaral sa panitikang Pilipino

1. Introduksiyon

Isa sa mga kasanayang nililintang sa mga mag-aaral sa kanilang pagkatuto sa asignaturang Filipino ay ang kasanayan sa panitikan, partikular sa panitikang Pilipino. Bago pa man pag-aralan ang naging kalagayan ng panitikan mula sa iba't ibang panahon, una munang itinaturo at nililintang ang panitikan mula sa kanilang bayang sinilangan, ang Pilipinas. Ito ay upang magkaroon muna ng pundasyon ang mga mag-aaral sa iba't ibang anyo ng panitikan at kung ano ang mga pagbabagong naganap sa pagdaan ng maraming taon. Nakasalalay sa pedagogikal na pagtuturo ng guro ang pagsasakatuparan ng hangaring ito upang maging makabuluhan ang pagkatuto ng mga mag-aaral sa asignaturang Filipino.

Ayon sa ulat ng *Department of Education* (2026), muli nitong isinusulong ang panitikang Pilipino upang mapataas ang antas ng literasi ng mga Pilipinong mag-aaral sa pamamagitan ng paghahatid ng mga aklat sa mga pampublikong paaralan sa Pilipinas sa tulong ng *Early Procurement Activities* o EPA. Batay naman sa *DepEd Memorandum No. 017, s. 2026*, tinipon nito ang mga bagong guro ng Filipino, di-espesyalisado guro ng Filipino, at mga guro na nagtuturo ng Filipino para sa isang pansangay na palihan na naglalayong maglapat ng mga makabagong estratehiya sa paghahatid ng aralin sa parehong wika at panitikang Filipino, bumuo ng mga pamamaraan sa pagtuturo alinsunod sa mga kasalukuyang pamantayang pang-edukasyon, maisanib sa mga gawaing pampagkatuto ang mga kasanayang dapat malinang sa mga mag-aaral sa ika-21 siglo, at bumuo ng mga interaktibong gawaing pampagkatuto. Sa kabila ng pagsisikap na ito ay hindi pa rin maiiwasan ang mga hamon na nararanasan ng parehong guro at mag-aaral pagdating sa pagtuturo-pagkatuto ng panitikang Pilipino.

Natuklasan sa pananaliksik ni Delopere (2026) ang kakulangan sa teknikal na kasanayan, pasilidad, at suporta mula sa paaralan bilang pangunahing hamon sa pagtuturo ng mga guro ng panitikan sa mga mag-aaral. Kaya naman, binigyang-diin nina Pia at Samarca (2025) na ang mga nabanggit na suliranin ay patuloy na nagiging hadlang sa pagbuo ng mga makabagong estratehiya na kayang umangkop sa estilo ng pagkatuto ng mga mag-aaral. Lumabas sa resulta ng pag-aaral ni Peñeda (2021) na nahihirapan ang mga guro sa pagtuturo ng panitikan bunga ng hindi pagkahilig ng mga mag-aaral sa kasalukuyang panahon sa pagbabasa ng mga akdang pampanitikan. Binigyang-diin naman ni Isip (2024) na maraming kabataan ang higit na naaakit sa pagkatuto ng banyagang panitikan at midya, sa halip na lokal na panitikan. Bunga nito, natuklasan sa pananaliksik ni Candia (2026) ang mga epekto nito, gaya ng sumusunod: limitadong pag-unawa sa lokal na panitikan, kakulangan sa suporta mula sa media at pamahalaan, at hindi ganap na pagpapahalaga ng kabataan sa kanilang kultura. Bukod nito, hamon din para sa mga mag-aaral ang paghahawan ng sagabal sa kanilang pagkatuto ng mga akdang pampanitikan (Pumahing, 2024).

Ang mga mag-aaral sa isa sa mga paaralang sekundarya sa Lungsod Tacloban ay nakararanas din ng hamon sa kanilang pagkatuto ng panitikang Pilipino na nagiging dahilan ng pagtamo nila ng mababang kasanayan kaugnay rito. Hinggil sa suliraning nabanggit, nilalayon ng pananaliksik na ito na makabuo ng kagamitang pampagkatuto, partikular ang *Learning Activity Packet* na ayon kay Lacs (2022), ay nagsisilbing katuwang ng guro sa pagsasagawa ng mga gawaing pampagkatuto na naglalayong mapahusay ang pagtamo ng kaalaman ng mga mag-aaral hinggil sa mga paksa tungo sa pagpapaunlad ng kanilang akademikong pagganap. Sa konteksto ng kasalukuyang pag-aaral, ang LAP ay gagamitin bilang estratehiya ng guro sa paghahatid ng aralin sa mga mag-aaral at ito ay maglalaman ng mga kahulugan, mga halimbawa, at mga gawaing pagsasanay kaugnay sa panitikang Pilipino bilang paraan upang mapaunlad ang kanilang kasanayan hinggil rito. Ayon kay Nonggod (2021), dahil bago na ang panahon, dapat bago na rin ang paraan ng pagtuturo at pagkatuto ng mga guro at mag-aaral. Nariyan ang iba't ibang uri ng estratehiya sa pagkatuto na dinisenyo upang mas mapalawak ang konsepto ng pagtuturo at mas madaling maunawaan ng mga mag-aaral ang aralin.

Layunin ng Pag-aaral – Ang pag-aaral na ito ay inalam kung paano nakatulong ang *Learning Activity Packet* sa pagpapaunlad ng kaalaman ng mga mag-aaral sa katutubong panitikan. Tiniyak na matugunan ang sumusunod na layunin: 1. Ano ang natamong kasanayan ng mga mag-aaral sa paunang pagsusulit hinggil sa katutubong panitikan? 2. Ano ang natamong kasanayan ng mga mag-aaral sa panghuling pagsusulit hinggil sa katutubong panitikan? at, 3. Ano ang makabuluhang pagkakaiba sa kasanayang natamo ng mga mag-aaral mula sa pauna at panghuling pagsusulit hinggil sa katutubong panitikan bago at pagkatapos gamitin ang *Learning Activity Packet*?

Panukalang Interbensiyon = Ang panukalang interbensiyon ng kasalukuyang pananaliksik ay nakabatay sa teoryang *Conditions of Learning* ni Robert M. Gagné. Ayon sa teoryang ito, mayroong siyam na hakbang tungo sa organisado at epektibong pagkatuto ng mga mag-aaral: 1. Pagkuha ng atensyon; 2. Paglalahad ng layunin; 3. Pagbabalik-aral; 4. Paglalahad ng aralin; 5. Pagbibigay ng gabay; 6. Pagbibigay ng gawain; 7. Pagbibigay ng pidbak; 8. Pagtataya; at 9. Pagpapatibay at paglalapat ng natutuhan (Curry, 2021). Ang mga ito ay makikita sa *Learning Activity Packet* na magpapatunay sa kaangkupan nito bilang interbensiyon ng pag-aaral. Ginamit ang *experimental single-case group* bilang disenyo ng pananaliksik. Ayon kay Choueiry (2021), ginagamit ang naturang disenyo nang dalawang beses: bago at pagkatapos ipatupad sa mga kalahok ang isang interbensiyon. Dagdag pa, nagtataglay ito ng tatlong katangian: 1. Ang pangkat ng mga kalahok na makatatanggap ng interbensiyon ay sinadyang pinili kung kaya't ito ay tinatawag na *quasi-experimental design*; 2. Kawalan ng presensya ng *control group* sa paghahambing ng resulta; at 3. Ang epekto ng interbensiyon ay nasusukat sa pamamagitan ng paghahambing sa pauna at panghuling interbensiyon na ipinatupad sa mga kalahok. Gamit ang panitikan bilang lunsaran, partikular ang kuwentong-bayan, awiting-bayan, at karunungan-bayan, isasagawa ang pauna at panghuling pagsusulit sa mga mag-aaral. Ang sumusunod ay ang mga hakbang sa pagsasagawa ng interbensiyon.

Pauna at Panghuling Pagsusulit - Isinakatuparan ang paunang hakbang bago gawin ang interbensiyon sa pamamagitan ng pagbibigay ng paunang pagsusulit sa mga mag-aaral kaugnay sa panitikang Pilipino. Kasunod na ipinasagot sa mga mag-aaral na kalahok ang panghuling pagsusulit pagkatapos isagawa ang interbensiyon. Ang nasabing parehong pagsusulit ang nagbigay ng datos hinggil sa kasalukuyang antas ng kaalaman ng mga mag-aaral hinggil sa panitikang Pilipino. Sa bahaging ito, ang paunang pagsusulit ay naglalaman ng limampung (50) aytem na sinagutan ng mga mag-aaral. Tiniyak at isinaalang-alang ang face validity, content validity, at reliability ng pagsusulit sa pamamagitan ng pagsusuri ng tatlong (3) master teacher na may higit sa limang (5) taon pataas na nagtuturo ng Filipino, habang item analysis naman ang ginawa ng mga mananaliksik upang ang bawat aytem ng pagsusulit ay nasa pagitan ng madali at mahirap na aytem. Pagkatapos matukoy ang pinal na limampung (50) aytem ng pauna at panghuling pagsusulit ay ipinasagot muna ito sa mga mag-aaral na tapos nang kumuha ng panitikan upang matiyak ang reliability nito.

Pagsasakatuparan ng Interbensiyon - Ang panukalang interbensiyon ay isinakatuparan sa pamamagitan ng paggamit ng *Learning Activity Packet* o LAP na naglalaman ng mga kahulugan, halimbawa, at pagsasanay hinggil sa panitikang Pilipino.

Rasyonal - Ang *Learning Activity Packet* ay isang panukalang interbensiyon ng mananaliksik na naglalayong paunlarin ang kasanayan ng mga mag-aaral sa panitikang Pilipino. Sa pagtamo ng naturang layunin, gumamit ng iba't ibang halimbawa ng kuwentong-bayan, awiting-bayan, at karunungan-bayan. Ang nabanggit na interbensiyon ay isang solusyon sa mababang antas ng kaalaman ng mga mag-aaral sa panitikang Pilipino, kung kaya't ito ang bibigyang-tuon ng kasalukuyang pag-aaral sa kadahilanang mahalagang matamo at malinang sa kanila ang matibay na pundasyon ng kaalaman kaugnay sa panitikan na salamin ng lipunan at pagkakakilanlan bilang mga Pilipino.

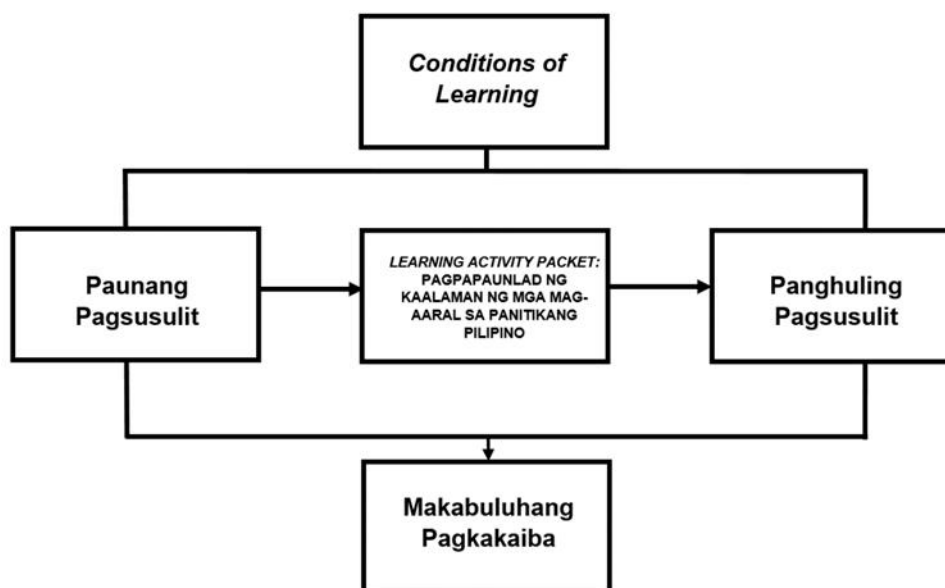
Deskripsiyon - Isang kagamitang pampagkatuto na gumagamit ng mga kahulugan, simbolismo o larawan, halimbawa, at pagsasanay na magpapaunlad sa kaalaman ng mga mag-aaral sa panitikang Pilipino. Ang konseptong ito ay halaw sa teoryang *constructivism* ni Jerome Bruner na kung saan ang mga mag-aaral ay aktibo sa kanilang pagkatuto sa pamamagitan ng pagbuo ng bagong ideya batay sa kanilang dating kaalaman. Sa tulong

ng kagamitang pampagkatutong ito ay nasukat ang pagiging mapanuri ng mga mag-aaral sa mga kahulugan, simbolismo o larawan, at mga halimbawa na makatutulong sa kanila upang lubos na maunawaan ang mga nakapaloob na akdang pampanitikan.

Kagamitan/Lunsaran - 1. Kuwentong-bayan – ito ay isang panitikan na bunga ng malikhaing kaisipan na nagsasalaysay ng mga kuwento kaugnay ng kaugalian at kultura ng iba’t ibang rehiyon sa Pilipinas. 2. Awiting-bayan – ito ay isang panitikan na lumaganap sa panahon ng katutubo na nilalapatan ng himig at tono na sumasalamin sa damdamin, kultura, at pamumuhay ng mga ninuno. 3. Karunungan-bayan – ito ay isang panitikan na naglalahad ng kaisipan, karanasan, at kaugalian ng mga Pilipino na kanilang ginagawa bilang libangan o pampalipas-oras, ngunit nagtuturo ng mabuting asal. Ang mga nabanggit na panitikan ay ginamit upang matamo ang layunin ng kasalukuyang pag-aaral na mapaunlad ang kaalaman ng mga mag-aaral sa panitikang Pilipino.

Hakbang sa Pagsasakatuparan - Pagbasa at Pagsusuri, sa bahaging ito, binigyan ng kopya ang bawat mag-aaral ng *Learning Activity Packet* o LAP at binigyan ng sapat na oras at panahon na pag-aralan ang mga nakapaloob dito. **Pagtalakay**, sa bahaging ito, nagkaroon ng talakayan sa pagitan ng guro at mag-aaral hinggil sa mga binasang akda ng mga mag-aaral sa loob ng LAP. Tininyak ng mananaliksik na magkaroon ng aktibong pakikilahok ang mga mag-aaral upang maging matagumpay ang pagtamo ng layunin ng panukalang interbensiyon. **Pagsasanay**, sa bahaging ito, isasakatuparan ng bawat mag-aaral ang mga pagsasanay na nakapaloob sa LAP na may kaugnayan sa kanilang binasa, sinuri, at tinalakay tungkol sa kuwentong-bayan, awiting-bayan, at karunungan-bayan. **Pagwawasto**, sa bahaging ito, isinagawa ang pagwawasto batay sa naging sagot ng bawat mag-aaral sa mga gawaing nakapaloob sa LAP upang makita kung mayroon silang natamong kaalaman gamit ang naturang kagamitang pampagkatuto na sinabayan pa ng pagtalakay at pagsasanay. **Pagbibigay ng pidbak**, sa bahaging ito, magbibigay ang guro ng mga pidbak tungkol sa pagganap ng mga mag-aaral sa iba’t ibang pagsasanay. **Panghuling pagsusulit**, pagkatapos ng mga naunang hakbang, isinagawa na ang panghuling pagsusulit sa mga mag-aaral upang malaman kung mayroon bang naging pag-unlad sa kanilang kaalaman sa panitikang Pilipino. **Paghahambing ng marka ng pauna at panghuling pagsusulit**. Sa pamamagitan ng paghahambing kung mayroong makabuluhang pagkakaiba sa markang natamo ng mga mag-aaral sa pauna at panghuling pagsusulit ay nasukat ang pagiging epektibo ng isinagawang interbensiyon sa pagtamo ng layunin ng kasalukuyang pag-aaral.

Balangkas ng Pag-aaral



Figyur 1: Balangkas ng Pag-aaral

Ang pag-aaral na ito ay naglayong mapaunlad ang kaalaman ng mga mag-aaral sa panitikang Pilipino sa pamamagitan ng *Learning Activity Packet* bilang interbensiyon. Sa bahaging ito ay makikita ang magiging proseso ng isasagawang interbensiyon tungo sa tagumpay ng buong pag-aaral. Sa unang bahagi, nagsagawa ang mananaliksik ng paunang pagsusulit sa mga mag-aaral upang malaman ang kasalukuyang antas ng kaalaman sa panitikang Pilipino bago isagawa ang interbensiyon. Ito ang parehong pagsusulit na ginamit ng mga mag-aaral sa kanilang pagkuha ng panghuling pagsusulit pagkatapos isagawa ang interbensiyon.

Ang interbensiyon na isinakutaparan sa kasalukuyang pag-aaral ay nakabatay sa *Conditions of Learning* ni Robert M. Gagné (1965). Nahahati sa tatlong sesyon ang pagsasagawa ng interbensiyon. Sa unang sesyon, binigyang-tuon ng mananaliksik at mag-aaral ang tungkol sa kuwentong-bayan gamit ang *Learning Activity Packet* at tiniyak na sundin ang mga nabanggit na hakbang sa pagsasakutaparan. Parehong hakbang ang ginawa para sa ikalawa at ikatlong sesyon para bigyang-pansin ang awiting-bayan at karunungan-bayan. Pagkatapos ng pagwawasto, nagbigay ng pidbak sa mga mag-aaral kaugnay sa kanilang naging pagganap batay sa isinagawang interbensiyon.

Pagkatapos ng nabanggit na hakbang, ibinigay na sa mga mag-aaral ang kanilang panghuling pagsusulit na kapareho lamang sa kanilang naging unang pagsusulit. Ang nakuhang marka ng mga mag-aaral sa kanilang panghuling pagsusulit ay ikinumpara sa naging resulta ng kanilang paunang pagsusulit. Sa tulong nito ay nataya ang naging bisa ng *Learning Activity Packet* bilang interbensiyon sa pagpapaunlad ng kaalaman ng mga mag-aaral sa panitikang Pilipino.

Saligang Teoretikal – Bukod sa wika, mahalaga ring ituro at pag-aralan ang panitikan upang higit na maging makabuluhan ang pagkatuto ng mga mag-aaral. Nililina nito ang mapanuring pag-iisip ng mga bata sa paraang kinakailangan nilang basahin at unawain ang mga teksto upang matuklasan ang mga nakatagong kahulugan o mensahe ng iba't ibang akdang pampanitikan, ito man ay lokal o pambansa. Ginamit ang *Variable Relation Model* na balangkas upang ilarawan ang magiging daloy ng kasalukuyang pananaliksik mula sa paunang gawain, pagsasakutaparan ng interbensiyon, at inaasahang awtput.

Layunin ng pag-aaral na matulungan ang mga mag-aaral na paunlarin ang kanilang kaalaman sa panitikang Pilipino. Isinagawa ang interbensiyon sa pamamagitan ng *Learning Activity Packet* na isang kagamitang pampagkatuto na naglalaman ng mahahalagang impormasyon tungkol sa kuwentong-bayan, awiting-bayan, at karunungan-bayan. Ang bawat isa ay mayroong pagpapakahulugan, mga halimbawa, mga simbolismo o larawan, at mga pagsasanay. Nakasalig ito sa teoryang *Conditions of Learning* ni Robert M. Gagné (1965). Ayon sa teoryang ito, organisado dapat ang pagkatuto ng mga mag-aaral sa paraang may mga hakbang na sinusunod upang matiyak ang kaayusan at tagumpay ng kanilang pagtamo ng karunungan na siyang isasaalang-alang sa konteksto ng kasalukuyang pananaliksik.

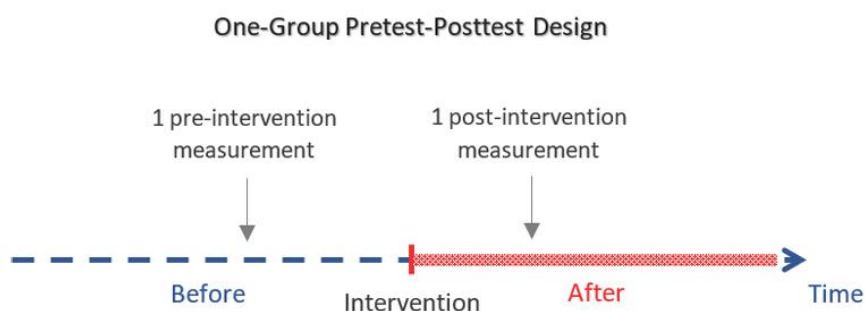
Nabanggit din sa kasalukuyang pag-aaral ang pagbibigay ng pidbak ng guro sa mga mag-aaral sa proseso ng interbensiyon. Ang konseptong ito ay ibinatay sa *Feedback Theory* nina Hattie at Timperley (2007) na naglalayong mabawasan o maiwasan ang hindi pagkakaayon sa pagitan ng kasalukuyang pag-unawa ng mga mag-aaral at ng inaasahang pag-unawa mula sa kanila. Binibigyang-diin dito kung ano ang layunin, ang kasalukuyang pagganap ng mag-aaral, at mga hakbang na makatutulong upang higit na mapabuti ang kanilang pagganap. Maiugnay ito sa pag-aaral dahil titiyakin ng guro na mababatid ng mga mag-aaral kung ano ang mga dapat pa nilang paunlarin na kasanayan upang tuluyang mapaunlad ang kanilang kaalaman pagdating sa panitikang Pilipino.

2. Metodolohiya

Sa bahaging ito ay tatalakayin ang disenyo ng pag-aaral, lokal ng pag-aaral, kalahok ng pag-aaral, pangangalap ng datos, at paraan ng pagsusuri ng datos.

Disenyo ng Pag-aaral - Ang pananaliksik na ito ay isang kuwantitatibo na gumamit ng *experimental one-group pretest-posttest design* hinggil sa antas ng kaalaman ng mga mag-aaral sa panitikang Pilipino. Ginamit ito

ng mga mananaliksik sa pagsasakatuparan ng panukalang interbensiyon matapos isagawa ang paunang pagsusulit sa mga mag-aaral. Ang pangangalap ng datos ay nakabatay sa mga layunin ng pananaliksik: markang natamo ng mga mag-aaral sa paunang pagsusulit hinggil sa panitikang Pilipino, markang natamo ng mga mag-aaral sa panghuling pagsusulit hinggil sa panitikang Pilipino, at ang makabuluhang pagkakaiba sa markang natamo ng mga mag-aaral sa pauna at panghuling pagsusulit hinggil sa panitikang Pilipino. Sa pamamagitan ng *one-group pretest-posttest design* ay makikita ang pag-unlad sa kasanayan ng mga mag-aaral sa panitikang Pilipino sa tulong ng panukalang interbensiyon na isasagawa nang talong sesyon pagkatapos ng paunang pagsusulit. Ang balangkas ng *one-group pretest-posttest design* (Choueiry, 2021) ay makikita sa ibaba:



Figyur 2: One-Group Pretest-Posttest Design

Lokal ng Pag-aaral - Ang pananaliksik na ito ay isasagawa sa isang paaralang sekundarya sa ilalim ng Leyte Division na magsisilbing lokal ng pag-aaral. Dito ipatutupad ang panukalang interbensiyon upang matamo ang mga layunin ng mananaliksik na paunlarin ang kaalaman ng mga mag-aaral sa panitikang Pilipino.

Kalahok ng Pag-aaral - Ang pananaliksik na ito ay kinabilangan ng tatlong pangkat ng mga mag-aaral sa Baitang 10 sa isang paaralang sekundarya sa Lungsod Tacloban. Ang mga ito ang pinagkunan ng datos ng mananaliksik upang matugunan ang lahat ng layunin ng pag-aaral. Mainam na mga mag-aaral sa baitang na ito ang naging mga respondente ng kasalukuyang pananaliksik dahil taglay na ng mga ito ang iba't ibang kasanayan, tulad ng pagbasa, pag-unawa, at pagsusuri sa mga akdang pampanitikan.

Pangangalap ng Datos - Ang pananaliksik na ito ay nakatuon sa pagbuo ng interbensiyon na makatutulong sa pagpapaunlad ng kaalaman ng mga mag-aaral sa panitikang Pilipino. Nilayon ng pag-aaral na ito na na maisagawa ang interbensiyon sa napiling lokal sa pamamagitan ng apat na bahagi: **Unang Bahagi, pagkuha ng marka sa paunang pagsusulit hinggil sa panitikang Pilipino.** Nagsagawa ng paunang pagsusulit sa mga mag-aaral mula sa tatlong pangkat sa Baitang 10. **Ikalawang Bahagi, pagpapatupad ng Interbensiyon.** Sa bahaging ito, binigyan ng *Learning Activity Packet* ang bawat mag-aaral bilang interbensiyon sa pagpapaunlad ng kanilang kaalaman sa panitikang Pilipino. Ang nilalaman ng LAP ay umiino sa tatlong bahagi: kuwentong-bayan, awiting-bayan, at karunungan-bayan. Taglay ng mga ito ang pagpapakahulugan, mga halimbawa, mga simbolo o larawan, at mga pagsasanay. **Ikatlong Bahagi, pagkuha ng marka sa panghuling pagsusulit hinggil sa panitikang Pilipino.** Pagkatapos gawin ang interbensiyon ay ibinigay na sa mga mag-aaral ang panghuling pagsusulit upang makita kung mayroong naging pag-unlad sa kanilang antas ng kaalaman. **Ikaapat na Bahagi, pagkuha ng makabuluhang pagkakaiba ng paunang pagsusulit sa panghuling pagsusulit hinggil sa panitikang Pilipino.** Sa bahaging ito ay ikinumpara ang naging marka ng mga mag-aaral sa pauna at panghuling pagsusulit na naging batayan kung naging mabisa ang LAP sa pagpapaunlad ng kanilang kaalaman tungkol sa panitikang Pilipino.

Pagkatapos makalap ng mga mananaliksik ang lahat ng datos sa kasalukuyang pag-aaral, ay itinala, inanalisa, at binigyang-pagpapakahulugan ang mga ito. Tiniyak din na ang mga datos ay mahigpit na iningatan upang manatili ang pagiging kumpidensiyal nito at ginamit lamang sa layunin ng pananaliksik.

Paraan ng Pagsusuri ng Datos - Ang mga datos na nakalap ay maingat na inorganisa, itinala, at inilagay sa kani-kanilang talahanayan bilang paghahanda sa tekstuwal na pagpapaliwanag. Nilayon ng mananaliksik na

matukoy ang makabuluhang pagkakaiba sa markang natamo ng mga mag-aaral sa pauna at panghuling pagsusulit tungkol sa panitikang Pilipino. Tiniyak na maging sistematiko ang pamamaraan ng pagsusuri ng datos upang masiguro ang kredibilidad ng mga natuklasan. Sa pagtukoy kung ang distribusyon ng datos ay sumusunod sa normal na pamantayan, mahalagang isaalang-alang ang hakbang sa proseso ng paggamit ng *normality test*. Ayon kina Razali at Wah (2011), ang *normality test*, tulad ng *Shapiro-Wilk Test* ay pangunahing ginagamit upang masuri ang *normality* ng isang *dataset*. Sa pananaliksik na ito, ang *Shapiro-Wilk Test* ay ginamit upang suriin ang distribusyon ng mga marka ng mag-aaral mula sa pauna at panghuling pagsusulit.

Samantala, ang ginamit ng mananaliksik na batayan sa pagbibigay ng deskripsiyon kaugnay sa kasanayan ng mga mag-aaral ay nakaayon sa pag-aaral nina Agta et al. (2023).

Talahanayan 1

Batayan ng Deskripsiyon ng nakuhang Iskor ng mga Mag-aaral (Agta et al., 2023)

Bahagdan ng Tamang Sagot (%)	Kategorya ng Pagganap	Paglalarawan
90 – 100	Napakahusay	Ipinapakita ng mga mag-aaral ang mataas na antas ng kaalaman sa wastong pagbabaybay; bihasa sa tamang paggamit nito.
75 – 89	Mahusay	May solidong kaalaman sa wastong pagbabaybay; nangangailangan lamang ng kaunting pagpapalawak sa bokabularyo.
60 – 74	Katamtaman	May pangkalahatang kakayahan sa pagbabaybay, gunit nangangailangan ng higit pang pagsasanay upang mapalalim ang kasanayan.
Mababa sa 60	Kailangan ng Pagpapaunlad	Limitado ang kaalaman sa pagbabaybay; kinakailangan ng masusing interbensyon upang mapaunlad ang kasanayan.

Etikal na Konsiderasyon - Sa bahaging ito ay tatalakayin ang mga dapat isaalang-alang ng mananaliksik sa pagtiyak ng kapakanan at kaligtasan ng bawat kwalipikadong kalahok ng pag-aaral.

Pagtataya sa Panganib at Pakinabang - Tiniyak ng mananaliksik na maayos at ligtas ang kalagayan ng mga kwalipikadong kalahok bago isagawa ang pangangalap ng datos upang maging panatag ang kanilang kalooban. Humingi ang mananaliksik ng pormal na pahintulot sa mga kalahok upang maging bahagi ng pananaliksik na magpapatunay na ito ay boluntaryo at hindi sapilitan. Ang desisyon at karapatan ng mga kalahok ay iginalang ng mananaliksik. Sinigurado rin ang kaligtasan at seguridad ng mga kalahok upang hindi sila malagay sa anumang alanganin, pisikal o sikolohikal man na aspekto, at panganib sa buhay habang isinasagawa ang pangangalap ng datos. Ang mga nakakalap na datos at impormasyon ng mananaliksik ay pananatiliing kumpidensiyal sa bisa ng *Republic Act 10173* na kilala bilang *Data Privacy Act of 2012* na nangangalaga sa personal na impormasyon at pribadong datos ng mga kalahok.

Ang naging resulta ng kasalukuyang pananaliksik ay ibinahagi sa kaguruan ng Filipino sa napiling paaralan upang kanilang mapakinabangan sa pagpapaunlad ng kasanayan ng mga mag-aaral, partikular ang mga nasa Baitang 10 pagdating sa panitikang Pilipino. Dagdag pa, mapapakinabangan din ito ng Kagawaran ng Edukasyon para maging batayan sa pagbuo ng mga programa na naglalayong mapaunlad ang nasabing kasanayan at kaalaman ng mga mag-aaral. Ang pangangalap ng datos ay sinimulan sa pagbibigay ng liham pahintulot sa punongguro ng paaralang sekundarya na lokal ng pag-aaral. Nang maaprubahan ng punongguro ay saka na isinatuparan ng mga mananaliksik ang pangangalap ng datos mula sa mga kalahok ng kasalukuyang pag-aaral.

3. Resulta ng Pag-aaral

Sa bahaging ito ay tatalakayin ang presentasyon at interpretasyon ng mga nakalap na datos mula sa

isinagawang pauna at panghuling pagsusulit sa mga kwalipikadong respondente ng kasalukuyang pananaliksik.

Paunang Pagsusulit ng mga Mag-aaral hinggil sa Panitikang Pilipino (Bago ang Interbensiyon) – Ang pagsasagawa ng paunang pagsusulit sa mga mag-aaral ay isang akademikong proseso na ang layunin ay mabatid ang kanilang antas ng kaalaman kaugnay sa isang paksang-aralin. Ito rin ang magiging batayan kung anong mga estratehiya ang maaaring isakatuparan ng guro upang mapaunlad ang kasanayan ng mga mag-aaral. Sa kasalukuyang pag-aaral, pinamahalaan ng mananaliksik ang paunang pagsusulit sa tunguhing malaman ang antas ng kaalaman ng mga mag-aaral mula ikasampung baitang kaugnay sa Panitikang Pilipino. Ginamit na lunsaran ang kuwentong-bayan, awiting-bayan, at karunungan-bayan upang matiyak ang pagiging kontekstwalisado ng mga tanong sa pagsusulit. Nakalahad sa sumusunod na Talahanayan ang resulta ng paunang pagsusulit na kinuha ng mga respondente ng pananaliksik.

Talahanayan 2

Paunang Pagsusulit ng mga Mag-aaral hinggil sa Panitikang Pilipino Bago ang Interbensiyon

Measure	N	M	SD
Pretest in Philippine Literature (Before the Intervention)	38	27.1	6.53

Note. M = mean; SD = standard deviation.

Makikita mula sa Talahanayan 2 na ang paunang pagsusulit ng mga mag-aaral hinggil sa Panitikang Pilipino ay mayroong mean na 27.1 na katumbas ng 54.37% mula sa kabuuang iskor. Batay sa Talahanayan 1, ang ganitong akademikong pagganap ay nangangahulugang “kailangan ng pagpapaunlad.” Ito ay nagsasabi lamang na mayroong limitadong kaalaman ang mga mag-aaral pagdating sa Panitikang Pilipino. Ang *standard deviation* ng naturang resulta ay 6.53. Ibig sabihin, mayroong pagkakaiba-iba ng kakayahan ang mga respondente ng pag-aaral sapagkat lubhang malayo ang mga natamong iskor sa nakuhang *average* mula sa kinuha nilang paunang pagsusulit. Ang ganitong resulta ay nagpapahayag lamang na dapat magkaroon ng interbensiyon ang guro upang mapataas ang antas ng karunungan ng mga mag-aaral pagdating sa Panitikang Pilipino. Lumabas sa pag-aaral ni Varquez (2025) na may mga suliranin pa ring kinahaharap ang mga guro, lalo na sa pagpapalawak ng kanilang kasanayan at pagpapabuti ng mga estratehiya na kanilang ginagamit sa proseso ng pagtuturo-pagkatuto upang matiyak ang pagiging epektibo nila sa klase. Ang mga nabanggit na hamon ang nag-udyok sa mananaliksik upang magdisenyo ng interbensiyon na nakatuon sa pagtamo ng kasanayang nabanggit.

Panghuling Pagsusulit ng mga Mag-aaral hinggil sa Panitikang Pilipino (Matapos ang Interbensiyon) – Ang panghuling pagsusulit na kinuha ng mga mag-aaral ay nagsilbing sukatan ng natamo nilang kaalaman matapos isakatuparan ang interbensiyon na may tunguhing paunlarin ang kanilang kaalaman sa Panitikang Pilipino. Tiniyak ng mananaliksik na kumuha muna ang mga mag-aaral ng paunang pagsusulit bago isagawa ang interbensiyon sa pamamagitan ng *Learning Activity Packet*. Inilahad sa sumusunod na talahanayan ang naging resulta mula sa panghuling pagsusulit na isinagawa ng mga mag-aaral sa ikasampung baitang.

Talahanayan 3

Panghuling Pagsusulit ng mga Mag-aaral hinggil sa Panitikang Pilipino Matapos ang Interbensiyon

Assessment	N	M	SD
Pretest (Before the Intervention)	38	27.1	6.53
Posttest (After the Intervention)	38	37.6	5.64

Note. M = mean; SD = standard deviation.

Makikita sa talahanayan ang naging resulta mula sa panghuling pagsusulit ng mga mag-aaral matapos isakatuparan ng mananaliksik ang interbensiyon. Batay sa lumabas na resulta, nakakuha ang mga mag-aaral ng mean na 37.6 na katumbas ng 75.26%. Dagdag pa rito, ang *standard deviation* na 5.64 ay nagpapakita ng magkakalapit na iskor mula sa *mean* ng mga datos. Ang resultang ito ay nasa kategorya ng “mahusay” na nangangahulugan lamang na mayroon nang sapat na kaalaman sa Panitikang Pilipino ang mga mag-aaral, ngunit nangangailangan pa rin ito ng kaunting pagpapalawak upang higit na malinang at mapaunlad ang antas ng kanilang kaalaman tungkol sa paksang binigyang-tuon sa kasalukuyang pananaliksik.

Ito ay tugma naman sa resulta ng pag-aaral nina Baluyot et al. (2022) na nagpapakita ng pagkakaiba-iba sa

kasanayan ng mga mag-aaral bunga ng kawalang sapat na kagamitan at estratehiya ng guro sa kanyang pagtuturo. Kaya naman, matapos matuklasan ng mananaliksik ang mababang antas ng kaalaman ng mga mag-aaral sa Panitikang Pilipino mula sa paunang pagsusulit, isinagawa ang interbensiyon na gumamit ng kuwentong-bayan, awiting-bayan, at karunungan-bayan bilang mga lunsaran. Matapos mapagtagumpayan ang pagpapatupad ng interbensiyon, ay binigay na sa mga mag-aaral ang kanilang panghuling pagsusulit. Mapapansing tumaas ang natamong iskor ng mga mag-aaral mula sa kanilang paunang pagsusulit sa tulong ng interbensiyon na ginawa ng mananaliksik.

Makabuluhang Pagkakaiba sa Kasanayang Natamo ng mga Mag-aaral Bago at Matapos ang Interbensiyon

Talahanayan 4

Pagsusuri sa Mahalagang Pagkakaiba sa mga Iskor ng Mag-aaral gamit ang Wilcoxon-Signed Rank Test

Comparison	W	p	Rank-biserial correlation (r _b)
Posttest vs. Pretest	741	< .001	1

Note. H_a: Median Post-test – Median Pretest $\neq$ 0

Bago isinagawa ang pagsusuring estadistikal, sinuri muna ang normalidad ng mga datos gamit ang *Shapiro-Wilk p-test*. Batay sa Talahanayan 4, natukoy na ang datos ay hindi sumusunod sa normal na distribusyon ng paired difference scores ($W = 0.932$, $p = .022$). Dahil dito, ginamit ng mananaliksik ang *non-parametric* na pagsusuri, partikular ang *Wilcoxon Signed-Rank Test*, upang matukoy kung may makabuluhang pagkakaiba sa mga iskor ng mga mag-aaral bago at matapos ang interbensiyon.

Sa pagsusuri gamit ang *Wilcoxon Signed-Rank Test*, natuklasan na may makabuluhang pagkakaiba sa mga iskor ng mga mag-aaral sa pagitan ng paunang pagsusulit ($M = 27.1$, $SD = 6.53$) at panghuling pagsusulit ($M = 37.6$, $SD = 5.64$), $W = 741$, $p < .001$, na may napakataas na epekto ($r = 1.00$). Ipinakikita nito na malaki ang naging pag-angat sa kasanayan ng mga mag-aaral matapos ang isinagawang interbensiyon na nangangahulugan ng pagiging epektibo nito. Ang lumabas na mga resulta ay nagpapahiwatig na ang interbensiyong ginamit ay maaaring ipagpatuloy ng mga guro sa iba pang pangkat ng mag-aaral upang palawakin ang natamong epekto ng interbensiyon. Bilang paglalahat, natamo ng mananaliksik ang mga layunin ng kasalukuyang pag-aaral sa tulong ng interbensiyon na “Learning Activity Packet: Pagpapaunlad ng Kaalaman ng mga Mag-aaral sa Panitikang Pilipino.” Sa tulong naman ng mga kaugnay na literatura at pag-aaral ay mas nagkaroon ng linaw at pagpapatibay sa naging resulta ng naturang interbensiyon.

4. Kongklusyon at Rekomendasyon

Sa bahaging ito ay tatalakayin ang kongklusyon at rekomendasyon batay sa lumabas na resulta ng isinagawang pag-aaral.

Kongklusyon – nilayon ng kasalukuyang pag-aaral na tugunan ang antas ng kaalaman ng mga mag-aaral sa Panitikang Pilipino batay sa markang kanilang natamo sa pauna at panghuling pagsusulit, gayundin ang matugunan kung mayroong makabuluhang pagkakaiba sa markang kanilang natamo sa nabanggit na mga pagsusulit. Natuklasan ng mananaliksik na ang antas ng kaalaman ng mga mag-aaral sa Panitikang Pilipino batay sa markang kanilang nakuha sa paunang pagsusulit na may kabuuang iskor na 54.37% ay nasa kategorya ng “Kailangan ng Pagpapaunlad” at may kaakibat na paglalarawan na dapat magkaroon ng interbensiyon ang guro upang mas mapaunlad ang kakayahan ng mga mag-aaral sa Panitikang Pilipino.

Nakatulong ang isinagawang interbensiyon ng mananaliksik upang mapataas ang marka ng mga mag-aaral. Sa panghuling pagsusulit, nakapagtala sila ng kabuuang iskor na 75.26%, na kabilang sa kategoryang “Mahusay.” Ipinahihiwatig nito na mayroon nang sapat na kaalaman ang mga mag-aaral sa Panitikang Pilipino, bagaman kinakailangan pa rin ng kaunting pagpapalawak at karagdagang pagsasanay upang higit na malinang ang kanilang kasanayan sa nabanggit na paksa. Batay sa mga resulta, natugunan ang ikatlong layunin ng pag-aaral dahil nagkaroon ng makabuluhang pagkakaiba sa pagganap ng mga mag-aaral sa ikasampung baitang sa pagitan ng

isinagawang pauna at panghuling pagsusulit sa lokal ng pananaliksik

Rekomendasyon – batay sa mga resulta at kongklusyon ng isinagawang pag-aaral, iminumungkahi ng mananaliksik ang pagbuo at pagpapatupad ng iba pang interbensiyon na nakatuon sa higit na pagpapaunlad ng kaalaman ng mga mag-aaral sa Panitikang Pilipino. Inirerekomenda rin ang paggamit ng angkop at makabuluhang mga estratehiya sa pagtuturo ng mga aralin sa Filipino na may kaugnayan sa Panitikan upang higit na mapalawak ang kaalaman at kasanayan ng mga mag-aaral. Hinihikayat din ang paghahanda at paggamit ng iba't ibang lunsaran, bukod sa kuwentong-bayan, awiting-bayan, at karunungan-bayan bilang mga kagamitang maaaring makatulong sa patuloy na paglinang ng kanilang kasanayan sa Panitikan. Bukod dito, buong pagpapakumbabang iminumungkahi ng mga mananaliksik ang pagpapatuloy ng kasalukuyang interbensiyon upang higit pang mapalawak at mapagtibay ang positibong epekto nito sa paglinang ng kasanayan ng mga mag-aaral sa Panitikang Pilipino.

5. Sanggunian

- Agta, M. K., Siador, S., Baluyot, R., Beniyat, A., & Mang-usan, M. P. (2022). Antas ng kasanayan sa wastong pagbabaybay sa Kapangan National High School. *Cognizance Journal of Multidisciplinary Studies*, 3(12), pp. 247 – 256.
- Choueiry, G. (2021, October 10). Pretest-Posttest Control Group Design: An Introduction.
- Curry, J. (2021). Robert Gagné and the systematic design of instruction.
- Delopere, B. (2026). Salin-Karanasan: Isang Pagsipat sa Integrasyon ng Digital Storytelling sa Filipino. *DALUMAT: Pambansang Akademikong Journal sa Pananaliksik at Edukasyon*, 1(2), 15-28.
- DepEd, isinusulong ang panitikang Pilipino upang itaas ang antas ng literasiya sa bansa. (2026). In *Department of Education*. <https://www.deped.gov.ph/2026/03/12/deped-isinusulong-ang-panitikang-pilipino-upang-itaas-ang-antas-ng-literasiya-sa-bansa/>
- Hattie, J., & Timperley, H. (2007). The power of feedback. *Review of educational research*, 77(1), 81-112.
- Isip, J. G. A. (2024). Kakayahang kognitibo ng mag-aaral sa Filipino 7: Batayan sa pagbuo na animasyon ng panitikang Bisaya (Doctoral dissertation, West Visayas State University).
- Lacs, M. E. B. (2022). Learning activity sheets (LAS) and the English achievement of Grade 8 students. *IOER International Multidisciplinary Research Journal*, 4(1), 38-44.
- Lyza, M., Candia, Susing Salita, M., Filipino, P., Pilipino, K., & Pampagtuturo, K. (2026). *Ang Panitikang Filipino sa Pagpapalaganap ng Kulturang Pilipino Batayan sa Pagbuo ng Kagamitang Pampagtuturo*. 2(6). <https://doi.org/10.5281/zenodo.20438787>
- Nonggod, G. D. (2021). Paggamit Ng 'Basa-pang-UNAWA app' isang kagamitan bilang interbensiyon sa pagkatuto sa pagganap ng mga mag-aaral by Glenn D. Nonggod. *EPRA Journals | Good Indexing*. <https://eprajournals.com/IJSR/article/5515>
- Peñeda, M. B. (2021). Mga Suliranin at Lapit sa Pagtuturo ng Wika at Panitikan sa Filipino sa mga Piling Paaralan sa Antas Tersarya. *American Journal of Humanities and Social Sciences Research (AJHSSR)*, 5(11), 24-30.
- Pia, M. G. G. (2025). Pagsusuri sa mga Estratehiya sa Pagtuturo ng Filipino: Batayan sa Pagbuo ng Aklat Pamuhatan.
- Pumahing, J. T. (2024). Kasanayang Pagbasa sa Filipino ng mga Mag-Aaral. *Ignatian International Journal for Multidisciplinary Research*, 2(6), 2273-2286.
- Razali, N. M., & Wah, Y. B. (2011). Power comparisons of Shapiro-Wilk, Kolmogorov-Smirnov, Lilliefors and Anderson-Darling tests. *Journal of Statistical Modeling and Analytics*, 2(1), 21–33.
- Varquez, P. (2025). IJAMS 410 Pedagogiya at Hamon sa Pagtuturo ng Filipino: Isang Paglalahad ng mga Karanasan at Estratehiya ng mga Guro sa Filipino sa mga Kursong Teknikal. *International Journal of Advanced Multidisciplinary Studies*, 5, 2799–0664. <https://www.ijams-bbp.net/wp-content/uploads/2025/09/8-IJAMS-August-2025-410-423.pdf>

Teaching methods and creative motivation among nursing students: Implications for pedagogical competencies in nursing education

Popovska Nalevska, Gorica ✉

Faculty of Psychology, International Slavic University, North Macedonia (popovska.g@gmail.com)

Ristevska Dimitrovska, Gordana

Higher Medical School, University "St. Kliment Ohridski", North Macedonia (gordana.ristevska@uklo.edu.mk)



ISSN: 2243-7703

Online ISSN: 2243-7711

OPEN ACCESS

Received: 28 July 2026

Available Online: 16 August 2026

Revised: 12 August 2026

DOI: 10.5861/ijrse.2026.26365

Accepted: 15 August 2026

Abstract

Motivation is a key determinant of effective learning in nursing education, and teaching methods strongly influence student engagement. This study examined the relationship between teaching methods and creative motivation among nursing students in order to determine the need for the integration of pedagogical competencies in higher nursing education. A quantitative, descriptive-correlational study was conducted with a purposive sample of 100 nursing students in North Macedonia. Data were collected using a structured questionnaire assessing perceptions of teaching methods and an adapted 9-item Creativity Motivation Scale (CMS; $\alpha = 0.838$). Descriptive statistics, Mann-Whitney U, Kruskal-Wallis H, and Spearman correlation tests were applied. The overall CMS mean score was $M = 4.06$ ($SD = 0.61$), indicating a high level of creative motivation. Student-centered teaching methods (cooperative learning, simulation, role-playing) were associated with higher motivation compared to traditional lectures. No significant difference was found between male and female students ($U = 524, p = .833$). A near-significant trend toward higher motivation across more advanced years of study was observed ($H = 7.674, p = .053$). In conclusion, the results highlight the importance of active, student-centered teaching approaches and underscore the need for integrating pedagogical competencies into nursing curricula.

Keywords: nursing students, creative motivation, teaching methods, pedagogical competencies

Teaching methods and creative motivation among nursing students: Implications for pedagogical competencies in nursing education

1. Introduction

In the modern education system, increasing attention is paid to the development of creativity and motivation among students as key prerequisites for their personal, academic, and professional development. Creative motivation is an important educational category that unites the concepts of creativity and motivation and arises as a result of a complex interaction between the psychological characteristics of the individual and the pedagogical conditions in which the learning process takes place. It has the potential to transform learning from a passive process of acquiring information into an active, engaged, and productive process of creating knowledge. In this context, teaching methods and educational approaches play a key role in its development, enabling the stimulation of intrinsic motivation, critical thinking, and creative problem solving. Understanding motivation among nursing students, as well as the role of teaching methods in its promotion, can be based on contemporary theoretical approaches that emphasize the active role of the student in the learning process and the importance of the teacher's pedagogical competencies. In this context, an important basis is Self-Determination Theory, which explains motivation as a result of satisfying three basic psychological needs: autonomy, competence, and relatedness. According to this theory, students show a higher level of intrinsic motivation when they feel that they are actively participating in the learning process, that they are able to master the tasks assigned, and that there is positive interaction with the teacher and other students (Deci & Ryan, 2000).

In the teaching process, the choice and application of teaching methods play a key role in satisfying these needs. In this regard, the principles of Constructivist Learning Theory indicate that learning is most effective when students are actively involved, have the opportunity to discuss, solve problems, and connect new knowledge with previous experiences. Teaching methods based on interaction, practical work, and critical thinking contribute to greater student engagement, which directly affects their motivation. In contrast, traditional, passive forms of teaching often do not provide enough space for the development of autonomy and initiative among students (Popovska Nalevska & Kuzmanovska, 2022). Furthermore, contemporary educational trends in the field of health sciences are increasingly focused on competency-based approaches, such as Competency-Based Education. This approach emphasizes the importance of developing specific skills and competencies, in addition to acquiring theoretical knowledge. Within nursing education, this implies not only clinical competencies, but also the development of pedagogical skills, especially considering the role of nurses as educators of patients, families, and the community. The lack of formally integrated content for the development of pedagogical competencies in curricula can lead to insufficient preparation of students for this important professional role.

In this sense, it can be assumed that teaching methods that encourage the active role of students and support their autonomy and competence have a positive impact on the level of motivation. At the same time, the results of such research can serve as a basis for improving curricula through the integration of content aimed at the development of pedagogical competences. In this way, theoretical assumptions not only enable a better understanding of the relationship between teaching methods and motivation, but also provide guidelines for improving the quality of nursing education.

In nursing education, this issue is of particular importance due to the specific nature of the profession, which requires a high level of practical skills, critical thinking and the ability to make decisions in complex situations. Therefore, the way in which teaching is implemented directly affects the preparation of future health professionals. Despite the increased interest in modern teaching methods, there is still a need for a deeper understanding of their impact on the motivation of nursing students, as well as the role of the pedagogical competencies of teaching staff in this process. The extent to which the application of different teaching approaches contributes to the development of creative motivation among students has not been sufficiently investigated, which indicates the existence of a

research gap in this area. On the other hand, the role of the nurse as an educator highlights the pedagogical function that includes planning, organizing and implementing educational activities, both for patients and colleagues or students, in order to ensure quality, safe and effective health care. They represent a bridge between theoretical knowledge and practical application, enabling the development of competent, informed and responsible individuals. The World Health Organization (2016), has set unified global standards for the key competencies that every professional teacher in nursing education should possess. These competencies serve as a framework for the development of curricula, the evaluation of the quality of education and the preparation of high-quality nurses who will be able to respond to the contemporary health needs of the population. Similarly, Halstead and Billings (2019) noted that the professional preparation of nursing teachers must include formal education in the field of pedagogy, and clinical expertise alone is not sufficient for quality teaching.

For these reasons, the purpose of this research is to analyze the relationship between teaching methods and learning motivation among nursing students, with an emphasis on the implications for improving teaching practice and the need for integrating pedagogical competencies into nursing curricula. Unlike previous studies that have examined teaching methods or student motivation in isolation, this research offers a novel contribution by simultaneously assessing multiple dimensions of creative motivation and directly linking them to specific, ranked teaching methods. This dual focus, combining a validated subscale motivation instrument with a comparative ranking of teaching approaches, provides a more applied basis for curricular decision-making.

2. Literature Review

Research suggests that traditional teaching methods, which are based on one-way knowledge transfer, have a limited effect on student motivation and engagement. In contrast, modern student-centered teaching approaches significantly contribute to increasing motivation, autonomy, and critical thinking among students. According to Zhang et al. (2018) creative motivation is a complex construct that integrates the processes of learning, creating, and achieving new ideas, and is closely related to students' intrinsic motivation and cognitive activity. Systematic reviews in the field of nursing education show that the use of interactive teaching methods, such as simulation teaching, problem-based learning, cooperative learning, and clinical scenarios, significantly increases student motivation and their readiness for clinical practice. A variety of contemporary instructional approaches have been implemented in nursing education to enhance student engagement and learning outcomes, including high-fidelity simulation combined with standardized patients (Fawaz & Hamdan-Mansour, 2016; Lee et al., 2017) gamified simulation environments, mobile-assisted video-based learning (Forbes et al., 2016) case-based learning (Yoo & Park, 2015) problem-based learning (Gandhi et al., 2015) and self-assessment through video-based reflection and analysis (Yoo et al., 2010).

Educators who hold positive attitudes toward student-centered approaches are more likely to design and implement lesson plans and activities that foster cooperation, critical thinking, and independent problem-solving (Prince, 2004). Their instructional choices are guided by a strong belief in the value of student participation and autonomy, resulting in more effective learning experiences. For educator development, intervention studies indicate that structured preparation can produce measurable gains in educator behaviors and related outcomes. A blended programme that combined a web-based pedagogy module with case-based, face-to-face workshops significantly increased overall clinical-teaching competency among registered-nurse educators, and also improved self-efficacy and attitudes towards technology-enhanced learning (Wu et al., 2020). In the same context, studies conducted on simulation teaching indicate that this method significantly improves clinical readiness and motivation among health science students (Yahya et al., 2024).

From the perspective of pedagogical theory, Bandura (1997) and Deci and Ryan (2020) emphasize that motivation is the result of the interaction between personal factors and the learning environment, with the teacher playing a key role in stimulating it. In this regard, the pedagogical competencies of teaching staff are considered a key factor in the selection and effective application of teaching methods. In the field of nursing education, Iwasiw and Goldenberg (2015) emphasize that the integration of contemporary pedagogical approaches is necessary for

the development of professional, clinical and communication competencies in future nurses. Hence, the quality of the teaching process depends not only on the content, but also on the pedagogical preparedness of teachers and their ability to apply student-centered methods.

In recent years, there has been an increased interest in digital teaching tools and mobile learning. Research shows that the use of mobile applications, video materials, and e-learning platforms has a positive effect on student motivation and self-directed learning (Kim & Park, 2019; Oducado et al., 2020). Additionally, gamification in education has been shown to be an innovative approach that increases engagement and motivation by introducing game elements into the teaching process (Zainuddin et al., 2020). This approach is particularly effective among younger generations of students, who show a higher level of interaction and interest in learning. Despite the positive effects of these methods, research indicates that their successful implementation largely depends on the pedagogical competencies of the teaching staff. Teachers who possess didactic and pedagogical knowledge are more effective in selecting and applying modern teaching strategies, which directly affects student motivation and success. Research shows that a lack of pedagogical competence among teaching staff often results in the dominance of traditional teaching methods and reduced motivation among students (Mikkonen et al., 2020). On the other hand, teachers who have pedagogical training more often apply interactive and student-centered methods, which positively affects student engagement and results (McLean et al., 2008).

3. Materials and Methods

Research Aim and Questions - The general aim of the research is to examine the relationship between teaching methods and learning motivation among nursing students in order to determine the need for the integration of pedagogical competencies in higher nursing education. In accordance with the research aim, the following research questions were formulated:

- What is the overall level of creative motivation among nursing students?
- Are there statistically significant differences in creative motivation by gender and year of study?
- Which teaching methods are perceived as most motivating by nursing students?
- What are the implications of these findings for the integration of pedagogical competencies into nursing curricula?

Research Sample - The research sample included 100 students studying in nursing study programs at higher education institutions in the Republic of North Macedonia. The sample was purposively selected in order to include students who are actively involved in theoretical and practical teaching related to the nursing profession. All respondents were informed about the purpose of the research and participated voluntarily, ensuring the anonymity and confidentiality of the data. No personal identifying information was collected, and participants were free to withdraw from the study at any time without consequences. The nursing education system in the Republic of North Macedonia comprises a three-year Bachelor of Nursing programme (180 ECTS credits), followed by an additional one-year Specialist programme (60 ECTS credits). Participants were drawn from all years of study, providing a comprehensive perspective across different stages of nursing education. The demographic characteristics of the sample are presented in Table 1.

Research Design and Instrument - The research was designed as a quantitative, descriptive-correlational study. Data were collected using a structured survey questionnaire. The first part of the instrument concerned the students' perception of the application of different teaching methods, covering traditional and modern approaches, assessed using a five-point Likert scale. The *Creativity Motivation Scale* (CMS), developed by Zhang et al. (2018), was used to measure motivation related to creativity. A culturally adapted and validated version of the scale in the Macedonian context was applied (Nalevska Popovska, 2026). The version of the CMS used consists of 9 items, grouped into three subscales: 'Doing New Things' (items 1, 4, 7), 'Learning New Things' (items 2, 5, 8), and

‘Accomplishing Creative Outcomes’ (items 3, 6, 9). Each item was rated on a five-point Likert scale from 1 (strongly disagree) to 5 (strongly agree). Higher mean scores indicate higher levels of creative motivation.

Table 1

Demographic Characteristics of the Research Sample (N = 100)

Characteristic	%
Gender	
Female	88
Male	12
Year of Study	
First year	14
Second year	31
Third year	23
Fourth year	32
Age Group (years)	
18-20	27
21-23	29
24-26	26
Over 26	18

Data Analysis - The collected data were analyzed using IBM SPSS Statistics. Initially, descriptive statistics were calculated (frequencies, percentages, means, standard deviations, minimum and maximum values). The internal consistency of the CMS was assessed using Cronbach’s alpha coefficient. Inter-subscale relationships were examined using Spearman’s rank correlation coefficient (rs), given the ordinal nature of Likert-scale data. Differences in creative motivation by gender were examined using the Mann-Whitney U test, and differences by year of study were examined using the Kruskal-Wallis H test. Additionally, a motivation index was calculated for each teaching method based on the weighted mean value of Likert responses. The level of statistical significance was set at $p < 0.05$.

4. Results

4.1 Reliability of the Creativity Motivation Scale

Prior to the main analysis, the internal consistency of the CMS was assessed. The overall Cronbach’s alpha coefficient for the full 9-item scale was $\alpha = 0.838$, indicating good internal consistency. The subscale reliability coefficients were: Doing New Things $\alpha = 0.682$, Learning New Things $\alpha = 0.626$, and Accomplishing Creative Outcomes $\alpha = 0.581$. Although the subscale alphas are moderate, they are acceptable for 3-item subscales and are consistent with findings from the original scale validation study (Zhang et al., 2017).

4.2 Research Question 1: Level of Creative Motivation

One of the primary objectives of this study was to assess the overall level of creative motivation among nursing students. Table 2 presents the descriptive statistics for the CMS subscales and total score, including mean values, standard deviations, observed ranges and distribution by motivation level. Table 2 presents the descriptive statistics for the CMS subscales and total score. The results show that nursing students demonstrate a high level of creative motivation across all subscales.

The results show that nursing students demonstrate a high level of creative motivation across all subscales. The highest mean was observed for ‘Accomplishing Creative Outcomes’ ($M = 4.20$, $SD = 0.65$), followed by ‘Learning New Things’ ($M = 4.06$, $SD = 0.68$) and ‘Doing New Things’ ($M = 3.91$, $SD = 0.77$). The total mean CMS score was $M = 4.06$ ($SD = 0.61$), with 72% of respondents demonstrating a high level of creative motivation,

27% a moderate level, and only 1% a low level.

Table 2
Creative Motivation Scores and Levels by Subscale (N = 100)

Subscale	Mean	SD	Min	Max	Low (%)	Moderate (%)	High (%)
Doing New Things	3.91	0.77	1.00	5.00	3	44	53
Learning New Things	4.06	0.68	2.33	5.00	2	34	64
Accomplishing Creative Outcomes	4.20	0.65	2.33	5.00	1	28	71
Total CMS Score	4.06	0.61	2.33	5.00	1	27	72

To examine the internal structure of the CMS, Spearman's rank correlation coefficients were calculated between the three subscales (Table 3). All inter-subscale correlations were statistically significant at $p < 0.001$, confirming the convergent validity of the instrument. All three subscales demonstrated moderate to strong positive correlations with one another (r_s ranging from 0.635 to 0.677), indicating that students who score high on one dimension of creative motivation tend to score high on the others. This pattern supports the theoretical coherence of the CMS construct.

Table 3
Spearman Correlations Between CMS Subscales

	Doing New Things	Learning New Things	Accomplishing Creative Outcomes
Doing New Things	—		
Learning New Things	$r_s = 0.635^{***}$	—	
Accomplishing Creative Outcomes	$r_s = 0.668^{***}$	$r_s = 0.677^{***}$	—

*** $p < 0.001$

4.3 Research Question 2. Differences by Gender and Year of Study

Table 4 presents the results of the Mann-Whitney U test and Kruskal-Wallis H test examining differences in creative motivation by gender and year of study.

Table 4
Differences in Creative Motivation by Gender and Year of Study

Group	N	Mean	SD	Test statistic	p
Gender					
Female	88	4.07	0.58	U = 524	.833
Male	12	4.00	0.86		
Year of Study					
First year	14	3.90	0.77	H = 7.674	.053
Second year	31	3.88	0.51		
Third year	23	4.13	0.60		
Fourth year	32	4.24	0.60		
Post-hoc: 2nd year vs Specialist				U = 288	.011*

* $p < 0.05$

The Mann-Whitney U test revealed no statistically significant difference in creative motivation between female and male nursing students ($U = 524$, $p = .833$). The Kruskal-Wallis H test indicated a borderline non-significant trend toward higher creative motivation in more advanced years of study ($H = 7.674$, $p = .053$). Post-hoc pairwise comparisons revealed a significant difference between second-year Bachelor of nursing students and Specialist students ($U = 288$, $p = .011$).

4.4 Research Question 3. Teaching Methods and Student Motivation

Table 5 presents the distribution of students' responses regarding the motivational value of different teaching methods.

Table 5
Teaching Methods and Students' Motivation

Teaching Method	Strongly Disagree (%)	Disagree (%)	Partially Agree (%)	Agree (%)	Strongly Agree (%)	Motivation Index	Rank
Cooperative learning	0	2	22	32	44	4.18	1
Simulations	0	8	20	33	39	4.03	2
Role-playing	2	6	21	29	42	4.03	2
Use of IT in teaching	1	4	26	31	38	4.01	4
Project-based learning	0	4	25	41	30	3.97	5
Interactive discussions	2	6	21	42	29	3.90	6
Problem-based learning	2	6	22	52	18	3.78	7
Lectures	22	24	44	5	5	2.47	8

The traditional teaching method of lectures received the lowest motivation index ($M = 2.47$), with 46% of students expressing disagreement or strong disagreement that lectures contribute to their motivation. In contrast, all student-centered teaching methods achieved motivation indices above 3.78. The highest motivation index was observed for cooperative learning ($M = 4.18$), followed by simulations and role-playing ($M = 4.03$ each), the use of information technologies in teaching ($M = 4.01$), project-based learning ($M = 3.97$), interactive discussions ($M = 3.90$), and problem-based learning ($M = 3.78$).

5. Discussion

5.1 Level of Creative Motivation

The finding that 72% of nursing students demonstrated a high level of creative motivation is consistent with Self-Determination Theory, which posits that high motivation arises when students' psychological needs for autonomy, competence, and relatedness are satisfied (Deci & Ryan, 2000). It is particularly significant that the highest results were observed in the subscale 'Accomplishing Creative Outcomes', followed by 'Learning New Things', which indicates a strong orientation towards knowledge and professional development. This finding is in line with the characteristics of health professions, where continuous learning is an essential part of professional identity. The high percentage of students with high motivation can also be linked to the nature of the study program, which combines theoretical and practical teaching. However, despite the dominantly high values, the existence of a small percentage of students with moderate and low motivation indicates the need for further improvement of teaching approaches.

5.2 Gender and Year of Study

The finding of no statistically significant gender difference in creative motivation ($U = 524$, $p = 0.833$) suggests that creative motivation in nursing education is not significantly influenced by gender, which is consistent with prior literature indicating that intrinsic motivation in higher education tends to be relatively stable across gender groups. Given the predominantly female composition of the sample (88 %), which reflects the global

demographic structure of the nursing profession, this result further confirms that motivation for learning is shaped more by educational factors, such as teaching methods and curriculum design, than by individual demographic characteristics.

With respect to year of study, although the Kruskal-Wallis H test did not reach statistical significance ($H = 7.674$, $p = 0.053$), the observed trend toward higher motivation in more advanced years is noteworthy. The significant post-hoc difference between second-year and Specialist-level students ($U = 288$, $p = 0.011$) suggests that accumulated clinical experience and exposure to more advanced practical content may progressively contribute to the development of creative motivation. This finding is consistent with Constructivist Learning Theory, which posits that active engagement with complex, real-world problems enhances intrinsic motivation and creative engagement.

5.3 Teaching Methods

The results clearly indicate that nursing students have a significantly more positive perception of active and interactive teaching methods, compared to traditional lectures. This finding is in line with the principles of Constructivist Learning Theory, according to which learning is most effective when students are actively involved in the process of acquiring knowledge (Popovska Nalevska & Kuzmanovska, 2020). In particular, methods such as cooperative learning, simulations, and role-playing provide opportunities for collaboration, practical application, and active engagement, which directly contribute to greater student motivation. These methods create an environment in which students are not passive recipients of information, but active participants in the learning process, thereby fostering intrinsic motivation and deeper learning.

5.4 Implications for Pedagogical Competencies

The findings of this study carry important implications for the integration of pedagogical competencies into nursing curricula. The consistently higher motivation indices associated with student-centered teaching methods suggest that the pedagogical approach of the instructor directly influences the quality of the learning experience. However, the effective application of such methods requires more than clinical expertise, it demands a solid foundation in pedagogical theory, instructional design, and educational evaluation. In this regard, the results of this study support the growing body of evidence indicating that nursing curricula should formally incorporate pedagogical and didactic content as a core component of professional preparation (Iwasiw & Goldenberg, 2015; Quintana et al., 2023).

In the Republic of North Macedonia, as in many other countries in the region, nursing education programs are predominantly structured around clinical and biomedical competencies, while the educational role of the nurse remains insufficiently addressed. This gap becomes particularly evident when considering that nurses are expected to act as educators not only in academic settings, but also in direct patient care, community health promotion, and the mentoring of junior colleagues. Ironside (2001) points out that traditional nursing curricula often focus on clinical skills, while the educational role of the nurse remains underdeveloped. Similarly, Billings and Halstead (2016) indicate that in many nursing programs there is insufficient integration of pedagogical content, which results in limited competencies among students in the area of health education. Caputi (2010) notes that the introduction of structured pedagogical components in curricula can significantly improve students' readiness for the role of educators. Additionally, Cangelosi and Moss (2010) demonstrates that nursing students who are exposed to teaching and communication-related curriculum content exhibit higher levels of self-confidence and better communication skills in clinical practice.

While this study was conducted within the specific context of North Macedonia, its findings carry broader relevance for countries undergoing similar reforms in health education. Many transitional and developing education systems, including several nations in Southeast Asia face comparable challenges in shifting from traditional, lecture-based instruction toward student-centered pedagogy in nursing and health sciences curricula.

As such, the results of this study may offer a useful reference point for institutions and beyond that are seeking evidence-based guidance on integrating pedagogical competencies into health professional education, particularly where resource constraints and curricular traditions present similar barriers to reform.

Taken together, these findings indicate the need for a systematic review and reform of existing nursing curricula, with the aim of integrating structured modules focused on teaching methodology, communication skills, and educational competencies. Such integration would not only enhance student motivation during their studies, but would also better prepare future nurses for the complex educational demands of contemporary healthcare practise.

5.5 Practical Implications

The findings of this study offer several concrete implications for education stakeholders. For nursing educators and practitioners, the results underscore the need to prioritize student-centered methods: cooperative learning, simulation, and role-play in particular, over lecture-based delivery, and to pursue formal pedagogical training as a core professional competency rather than an optional addition to clinical expertise. For students, exposure to these methods appears to translate directly into higher creative motivation, suggesting that curricular reform in this direction could improve both engagement and long-term readiness for the educator role nurses are expected to assume in clinical and community settings. For institutions and schools of nursing, the results support embedding structured pedagogical and didactic modules within existing curricula, rather than treating teaching methodology as tangential to clinical training, a shift that could be implemented through targeted faculty development programs and revised curriculum standards.

6. Conclusion

The results of the research indicate that teaching methods have a significant impact on the motivation to learn among nursing students. Modern student-centered approaches, such as cooperative learning, simulations, interactive discussions, the use of information technology and role-playing, are associated with a higher level of motivation compared to traditional lectures. These findings confirm the importance of active learning and student engagement in the teaching process. The research further indicates that student motivation depends not only on the content of the teaching, but also on the manner of its implementation, as well as on the pedagogical competencies of the teaching staff. The World Health Organization has set unified global standards for the key competencies that every professional teacher in nursing education should possess. These competencies serve as a framework for the development of curricula, the evaluation of the quality of education and the preparation of high-quality nurses who will be able to respond to the contemporary health needs of the population. The document identifies the core areas of competence that the educator should integrate, including knowledge, skills and behaviours, and prepares professionals to support students in acquiring the necessary cognitive, affective and psycho-motor skills. The findings of this study suggest the following recommendations:

- Integration of pedagogical and didactic modules in nursing curricula in order to develop teaching competences in future and existing health professionals.
- Increasing the use of student-centred teaching methods, especially simulations, problem-based learning and cooperative forms of work.
- Continuous training and professional development of teaching staff in the field of pedagogy and modern teaching strategies.
- Encouraging interactive and practically oriented teaching that increases student motivation and engagement.

Limitations of the Study - Several limitations of this study should be acknowledged. First, the sample consisted of 100 nursing students from higher education institutions in the Republic of North Macedonia, which, although drawn from multiple institutions, may not be fully representative of the entire nursing student population in the country. The purposive sampling method limits the generalizability of the findings. Second, the study relied on self-reported data collected through a structured questionnaire, which introduces the possibility of response bias and social desirability bias. Third, the cross-sectional design does not allow for causal inferences about the relationship between teaching methods and motivation.

Ethical Considerations - This study was conducted in full accordance with the ethical principles outlined in the Declaration of Helsinki. Participation was voluntary and anonymous. Written informed consent was obtained from all participants prior to their inclusion in the study. Participants were informed of the purpose, procedures, expected duration, and voluntary nature of their participation, and were assured of their right to withdraw at any point without any negative consequences, before providing consent. No personal identifying information was collected, and participants were free to withdraw from the study at any time without consequences. The anonymity and confidentiality of all participants were strictly ensured throughout data collection and analysis. Informed consent was obtained from all participants prior to data collection.

Declaration of the Use of Generative Artificial Intelligence Tools – The authors declare that all study-related activities were carried out by the author and that AI tools did not replace the author's intellectual contribution. No confidential or personally identifiable data were entered into any AI tool. The author takes full responsibility for the accuracy, integrity, originality, and content of this work.

CRedit authorship contribution statement - Gorica Popovska Nalevska: Conceptualization, Methodology, Validation, Formal analysis, Investigation, Resources, Data curation, Writing – original draft, Writing – review & editing, Visualization, Supervision. Gordana Ristevska Dimitrovska: Conceptualization, Methodology, Investigation, Resources, Writing – original draft, Writing – review & editing, Supervision.

Conflict of Interest: The authors declare no conflict of interest.

Funding: The authors declare that this study has received no financial support.

7. References

- Bandura, A. (1997). *Self-efficacy: The exercise of control*. W. H. Freeman.
- Billings, D. M., & Halstead, J. A. (2016). *Teaching in nursing: A guide for faculty (5th ed.)*. Elsevier.
- Cangelosi, P. R., & Moss, M. M. (2010). Voices of faculty of second-degree baccalaureate nursing students. *Journal of Nursing Education*, 49(3), 137–142. <https://doi.org/10.3928/01484384-20090915-02>
- Caputi, L. (2010). An overview of the educational process. In L. Caputi (Ed.), *Teaching nursing: The art and science*. College of DuPage Press.
- Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *International Journal for the Advancement of Psychological Theory*, 11(4), 227–268. https://doi.org/10.1207/S15327965PLI1104_01
- Fawaz, M. A., & Hamdan-Mansour, A. M. (2016). Impact of high-fidelity simulation on the development of clinical judgment and motivation among Lebanese nursing students. *Nurse Education Today*, 46, 36–42. <https://doi.org/10.1016/j.nedt.2016.08.026>
- Forbes, H., Oprescu, F. I., Downer, T., Phillips, N. M., McTier, L., Lord, B., et al. (2016). Use of videos to support teaching and learning of clinical skills in nursing education: A review. *Nurse Education Today*, 42, 53–56. <https://doi.org/10.1016/j.nedt.2016.04.010>
- Gandhi, S., Mythili, D., & Thirumoorthy, A. (2015). Nursing students' perceptions about traditional and innovative teaching strategies: A pilot study. *Journal of Krishna Institute of Medical Sciences University*, 4, 123–129. <https://doaj.org/article/080e8fcb2f9c4da8bbb65357d0fc1e15>
- Halstead, J. A., & Billings, D. M. (2019). *Teaching in nursing: A guide for faculty (6th ed.)*. Elsevier.
- Ironside, P. M. (2001). "Covering content" and teaching thinking: Deconstructing the additive curriculum.

- Journal of Nursing Education*, 43(1), 5–12. <https://doi.org/10.1097/00012272-200103000-00007>
- Iwasiw, C., & Goldenberg, D. (2015). *Curriculum development in nursing education (3rd ed.)*. Jones & Bartlett Learning.
- Kim, J. H., & Park, H. (2019). Effects of smartphone-based mobile learning in nursing education: A systematic review and meta-analysis. *Asian Nursing Research*, 13(1), 20–29. <https://doi.org/10.1016/j.anr.2019.01.005>
- Lee, A. H., Kelley, C., Alfes, C. M., Bennington, L. K., & Dolansky, M. A. (2017). High-fidelity patient simulation to evaluate student nurse patient safety competency. *Clinical Simulation in Nursing*, 13(12), 628–633. <https://doi.org/10.1016/j.ecns.2017.08.006>
- McLean, M., Cilliers, F., & Van Wyk, J. M. (2008). Faculty development: Yesterday, today and tomorrow. *Medical Teacher*, 30(6), 555–584. <https://doi.org/10.1080/01421590802109834>
- Mikkonen, K., Koskinen, M., Koskinen, C., Koivula, M., Koskimäki, M., Lähteenmäki, M. L., et al. (2020). Qualitative study of social and healthcare educators' perceptions of their competence in education. *Nurse Education Today*, 84, Article 104204. <https://doi.org/10.1016/j.nedt.2019.104204>
- Nalevska Popovska, G. (2026). The interplay between creative production and emotional experience: The influence of emotional states and creativity motivation among university students. *Journal of Research in Education and Pedagogy*, 3(1), 120–129. <https://doi.org/10.70232/jrep.v3i1.156>
- Oducado, R. M. F., Rabacal, J., Moralista, R., & Tamdang, K. (2020). Perceived stress due to COVID-19 pandemic among employed professional teachers. *International Journal of Educational Research and Innovation*, 15, 305–316. <https://doi.org/10.46661/ijeri.5284>
- Popovska Nalevska, G., & Kuzmanovska, M. (2020). Teaching methods as a factor of students' learning motivation. *Education*, 2(3–4), 40–50. <https://eprints.unite.edu.mk/582/>
- Prince, M. (2004). Does active learning work? A review of the research. *Journal of Engineering Education*, 93(3), 223–231. <https://doi.org/10.1002/j.2168-9830.2004.tb00809.x>
- Quintana Alonso, R., Miana Ortega, M., Chamorro Rebollo, E., García Redondo, E., García Isidoro, S., & Cieza García, J. A. (2023). Competency model for academic excellence in nursing educators. *Educación Médica*, 24(2), Article 100794. <https://doi.org/10.1016/j.edumed.2023.100794>
- Wu, X. V., Chi, Y., Selvam, U. P., Devi, M. K., Wang, W., Chan, Y. S., et al. (2020). A clinical teaching blended learning programme to enhance registered nurse preceptors' teaching competencies: Pretest and posttest study. *Journal of Medical Internet Research*, 22(4), Article e18604. <https://doi.org/10.2196/18604>
- Yahya, L. H., Naciri, A., Radid, M., & Chemsí, G. (2024). Immersive simulation in nursing and midwifery education: A systematic review. *Journal of Education Evaluation for Health Professions*, 21, Article 19. <https://doi.org/10.3352/jeehp.2024.21.19>
- Yoo, M. S., & Park, H. R. (2015). Effects of case-based learning on communication skills, problem-solving ability, and learning motivation in nursing students. *Nursing and Health Sciences*, 17(2), 166–172. <https://doi.org/10.1111/nhs.12151>
- Yoo, M. S., Yoo, I. Y., & Lee, H. (2010). Nursing students' self-evaluation using a video recording of Foley catheterization: Effects on competence, communication skills, and learning motivation. *Journal of Nursing Education*, 49(7), 402–405. <https://doi.org/10.3928/01484834-20100331-03>
- Zainuddin, Z., Chu, S. K. W., Shujahat, M., & Perera, C. J. (2020). The impact of gamification on learning and instruction: A systematic review. *Educational Research Review*, 30, Article 100326. <https://doi.org/10.1016/j.edurev.2020.100326>
- Zhang, Z., Hoxha, L., Aljughaiman, A., Gomez-Arizaga, M. P., Gucyeter, S., Ponomareva, I., et al. (2018). Creativity motivation construct development and cross-cultural validation. *Psychological Test and Assessment Modeling*, 60(4), 517–530. <https://aljughaiman.net/wp-content/uploads/2019/01/Creativity-motivation-construct-development-and-cross-cultural-validation.pdf>

Multigrade teaching strategies and teacher performance in rural elementary schools in the Schools Division of Ilocos Sur

Cabotage, Desiree M. ✉

Don Mariano Marcos Memorial State University, Philippines (desiree.cabotage@deped.gov.ph)



ISSN: 2243-7703

Online ISSN: 2243-7711

Received: 2 August 2026

Available Online: 16 August 2026

Revised: 13 August 2026

DOI: 10.5861/ijrse.2026.26381

Accepted: 15 August 2026

OPEN ACCESS

Abstract

Multigrade teaching still plays an important role in elementary institution in rural and isolated geographically areas of the Philippines, especially in the Division of Ilocos Sur, because of the scarcity of educational materials and facilities, lack of teachers, decreasing enrollment, and spread-out communities that impact the provision of quality basic education. In the majority of the public elementary school, one teacher conducts instruction to two or more classroom at once. It means that there is need to adopt flexible teaching strategies as well as good classroom management skills. The current literature review provides a summary of twenty (20) papers published between 2015-2023, using thematic analysis of academic journals, educational policies and government documents, and Philippine-based research. Multigrade teaching strategies and the effect they have on teacher effectiveness are the topics of the review. The significant themes were identified from the findings: (a) instructional approaches in multigrade classes, (b) teacher pedagogical competence and performance, and (c) constraints and instructional support system. The findings show that differentiated instruction, peer-tutoring, collaborative and cooperative instructions, grouping methods, contextualized instruction, and classroom management are among the factors that enhance instruction and promote learner participation in multigrade classes. Based on the findings presented from the reviewed literature, teacher with pedagogical competence, adaptability, instructional planning abilities, and assessment knowledge exhibit greater performance in multigrade classes even under difficult teaching circumstances. However, teacher pedagogical performance is inhibited by excessive workload, additional assignment, insufficient preparation of teachers in terms of preserve and in-services education for multigrade instruction, lack of instructional resources, poor classroom facilities, and limited opportunities for professional development. The review further underscores the significance of school leadership, mentoring, Learning Action Cell or LAC, stakeholders engagement, and institution-based strategies in promoting effective teaching and ensuring quality instruction in multigrade schools. Even as numerous pieces of research have been conducted in relation to multigrade school or in multigrade teaching and learning, there is

still a considerable gap in localized and longitudinal research in regards to multigrade elementary school within the Division of Ilocos Sur and other parts of rural are of the Philippines. It is thus recommended that there should be continued efforts in professional development, allocation of resources, instructional supervision, and educational policy-making that will take into account the challenge faced by multigrade teacher.

Keywords: multigrade teaching, teacher performance, rural education, instructional strategies, elementary schools, Schools division of Ilocos Sur

Multigrade teaching strategies and teacher performance in rural elementary schools in the Schools Division of Ilocos Sur

1. Introduction

Multigrade teaching is an instructional arrangement in which one teacher simultaneously teaches learners from two or more grade levels in the same classroom. The arrangement is especially relevant in rural and geographically isolated communities where student populations are small, schools are widely dispersed, and staffing or infrastructure may be insufficient to maintain a separate class for every grade level. In such settings, multigrade education is not merely an organizational alternative; it is often an important means of sustaining access to basic education.

The instructional demands of a multigrade classroom differ substantially from those of a conventional single-grade class. Teachers must coordinate more than one curriculum, plan tasks at different levels of complexity, manage transitions among groups, monitor independent and peer-assisted learning, and assess learners who differ in age, grade placement, prior knowledge, and learning needs. These demands make instructional organization and classroom management central to teacher effectiveness. Flexible grouping, differentiated instruction, peer tutoring, cooperative learning, self-paced activities, and well-designed learning materials have therefore been emphasized as potentially useful strategies in multigrade classrooms (Brown & Park, 2020; Jimenez & Cruz, 2020; Nguyen, 2021; Pridmore, 2017).

The effectiveness of multigrade teaching, however, cannot be attributed to instructional strategy alone. Teachers operate within organizational and material conditions that may either enable or constrain good practice. Research cited in the existing manuscript associates multigrade teacher performance with pedagogical competence, professional preparation, experience, workload, access to instructional resources, and institutional support (Flores, 2022; Lopez, 2023; Perez & Villanueva, 2022; Reyes, 2021; Singh, 2018). These conditions are particularly salient in remote schools, where teachers may face additional responsibilities and limited opportunities for professional development.

In the Schools Division of Ilocos Sur, multigrade classes are found across a number of rural and geographically dispersed communities. Although the broader literature describes common strategies and challenges, localized evidence is needed to determine which practices are most frequently used and which are most closely associated with teacher performance in this specific context. A context-sensitive analysis is important because the usefulness of a strategy may depend on class composition, available materials, school leadership, community support, and teachers' experience with multigrade instruction.

Accordingly, the present study is designed to examine multigrade teaching strategies and teacher performance among public elementary school teachers in the Schools Division of Ilocos Sur. It seeks to document current practices, describe teachers' performance, and test whether the frequency or extent of strategy use is significantly related to teacher performance. By focusing on an underexamined local setting, the study aims to provide evidence that can support professional development, instructional supervision, resource planning, and policy decisions for multigrade schools.

2. Literature Review

2.1 Instructional Strategies in Multigrade Classrooms

Research on multigrade instruction consistently emphasizes the need for flexible teaching arrangements. Differentiated instruction is particularly relevant because a single class may include learners working toward

different grade-level competencies. Rather than delivering identical tasks to all learners, teachers may vary content, process, learning materials, pacing, and expected products according to learner readiness and curriculum requirements. Brown and Park (2020) associated differentiated instruction with stronger teacher effectiveness, while Pridmore (2017) emphasized pedagogical adaptation as a central feature of multigrade teaching.

Flexible grouping is another frequently identified strategy. Learners may be grouped by grade level for selected competencies, by skill level for targeted practice, or across grade levels for cooperative activities. Such grouping can allow the teacher to provide direct instruction to one group while other learners engage in structured independent or collaborative work. Peer tutoring extends this principle by allowing more advanced learners to support classmates who require additional assistance. Jimenez and Cruz (2020) reported that peer tutoring can help maximize instructional time and support classroom management in multigrade settings.

Active and cooperative learning can also reduce excessive dependence on whole-class teacher talk. Nguyen (2021) emphasized active learning as a means of increasing student participation. In a multigrade classroom, collaborative routines, learning stations, activity sheets, and peer-directed tasks can create productive learning time while the teacher attends to another group. The effectiveness of these approaches nevertheless depends on careful planning, explicit routines, and instructional materials that learners can use with an appropriate degree of independence.

Time management is therefore inseparable from instructional strategy. Teachers must sequence direct teaching, independent work, peer-assisted activities, assessment, and transitions in ways that minimize idle time. Rotational teaching can help distribute teacher attention across grade groups, while self-paced tasks allow learners to continue working when direct teacher support is temporarily focused elsewhere. These strategies require strong classroom organization and clear expectations for learner behavior.

2.2 Teacher Competence and Performance

Teacher competence is a major condition for successful multigrade instruction. In the literature included in the original paper, competence encompasses pedagogical knowledge, lesson planning, classroom management, assessment, adaptability, and the capacity to use available resources effectively. Flores (2022) linked stronger pedagogical and classroom management competence with higher instructional performance, and Reyes (2021) highlighted the role of professional development in strengthening multigrade teaching competencies.

Experience may also shape how teachers respond to the complexity of multigrade classrooms. Teachers with greater familiarity with multigrade settings may be better able to anticipate transition problems, prepare tiered learning activities, and allocate instructional time across groups. Lopez (2023) similarly identified training, experience, and resource availability as important influences on teacher effectiveness. These findings suggest that teacher performance should be interpreted as the product of both individual competence and the conditions under which teaching occurs.

The present study conceptualizes teacher performance as the overall effectiveness demonstrated in delivering instruction, managing the classroom, assessing learners, and fulfilling professional responsibilities. Where permitted and available, official performance evaluation records may provide a complementary indicator to teachers' self-reported practices. This combination can strengthen the interpretation of relationships between instructional strategies and performance.

2.3 Challenges and Institutional Support

Multigrade teachers often work under conditions that intensify ordinary teaching demands. Limited instructional materials, inadequate preparation specifically for multigrade teaching, overlapping responsibilities, and heavy workload are recurring concerns in the literature (Collingwood, 2019; Perez & Villanueva, 2022; Singh, 2018). When teachers must prepare multiple sets of lessons and assessments while also carrying administrative or

community responsibilities, even well-designed strategies may be difficult to sustain.

Institutional support can moderate these constraints. School leadership, mentoring, school-based professional learning, and access to relevant instructional resources can help teachers refine classroom routines and share workable practices. Policy support is also important because multigrade education requires staffing, training, supervision, and material provision that recognize the distinct demands of the setting (Kabita & Ji, 2018; UNESCO, 2015).

The literature therefore points to a systemic interpretation of multigrade teacher performance. Instructional strategies matter, but their effectiveness is likely to depend on competence, workload, resources, and organizational support. This reinforces the need for localized research that considers not only which strategies teachers report using, but also how those strategies relate to observed or formally evaluated performance within a specific school division.

2.4 Theoretical and Conceptual Framework

The study is informed by complementary perspectives on classroom management, constructivist learning, and differentiated instruction. Together, these perspectives explain why instructional organization, learner engagement, task design, and adaptation to learner differences are especially important in multigrade classrooms. Classroom management theory emphasizes the teacher's capacity to maintain the flow of instruction, monitor classroom activity, prevent unnecessary disruption, and sustain learner engagement. In multigrade classrooms, these functions are particularly important because learners frequently shift among direct instruction, independent work, and peer-supported activities. Effective management is therefore understood not merely as discipline, but as the organization of time, space, routines, grouping, and instructional transitions in ways that maximize learning opportunities.

Constructivist perspectives emphasize that learners actively develop understanding through engagement with tasks, prior knowledge, social interaction, and reflection. This supports the use of learner-centered activities, peer learning, cooperative tasks, and contextualized instruction. Such approaches can be especially useful when the teacher cannot provide continuous direct instruction to every grade group at the same time.

Differentiated instruction provides a practical bridge between these theoretical perspectives and multigrade teaching. Because learners in a multigrade classroom differ by grade level, readiness, and learning need, teachers must adapt materials, tasks, pacing, and assessment. Flexible grouping, varied worksheets, tiered activities, peer tutoring, rotational teaching, and self-paced learning can be understood as operational expressions of differentiation within a managed classroom environment.

Conceptually, the study treats multigrade teaching strategies as the principal predictor and teacher performance as the principal outcome. Teacher characteristics such as age, sex, educational attainment, and years of experience teaching multigrade classes will be described and may be considered in the interpretation of findings. The study also recognizes that contextual factors such as available resources, workload, and institutional support may influence the extent to which teaching strategies can be implemented effectively.

2.5 Research Questions

- What is the profile of multigrade teachers in the Schools Division of Ilocos Sur in terms of age, sex, highest educational attainment, and years of experience teaching multigrade classes?
- To what extent do multigrade teachers report using practices related to (a) classroom instructional preparation and management, (b) evaluation of instruction, (c) preparation and utilization of instructional materials, (d) school-community relations, (e) time management, (f) homeroom guidance, and (g) school-ground improvement?

- What is the level of teacher performance among multigrade teachers in the Schools Division of Ilocos Sur?
- Which multigrade teaching practices are most strongly associated with teacher performance?
- Is there a statistically significant relationship between the frequency of using multigrade teaching strategies and teacher performance?

3. Method

Research Design - The study will use a quantitative descriptive-correlational research design. The descriptive component will summarize teacher characteristics, the reported use of multigrade teaching strategies, and the level of teacher performance. The correlational component will examine the direction and strength of relationships between teaching strategies and teacher performance. This design is appropriate because the study seeks to examine naturally occurring variation in instructional practices without manipulating teachers' classroom conditions.

Setting and Participants - Participants will be public elementary school teachers who handle multigrade classes in the Schools Division of Ilocos Sur. The source document identifies multigrade settings across several districts and municipalities, including Alilem, Banayoyo-Lidlidda, Bantay, Burgos-San Esteban, Cabugao, Caoayan, Cervantes, Galimuyod-Sigay-Del Pilar, Magsingal, Nagbukel, Narvacan North, Narvacan South, Quirino, Salcedo, San Emilio, San Juan, San Vicente, Santa, Santiago, Sinait, Sta. Catalina, Sta. Cruz, Sta. Maria, Sto. Domingo-San Ildefonso, Sugpon, and Tagudin. The final manuscript should report the exact sampling frame, eligibility criteria, sampling procedure, number invited, and achieved sample after data collection.

Variables and Measures - The principal predictor is the use of multigrade teaching strategies. The planned survey will assess practices in classroom instructional preparation and management, evaluation of instruction, preparation and utilization of instructional materials, school-community relations, time management, homeroom guidance, and school-ground improvement. The instrument should specify the response scale, scoring procedure, source or development of items, and evidence of content validity and reliability before journal submission. Teacher performance is the principal outcome. The source document indicates that performance may be assessed through a structured questionnaire and may be supplemented, where available and institutionally permitted, by official Department of Education performance records such as the Individual Performance Commitment and Review Form (IPCRF). If multiple indicators are used, the final manuscript should explain whether they are analyzed separately or combined and should describe the scoring and interpretation of each indicator. Teacher profile variables will include age, sex, highest educational attainment, and years of experience teaching multigrade classes. These variables will be used to describe the sample and may be examined as covariates or grouping variables where analytically appropriate.

Data Sources and Data Collection - Primary data will be collected from teachers handling multigrade classes through a structured survey questionnaire. Subject to permission and data-access requirements, additional information may be obtained from school heads or official school records to validate teacher performance indicators. Secondary sources may include school profile documents and relevant Department of Education policies pertaining to multigrade education. Prior to full administration, the questionnaire should undergo expert review and pilot testing to examine clarity, relevance, and internal consistency. Data collection procedures should minimize pressure on participants and protect the confidentiality of responses. The final report should document the dates of data collection, mode of administration, response rate, handling of incomplete responses, and any procedures used to link survey data with official performance records.

Data Analysis - Data analysis will begin with screening for missing, invalid, or out-of-range responses. Frequencies and percentages will be used to summarize categorical teacher characteristics, while means, standard deviations, or other appropriate descriptive statistics will summarize strategy-use and performance scores. Internal consistency estimates should be reported for multi-item scales. Bivariate associations between multigrade teaching strategy scores and teacher performance will be examined using an appropriate correlation coefficient based on the scale properties and distribution of the variables. If the assumptions for Pearson's correlation are met, Pearson's r may be used; otherwise, a rank-based alternative may be more appropriate. To identify the strategies most strongly associated with performance while accounting for teacher characteristics, the final analysis may use multiple regression or another model suitable for the measurement level of the performance outcome. Statistical assumptions, effect sizes, confidence intervals, and exact p values should be reported in addition to significance tests.

Ethical Considerations - Before data collection, the study should obtain the permissions and ethical review required by the researcher's institution and the relevant education authorities. Participation should be voluntary, and teachers should receive clear information about the study purpose, procedures, confidentiality protections, potential risks, and their right to decline or withdraw without penalty. If official performance records are accessed, data-linkage procedures should use only the minimum identifying information necessary and should separate identifiers from the analytic dataset as early as possible.

Anticipated Contributions and Implications - The study is expected to contribute localized evidence about the instructional practices of multigrade teachers in Ilocos Sur. At the classroom level, identifying strategies associated with stronger teacher performance may help teachers prioritize approaches that support instructional delivery, classroom organization, learner participation, and assessment across multiple grade levels. At the school level, the findings may help school heads design more targeted professional development and instructional supervision. Rather than treating multigrade teaching as a smaller version of single-grade instruction, capacity-building activities can focus on the specific competencies required for flexible grouping, differentiated materials, rotational teaching, assessment across grade levels, and management of independent or peer-assisted learning.

At the policy level, the study may inform decisions concerning teacher deployment, professional development, instructional materials, and support mechanisms for rural multigrade schools. If performance is strongly associated with resource or support-related conditions, the findings may also indicate that improvement efforts should address organizational constraints rather than placing responsibility solely on individual teachers. The study may additionally provide a baseline for subsequent longitudinal or intervention research. Because the present design is correlational, it will not establish that a particular strategy causes higher performance. Future research could examine changes in teacher practice and learner outcomes following professional development or school-based interventions and could compare multigrade contexts across districts or provinces.

4. Conclusion

Multigrade education remains essential in rural and geographically dispersed communities where conventional single-grade organization is not always feasible. Effective multigrade teaching requires more than additional effort from teachers; it requires deliberate instructional strategies, strong classroom organization, appropriate materials, professional competence, and institutional support. The proposed study will examine how multigrade teaching strategies relate to teacher performance in the Schools Division of Ilocos Sur and will provide context-specific evidence for practice, supervision, professional development, and policy. By documenting both the strategies teachers use and their relationship with performance, the study can help clarify where support for multigrade education should be concentrated.

5. References

Berry, C., & Little, A. W. (2018). Multigrade teaching in primary schools: A global perspective. *International*

- Review of Education*, 64(2), 123–140.
- Brown, B. A., & Park, M. (2020). Instructional strategies in multigrade classrooms and teacher effectiveness. *Journal of Educational Research*, 113(4), 245–259.
- Collingwood, I. (2019). Teaching in multigrade classrooms: Challenges and solutions. *Teaching and Teacher Education*, 85, 101–110.
- de la Cruz, R. M., & Santos, J. P. (2021). Multigrade teaching practices in Philippine elementary schools. *Philippine Journal of Education*, 98(1), 45–60.
- Flores, M. T. (2022). Teacher performance in multigrade settings: A competency-based analysis. *Asia Pacific Journal of Education*, 42(3), 312–328.
- Hargreaves, E. (2017). Multigrade teaching and student achievement in rural schools. *Comparative Education Review*, 61(3), 455–478.
- Jimenez, A. L., & Cruz, M. F. (2020). Instructional strategies of multigrade teachers in public elementary schools. *Journal of Curriculum Studies*, 52(2), 189–204.
- Kabita, D., & Ji, L. (2018). Multigrade teaching: Improving quality education in rural areas. *Education Development Journal*, 29(1), 33–49.
- Lopez, S. R. (2023). Teacher effectiveness in multigrade classrooms in the Philippines. *Educational Practice and Theory*, 45(2), 201–218.
- Mason, D., & Burns, R. B. (2019). Multigrade classrooms: Organizational and instructional strategies. *Educational Administration Quarterly*, 55(1), 67–90.
- Nguyen, T. H. (2021). Multigrade teaching strategies and learner outcomes. *International Journal of Educational Development*, 79, Article 102115.
- Perez, J. R., & Villanueva, C. A. (2022). Challenges faced by multigrade teachers in elementary schools. *Journal of Teacher Education and Development*, 15(3), 89–103.
- Pridmore, P. (2017). Adapting pedagogy for multigrade classrooms. *Journal of Educational Change*, 18(2), 145–162.
- Quimbo, M. A., & Torres, L. (2020). Multigrade instruction and teacher performance in rural Philippine schools. *Southeast Asian Education Review*, 12(4), 215–230.
- Reyes, M. C. (2021). Competency and performance of multigrade teachers. *Philippine Educational Measurement Journal*, 8(2), 55–72.
- Sharma, U., & Chen, D. (2019). Teaching strategies in multigrade classrooms: A systematic review. *Review of Education*, 7(3), 410–430.
- Singh, P. (2018). Teacher workload and performance in multigrade schools. *International Journal of Rural Education*, 34(1), 90–108.
- Torres, R. M. (2023). Enhancing teacher performance in multigrade elementary education. *Asian Journal of Education and Training*, 9(1), 22–38.
- UNESCO. (2015). *Multigrade teaching in primary education: Policy and practice*. UNESCO Publishing.
- Wenglinsky, H. (2017). Instructional practices and student achievement in multigrade settings. *Educational Evaluation and Policy Analysis*, 39(4), 512–530.

Evaluating ChatGPT-4 as an automated essay scoring tool: A comparative study with human raters in Greek upper secondary education

Koskinas, Emmanouil

Democritus University of Thrace, Greece (koskinas.manolis@gmail.com)

Dosi, Ifigeneia

Democritus University of Thrace, Greece (idosi@hs.duth.gr)

Chadjipapa, Elina ✉

Democritus University of Thrace, Greece (elina@hotmail.com)

Gavriilidou, Zoe

Democritus University of Thrace, Greece (zoegab@otenet.gr)



ISSN: 2243-7703
Online ISSN: 2243-7711

OPEN ACCESS

Received: 28 July 2026

Available Online: 16 August 2026

Revised: 8 August 2026

DOI: 10.5861/ijrse.2026.26368

Accepted: 15 August 2026

Abstract

This study examined the agreement between ChatGPT-4 Plus and experienced human raters in the assessment of argumentative essays written by Greek upper secondary school students. Specifically, it investigated (a) the degree of agreement between ChatGPT and human raters and (b) the relative contribution of content, text organization, and language (vocabulary and grammar) to overall writing scores. The dataset comprised 267 argumentative essays that had previously been evaluated by trained educators using the official Greek Ministry of Education scoring rubric. The same essays were subsequently assessed by ChatGPT-4 Plus using standardized prompting procedures. Results indicated moderate to good agreement between ChatGPT and human raters for both overall and trait-level scores, with agreement comparable to that observed between the two human raters. No significant differences were found in overall scores. At the trait level, however, ChatGPT assigned significantly higher scores for content, whereas human raters assigned higher scores for language; no significant differences emerged for text organization. Regression analyses showed that all three scoring components contributed significantly and relatively evenly to overall scores in both scoring systems, although ChatGPT demonstrated stronger intercorrelations among the scoring dimensions. Overall, the findings suggest that ChatGPT-4 Plus shows considerable promise as an automated essay scoring tool in Greek secondary education. However, systematic differences in evaluative emphasis indicate that it is currently best viewed as a complementary tool rather than a replacement for expert human judgment, particularly in high-stakes writing assessment.

Keywords: automated essay scoring, assessment tool, human raters, ChatGPT, Greek Upper Secondary Education

Evaluating ChatGPT-4 as an automated essay scoring tool: A comparative study with human raters in Greek upper secondary education

1. Introduction

The assessment of student writing has long been a cornerstone of language education and language testing, with implications for academic placement, curriculum development, and individual learner trajectories. Even so, the process of grading written assignments can be frustrating and overwhelming for teachers (Tsai, 2012). In recent years, the advent of Automated Essay Scoring (AES), Automated Essay Evaluation (AEE) and Automated Essay Grading (AEG) systems have introduced new paradigms for evaluating written language, offering the promise of efficiency, consistency, and scalability, although still controversial in several respects, but ultimately promising (Hockly, 2019). After all, the struggle for an “intelligent” system that can assist humans in education has a long history (Cope et al., 2021). The Automated Writing Evaluation (AWE) programs ultimately apply psychometric analyses to writing evaluation (Warschauer & Ware, 2006).

Among these systems, the emergence of large language models (LLMs), such as OpenAI's ChatGPT, has generated renewed interest and scrutiny regarding their potential role in educational assessment. After all, the use of AI is like utilizing hundreds if not thousands of human assessors to work in unison (Richardson & Clesham, 2021). That was a major breakthrough, since former AWE systems relied on quantitative computing methods for evaluation, overlooking the qualitative aspects since it was difficult to measure effectively in real life writing tasks (Huawei & Aryadoust, 2023). As a matter of fact, OpenAI's GPT -3, introduced in 2020, was a Natural Language Processing System (NLP) trained on a large corpus of text, being supervised and labelled, a process known as “fine-tuning” (Rudolph et al., 2023). This massive deep-learning language model contains approximately 1.3 billion parameters (Anson & Straume, 2022). These Neural Nets are multilayered statistical sequences for machine learning with human-like results (Cope et al., 2021). Even so, surprisingly enough, in the functionalities described in Anson and Straume (2022), the role of ChatGPT as an assessment tool for student essays is not included.

Nevertheless, there is still limited research on the topic of the implementation of ChatGPT in education, especially in assessment (Rudolph et al., 2023). Focusing on the use and implications of this topic is critical, as research suggests that the rapid advancement of AI is likely to transform education and human involvement in many tasks, potentially surpassing human performance—even in domains such as high school essay writing (estimated by 2026) (Grace et al., 2018).

This study examines the agreement between ChatGPT-4 Plus and experienced human raters in scoring authentic Greek upper secondary student essays using standardized national assessment criteria, providing evidence from a non-English, high-stakes educational context

2. Literature Review

2.1 Human vs Machine Writing Assessment®

Research comparing human and machine-based scoring of writing has proliferated in recent years, particularly in response to the increasing integration of AES tools in educational contexts (Koskinas et al., 2024; McCurry, 2010; Klobucar et al., 2013; Bridgeman & Ramineni, 2017). McCurry (2010) questioned whether machine scoring could handle open-ended, creative responses with the same interpretative flexibility as human readers, noting a performance gap in evaluating nuanced features like rhetorical strategy. Similarly, Klobucar et al. (2013) found that while AES systems achieved speed and consistency, they often lacked sensitivity to contextual factors influencing writing quality. Bridgeman and Ramineni (2017) emphasized the importance of aligning AES scoring

with authentic classroom practices to ensure contextual validity. Cope et al. (2021) proposed four transpositions for applying AI in education, namely: namability, calculability, measurability and representability to call this process reliable and trustworthy. In this validity argument Enright and Quinlan (2010) suggest evaluation, generalization, extrapolation and utilization. Finally, Koskinas et al. (2024) developed an AES (lexiscore®) taking into account the differential role of different categories to the assessment.

Although these studies collectively demonstrate significant advances in AES development, they also reveal an ongoing tension between computational efficiency and the complex, multidimensional nature of writing assessment. Most AES systems perform well when evaluating quantifiable linguistic features, yet they continue to struggle with higher-order dimensions such as creativity, audience awareness, critical reasoning, and communicative effectiveness. This suggests that improvements in scoring accuracy do not necessarily translate into improved construct representation, raising important questions regarding what AES systems actually measure and whether these measures fully reflect contemporary conceptions of writing competence.

More recent research has focused on the hybridization of scoring approaches. Enright and Quinlan (2010) proposed using AES systems to supplement, rather than replace, human raters in scoring essays by English language learners. Their findings suggested that e-rater® scores could enhance scoring reliability when used as a complement to human evaluation. Similarly, Chan et al. (2023) applied Rasch measurement to AES outputs, advocating for more nuanced, facet-based assessments. This hybrid approach was echoed by Attali et al. (2013), who proposed alternative procedures to enhance reliability through model-based calibration and iterative training of human raters. Furthermore, Ramineni and Williamson (2013) laid out psychometric guidelines for AES practices, reinforcing the necessity of transparency and validity in automated evaluation systems.

However, while hybrid assessment models are increasingly viewed as a practical compromise, relatively little consensus exists regarding the optimal balance between automated and human judgment. The literature frequently assumes that combining both approaches inherently improves assessment quality, yet empirical evidence regarding the contribution of each component across different educational contexts, genres, and learner populations remains limited. Consequently, further investigation is needed to determine under which conditions hybrid scoring provides meaningful advantages over either human or automated assessment alone.

2.2 *Validity and Reliability in AES Systems*

Validity and reliability remain the baseline of educational measurement (Bejar et al., 2014; Lee et al., 2009; Weigle, 2010). AES tools have been rigorously critiqued for potential construct underrepresentation and vulnerability to construct-irrelevant variance. Bejar et al. (2014) illustrated how AES systems could be misled by surface-level lexical or syntactic features, thus rewarding stylistic flourishes over substantive argumentation—a finding further supported by Vögelin et al. (2019).

Lee et al. (2009) developed a framework linking holistic and analytic scores with text features, revealing inconsistencies between human judgments and AES outputs. Similarly, Deane (2013) questioned the alignment of AES metrics with contemporary theories of writing, advocating for models that incorporate metacognitive, genre-based, and rhetorical constructs. Reiter and Belz (2009) contributed a technical evaluation of AES metrics' validity, raising concerns about model transparency and the explainability of AES decisions.

Collectively, these studies indicate that validity concerns extend beyond statistical agreement between AES and human raters. High correlations may obscure fundamental differences in the constructs being assessed, particularly if automated systems rely disproportionately on linguistic proxies rather than the communicative intent or argumentative quality of a text. Therefore, evidence of scoring consistency should not be interpreted as sufficient evidence of construct validity.

Douglas and Hegelheimer (2007) emphasized the significance of construct validity in computer-based assessment systems, noting that while automation enhances efficiency, it must not come at the expense of construct

coverage or interpretative fairness. Chapelle (1999) also addressed the foundational question of validity in language assessment, underscoring the need to align technological tools with credible assessment theory.

These theoretical perspectives remain particularly relevant in the era of AI-driven assessment, where increasingly sophisticated machine learning models often exhibit high predictive performance while providing limited interpretability. This creates a potential conflict between predictive accuracy and assessment transparency, especially in high-stakes educational settings where score explanations and fairness are essential components of validity.

Despite these concerns, AES systems have shown promising reliability metrics in controlled settings (Keller-Margulis et al., 2021). The work of Latifi and Gierl (2021) using Coh-Metrix features demonstrated successful AES applications in large-scale testing, although with caveats regarding genre and language level. In this regard Koskinas et al. (2024) found credible evidence for estimating the role of specific language features to overall assessment.

Nevertheless, the strong reliability reported in experimental and standardized contexts may not generalize to authentic classroom environments characterized by greater linguistic diversity, varied writing purposes, and heterogeneous learner populations. Consequently, future research should place greater emphasis on external validity, cross-context generalizability, and the ethical implications of AES implementation. Such work would help determine whether reliable automated scoring can also support equitable, pedagogically meaningful, and transparent assessment practices.

2.3 Writing assessment in the Greek Secondary Education Context

Writing assessment in the Greek secondary education system adheres to strict national rubrics, particularly in the upper levels (Koskinas et al., 2024). These rubrics are designed to ensure transparency, comparability, and fairness in high-stakes examinations, and they form the evaluative framework adopted in the present study. They comprise three interrelated dimensions that collectively capture argumentative quality, textual organization, and lexical sophistication.

More specifically, regarding the argumentative clarity, this criterion assesses the extent to which a student's central claim and supporting arguments are expressed in a precise, transparent, and logically accessible way. A text is considered strong in argumentative clarity if the thesis statement is explicitly identifiable, if the stance taken is not ambiguous, and if every argument contributes directly to the defense or development of that stance. In fact, argumentative writing is a high-stake task in standardized tests such as Scholastic Aptitude Test (SAT) since it demands structural, dialogical and language aspect of argumentation (Su et al., 2023).

On the other hand, coherence of structure evaluates how well the overall organization of the text contributes to its persuasiveness and readability. A coherent organization is marked by a logical progression of ideas from introduction to conclusion, with each paragraph serving a clear rhetorical function. Topic sentences, transitions, and signposting expressions play an essential role in maintaining this coherence, as they guide the reader through the argument.

Lexical accuracy focuses on the precision, appropriateness, and correctness of word choice. Lexical accuracy encompasses not only the avoidance of grammatical or vocabulary errors but also the ability to select terms that capture nuanced meaning and adhere to the register expected in academic writing. For instance, the use of discipline-specific terminology enhances credibility, while avoidance of vague or colloquial expressions ensures alignment with academic conventions.

1

The study underscores that evaluation cannot be divorced from cultural and educational contexts. Criteria developed in students' first language (L1) environments are shaped by local rhetorical traditions and expectations

of formality (Koskinas et al., 2024). Thus, what counts as “clear”, “coherent”, or “accurate” is partially determined by academic and cultural norms. Recognizing this interplay ensures that rubrics are applied not in a vacuum but with sensitivity to the broader frameworks that shape student writing. In addition, literature suggests that the relationship between the aforementioned parameters and the overall text quality is considered obscure (Lumley, 2002). The last remark should be taken into consideration, when we treat human assessment as norm or standard, even though the acceptance of human scoring is high (Enright & Quinlan, 2010). Zhang and Yuan (2022) demonstrated that machine learning approaches using Natural Language Processing (NLP) can identify compositional elements related to coherence and cohesion, which are often emphasized in writing rubrics. Nevertheless, this process seems to produce inadequate results on the overall assessment validity.

Furthermore, the high-stakes nature of writing evaluation in the Greek Secondary School, particularly in preparation for national university entrance exams, demands precision and fairness in scoring. The corpus of 267 texts used in this study, scored by veteran educators with national examination experience, provides a robust benchmark for comparative AES evaluation.

2.4 Theoretical Models of Writing Quality

Conceptualizing writing quality is foundational to both assessment design and interpretation (MacArthur et al., 2018; Read, 2023). After all, writing is social in its core and encompasses social purposes that writing directed solely toward a machine may violate this principle (Deane, 2013). Models of writing often encompass linguistic, cognitive, and sociocultural dimensions. MacArthur et al. (2018) identified linguistic predictors of writing quality, such as syntactic complexity and lexical diversity, as instrumental in evaluating developmental progress in student writing.

Read (2023) and Monteiro et al. (2023) have emphasized the growing sophistication in vocabulary assessment, particularly through the lens of semantic context indices and lexical sophistication. These findings are relevant for evaluating the vocabulary criterion within the Greek national rubric. Durrant and Brenchley (2023) explored the development of noun phrase complexity across genres in children’s writing, offering corpus-based insights that can inform AES calibration. Hwang and Kim (2023) proposed that syntactic complexity may serve as a predictor of writing proficiency, particularly for EFL learners.

Robinson (2001) examined how task complexity and production conditions influence linguistic output, a concern mirrored in AES contexts where prompt formulation may affect the quality and consistency of responses. Treffers-Daller et al. (2018) and Wingrove (2022) addressed lexical diversity and formulaic language, respectively, while Woods et al. (2023) advocated for a multi-measure approach to lexical diversity—highlighting its importance in evaluating argumentative writing.

Yu (2009), Mulder and Hulstijn (2011), and Nasser and Thompson (2021) further connected lexical diversity and syntactic complexity to CEFR levels and native speaker benchmarks. Zenker and Kyle (2021) cautioned that minimum text length must be considered when computing lexical indices, a factor of particular relevance to this study’s corpus. Albeit, the several processes implemented in mainstream AWE such as NLP or Latent Semantic Analysis (LSA) often present several limitations such as cultural backgrounds, the consideration of specific assessment purpose and -finally- the validity argument that mere statistical techniques fail to respond effectively (Elliot et al., 2013). Taking into account not only the number of parameters for an overall evaluation, but also monitoring the several interactions between them is a mountainous process with procedural complexities (Rotou & Rupp, 2020).

3. The Present Study

The literature reviewed reveals both the promise and the complexity of using automated systems to evaluate student writing. While AES tools have achieved notable success in large-scale testing scenarios, their alignment with construct-relevant traits, especially in linguistically and culturally specific contexts, remains an open question.

The integration of ChatGPT introduces further questions related to model transparency, adaptability, and sensitivity to rubric-based evaluation.

3.1 Research Questions

Given the Greek context, the high-stakes nature of writing assessment, and the availability of a well-documented, human-scored corpus, this study aims to address the following research questions:

1. To what extent does ChatGPT agree with experienced human raters in the evaluation of upper secondary students' written production using standardized national scoring criteria, and to what extent do the two differ in overall scores and trait-level components (content, organization, language)?
2. How do trait-level components (content, organization, language) contribute to overall writing scores, and to what extent do their relative weighting patterns differ between ChatGPT and human raters within the given culturally bounded educational context?

These questions seek to bridge the gap between technological potential and pedagogical reliability in writing assessment, with implications for the future integration of LLMs in educational evaluation.

3.2 Materials and Methods

A sample of 267 essays was collected from upper-secondary students (157 from second grade and 110 from third grade) enrolled in Greek public schools. The writing tasks were argumentative in nature and drawn from the Greek National Exam prompts, ensuring alignment with authentic educational assessment contexts (cf. Perelman, 2014; Shermis, 2014). All student data were anonymized in accordance with GDPR compliance protocols, which -we should note- are the same for both secondary and third grade essentially.

Each essay was independently evaluated by two experienced human raters, both certified educators trained in using the official Greek Ministry of Education rubrics. These rubrics include trait-specific components, content relevance and development, text organization, lexical and grammatical appropriateness, which served as the basis for both human and AI scoring (Zhang et al., 2022; Wilson et al., 2017). The mean grade from both raters is used as a final result.

3.2.2 Trait-Level Categorization

Trait-level dimensions -content, language (vocabulary/grammar), text organization-were coded and analyzed separately. Drawing from Zhang et al. (2022) and Aryadoust and Liu (2015), these components were operationalized as follows:

- Content: Relevance to the prompt, idea elaboration, and argument quality.
- Organization: Logical progression, paragraphing, coherence markers
- Language: Range, precision, and lexical sophistication

Furthermore, in alignment with the official guidelines of the Greek Ministry of Education, assessors are instructed to adopt the same trait-level dimensions when conducting evaluations. The detailed instructions governing this process together with the score corresponding to the student's performance, are set out below:

Content:

- 12-10 points: Excellent to very good response to all aspects of the topic. Excellent to very good, creative utilization of the main ideas and concepts of the reference text(s). Excellent to very good logical development of

ideas (coherence), within the word limit. Excellent to very good achievement of the communicative objective.

- 9-7 points: Very good to good response to all aspects of the topic. Very good to good creative exploitation of the main ideas and concepts of the reference text(s). Very good to good logical development of ideas (coherence), within the word limit. Very good to good achievement of the communicative objective.

- 6-4 points: Good to limited response to aspects of the topic. Good to limited exploitation of the main ideas and concepts of the reference text(s). Good to limited logical development of ideas (coherence), with slight exceeding of the word limit. Good to limited achievement of the communicative objective.

- 3-1 points: Limited to insufficient response to aspects of the topic. Limited to insufficient exploitation of the main ideas and concepts of the reference text(s). Limited to insufficient logical development of ideas (coherence), with greatly exceeding the word limit.

Text organization:

- 10-9 points: Excellent to very good text organization (coherence and logical progression of meanings, paragraphing and use of a wide variety of appropriate structural words). Excellent to very good utilization of the macrostructural features of the textual genre (e.g. address, diction, title, etc.). Excellent to very good ability to perform structural transformations to the reference text(s) (e.g. onomatopoeia, direct/indirect speech, density, etc.). Excellent to very good use of pragmatically appropriate style throughout the text.

- 8-7 points: Very good to good text organization (coherence and sequence of meanings, paragraphing, use of a small variety of appropriate structural words). Very good to good utilization of the macrostructural features of the textual genre (e.g. address, diction, title, etc.). Very good to good ability to perform structural transformations to the reference text(s) (e.g. onomatopoeia, direct/indirect speech, density, etc.). Very good to good use of pragmatically appropriate style throughout the text.

- 6-4 points: Good to limited text organization (coherence and sequence of meanings, paragraphing, use of limited variety or partially appropriate structural words). Good to limited utilization of the macrostructural features of the text genre (e.g. unsuccessful address, diction, title, etc.). Good to limited ability to structural transformations to the reference text(s) (e.g. unsuccessful nomenclature, unsuccessful conversion of direct/indirect speech, partial density, etc.). Good to limited use of pragmatically appropriate style (e.g. style mixing, pragmatically inappropriate style).

- 3-1 points: Limited to insufficient text organization (limited coherence and sequence of meanings, partial or total absence of paragraphing, absence of structural words). Limited to insufficient utilization of the macrostructural features of the textual genre (e.g. absence of address, diction, title, etc.). Limited to insufficient ability to structural transformations to the reference text(s) (e.g. absence of nomenclature, density, etc.). Limited to insufficient use of pragmatically appropriate style throughout the text (e.g. pragmatically inappropriate style).

Language (vocabulary/grammar):

- 8-7 points: Excellent to very good presence of a relatively broad of correct grammatical and syntactic structures, compatible with the communicative purpose, formulated with precision. Excellent to very good command of a wide range of appropriate lexical elements, compatible with the intended purpose and formulated with precision.

- 6-5 points: Very good to good presence of a relatively broad range of correct grammatical and syntactic structures, compatible with the communicative purpose, formulated with relative precision. Very good to good command of a wide range of relatively appropriate lexical elements, compatible with the intended purpose and formulated with relative precision.

- 4-3 points: Good to limited presence of correct grammatical and syntactic structures, compatible with the

intended purpose, formulated with precision. Good to limited presence of appropriate lexical elements, compatible with the intended purpose and formulated with precision.

- 2-1 points: Limited to insufficient presence of correct grammatical and syntactic structures, compatible with the intended purpose, formulated with precision. Limited to insufficient presence of appropriate lexical elements, compatible with the intended purpose and formulated with precision.

To evaluate ChatGPT performance on these traits, a comparative matrix was constructed matching AI scores against the mean human rater scores for each trait per essay.

ChatGPT Evaluation Protocol

The same 267 essays were input into OpenAI's ChatGPT-4 Plus, with clear prompts designed to simulate human rater behavior. This point is deemed crucial, since AI responds differently in differentiated feedback and is especially sensitive to prompt initial data, even in minor adjustments, in order to produce human-like responses (Barrot, 2023). During the initial stage of prompt design, the tool was assigned the role of evaluator to elicit more targeted and accurate outputs (Schulhoff et. Al, 2024). General guidelines were provided regarding the three parameters [content, language (vocabulary/grammar), text organization], followed by a detailed specification of the evaluation criteria associated with each parameter. These criteria were aligned with the official assessment rubric and served as the basis for determining the final scores assigned to each essay. For each essay, ChatGPT was instructed to generate both holistic and trait-level scores based on the official rubric descriptions. To reduce prompt variance and ensure replicability, all evaluations were conducted using a standardized template modeled after best practices in automated writing assessment (Guo et al., 2013; Shermis, 2014). The AI scoring sessions were conducted in a controlled environment with no external data access or contextual bias.

To ensure agreement and mitigate randomness in AI outputs, each essay was submitted two separate times using the same prompt, and the mean trait scores were recorded. This approach aligns with recent protocols in automated scoring research, emphasizing stability across runs (Vo et al., 2023).

The prompt was formulated in the Greek language, and its corresponding English translation is provided below:

“Assess the following written text, following the criteria applied by national examination context as an evaluator in national examinations would do.

In conducting the assessment, the following criteria should be taken into consideration: 1. Content, 2. Language of the written text 3. Text organization. Each criterion is to be evaluated separately. Do not take spelling errors into account when grading the written text. More specifically,

Content should be graded as follows: 12-10 points: Excellent to very good response to all aspects of the topic [...].

Language of the written text should be graded as follows: 8-7 points: Excellent to very good presence of a relatively broad of correct grammatical and syntactic structures, compatible with the communicative purpose, formulated with precision [...].

Text organization should be graded as follows: 10-9 points: Excellent to very good text organization (coherence and logical progression of meanings, paragraphing and use of a wide variety of appropriate structural words) [...].”

All the detailed instructions, as outlined in the previous subsection, were assigned to each trait-level.

3.3 Statistical Analysis

All analyses were conducted using IBM SPSS Statistics (version 30).

To address RQ1, which examined the degree of agreement between ChatGPT and human raters, inter-rater agreement was assessed using intraclass correlation coefficients (ICCs) based on a two-way mixed-effects model with absolute agreement and single measures. ICCs were calculated for overall scores as well as for each trait-level component [content, language (vocabulary/grammar), text organization]. In addition, paired-samples t-tests were conducted to compare mean differences between human raters and ChatGPT across overall and trait-level scores. Effect sizes were calculated using Cohen's d to assess the magnitude of observed differences.

To address RQ2, which investigated the contribution and relative weighting of trait-level components in overall scoring, Pearson correlation coefficients were computed to examine associations between each trait [content, language (vocabulary/grammar), text organization] and overall scores separately for human and ChatGPT ratings. Correlations among trait-level components were also examined to assess the degree of interrelatedness within each scoring system.

Subsequently, multiple linear regression analyses were conducted separately for human and ChatGPT ratings to examine the relative contribution of trait-level components to overall scores. In these models, overall score was treated as the dependent variable, while content, language (vocabulary/grammar), and text organization were entered simultaneously as contributors. Standardized regression coefficients (β) were used to compare the relative weighting of each component across rater groups.

Given the potential overlap among contributor variables, multicollinearity diagnostics were assessed using variance inflation factors (VIFs). Finally, because the overall score was derived from the same trait-level components within the scoring rubric, regression coefficients were interpreted as reflecting the relative weighting of components within each scoring system rather than independent prediction in a strict statistical sense.

3.4 Ethical Considerations

This research adheres to ethical guidelines for research involving AI and student writing. Students' identities were fully anonymized, and human raters were blinded to both student identities and AI scores in accordance with GDPR compliance protocols. All AI outputs were checked to ensure no content generation beyond evaluation occurred, in line with best practices for educational applications of large language models (Shermis, 2014).

4.1 Agreement between ChatGPT and human raters (RQ1)

To evaluate the agreement between ChatGPT and human raters, intraclass correlation coefficients (ICCs) were calculated. For the overall essay scores, agreement was moderate to good, $ICC = .67$, 95% CI [.59, .73], $p < .001$, indicating satisfactory consistency between ChatGPT and the human raters. At the trait level, agreement was comparable across the three scoring dimensions, with ICCs of .63 for content, .65 for text organization, and .65 for language (vocabulary and grammar), indicating moderate agreement across all traits.

For comparison, the agreement between the two human raters was $ICC = .65$, suggesting that ChatGPT achieved a level of agreement comparable to that observed between the human raters. In addition, ChatGPT demonstrated higher internal consistency across the three scoring dimensions ($ICC = .80$), indicating a more consistent application of the scoring criteria across traits.

Paired-samples t-tests were conducted to examine differences in mean scores between human raters and ChatGPT (see Table 1). Results indicated no statistically significant difference in overall scores ($t(266) = -1.29$, $p = .200$, $d = -0.08$). However, significant differences emerged at the trait level. ChatGPT assigned higher scores for content than human raters ($t(266) = -7.10$, $p < .001$, $d = -0.43$), whereas human raters assigned higher scores for language (vocabulary/grammar) ($t(266) = 3.11$, $p = .002$, $d = 0.19$). No significant difference was observed for text organization ($t(266) = 0.07$, $p = .946$, $d = 0.004$).

Table 1*Means (M), Standard Deviations (SD), and paired comparisons between human and ChatGPT scores.*

Variable	Human M (SD)	AI M (SD)	<i>t</i>	<i>p</i>	<i>d</i>
Content	69.5 (14.1)	75.1 (15.5)	-7.10	< .001	-0.43
Language (vocabulary/grammar),	69.4 (12.7)	66.6 (17.1)	3.11	.002	0.19
Text organization	71.8 (14.2)	71.8 (16.9)	0.07	.946	0.00
Total	70.3 (12.0)	71.2 (15.7)	-1.29	.200	-0.08

4.2 Contribution of trait-level components to overall scores (RQ2)

To examine the contribution of trait-level components to overall writing scores, Pearson correlations and multiple regression analyses were conducted separately for human and Pearson correlation analyses revealed strong positive associations between each trait-level component and overall writing scores for both human and ChatGPT ratings (see Table 2).

For human raters, correlations between trait-level components and overall scores ranged from $r = .87$ (text organization) to $r = .89$ (content), all $ps < .001$. Similarly, for ChatGPT, correlations ranged from $r = .87$ (text organization) to $r = .93$ (content), all $ps < .001$. Intercorrelations among trait-level components were moderate for human raters ($r = .63$ – $.70$) and notably higher for ChatGPT ratings ($r = .84$ – $.87$), suggesting that ChatGPT's trait-level evaluations are more strongly interrelated than those of human raters.

Table 1*Pearson correlations among trait-level components and overall scores for human and ChatGPT ratings (N = 267)*

Variable	1	2	3	4
Content	—	.87***	.86***	.93***
Language (vocabulary/ grammar)	.70***	—	.84***	.90***
Text organization	.65***	.63***	—	.87***
Overall	.89***	.88***	.87***	—

Note. Values above the diagonal represent ChatGPT ratings; values below the diagonal represent human ratings.

*** $p < .001$ (two-tailed)

To further examine the relative contribution of each scoring component, multiple linear regression analyses were conducted (see Table 3). For the human ratings, the regression model was statistically significant, $R^2 = .999$, $F(3, 263) = 114,982.37$, $p < .001$. All three components contributed significantly to the overall score: content ($\beta = .384$, $p < .001$), language (vocabulary and grammar; $\beta = .361$, $p < .001$), and text organization ($\beta = .392$, $p < .001$). Among the three predictors, text organization had the largest standardized regression coefficient, although the differences among predictors were small.

For the ChatGPT ratings, the regression model was also statistically significant, $R^2 = .999$, $F(3, 263) = 354,213.64$, $p < .001$. Again, all three components contributed significantly to the overall score: content ($\beta = .330$, $p < .001$), language (vocabulary and grammar; $\beta = .370$, $p < .001$), and text organization ($\beta = .351$, $p < .001$). Language (vocabulary and grammar) had the largest standardized regression coefficient, although the differences among predictors were modest. Multicollinearity diagnostics indicated acceptable levels for the human ratings (all VIFs < 2.50) and moderate but acceptable levels for the ChatGPT ratings (VIFs = 4.53–5.23), suggesting some overlap among the predictor variables but no evidence of problematic multicollinearity. Importantly, because the overall score is derived from the same trait-level components within the scoring rubric, these regression results should be interpreted as reflecting the relative weighting of components within each scoring system, rather than independent prediction.

Table 2*Multiple regression analyses examining the relative contribution of trait-level components to overall scores*

Human Ratings

Variable	<i>B</i>	<i>SE B</i>	β	<i>t</i>	<i>p</i>	VIF
Content	0.329	0.002	.384	148.78	< .001	2.30
Language (vocabulary/ grammar)	0.341	0.002	.361	143.25	< .001	2.19
Text organization	0.332	0.002	.392	165.77	< .001	1.93

Model fit. $R^2 = .9992$, $F(3, 263) = 114,982.37$, $p < .001$

ChatGPT Ratings

Variable	<i>B</i>	<i>SE B</i>	β	<i>t</i>	<i>p</i>	<i>VIF</i>
Content	0.335	0.002	.330	148.96	< .001	5.23
Language (vocabulary/ grammar)	0.340	0.002	.370	175.77	< .001	4.72
Text organization	0.325	0.002	.351	169.82	< .001	4.53

Notes. *N* = 267. Model fit, $R^2 = .9998$, $F(3, 263) = 354,213.64$, $p < .001$

Notes. VIF = Variance Inflation Factor. Values indicate acceptable multicollinearity for human ratings and moderate multicollinearity for ChatGPT ratings. Because the overall score is derived from the same trait-level components, regression coefficients reflect relative weighting rather than independent prediction.

The aim of this study was to examine the degree of agreement between ChatGPT-4, used as an AES system in the context of Greek secondary education, and experienced human raters in the evaluation of argumentative writing tasks. Specifically, we examined (a) the degree of agreement between ChatGPT and human ratings (RQ1) and (b) the relative contribution and weighting of trait-level components -content, language (vocabulary/grammar), text organization- in scoring (RQ2).

5.1 Agreement between ChatGPT and human raters (RQ1)

With regard to the first research question, the results indicate that ChatGPT demonstrates moderate agreement in scoring student writing. Agreement between ChatGPT and human raters was moderate to good at both the overall and trait levels, and importantly, this level of agreement was comparable to the agreement observed between human raters themselves. This finding is particularly significant, as it suggests that discrepancies between ChatGPT and human ratings fall within the range of variability typically observed in human scoring practices. Moreover, ChatGPT exhibited higher internal consistency across trait-level scores, indicating a more uniform application of scoring criteria. This aligns with prior research highlighting variability in human rating behavior (Honko et al., 2023) and suggests that AI-based systems may offer increased consistency in evaluation. At the same time, this consistency should be interpreted cautiously, as human raters may capture contextual, rhetorical, and stylistic nuances that automated systems may not fully represent.

Overall, these findings suggest that ChatGPT demonstrates moderate agreement as a scoring tool, achieving levels of agreement comparable to those observed between human raters. At the same time, systematic differences in trait-level scoring indicate that ChatGPT and human raters prioritize different aspects of writing quality, with ChatGPT emphasizing content and human raters placing relatively greater emphasis on language (vocabulary/grammar). These findings contribute to the broader AES literature by suggesting that recent advances in large language models may address some of the longstanding concerns regarding the reliability of automated scoring systems (McCurry, 2010; Klobucar et al., 2013). Compared to earlier AES systems, which often demonstrated weaker alignment with human judgments (Wang & Brown, 2007), ChatGPT appears to achieve substantially improved agreement levels, approaching those reported for established systems such as e-rater (Attali & Burstein, 2005; Enright & Quinlan, 2010). However, agreement alone does not imply equivalence in evaluative reasoning. Although overall scores did not differ significantly between ChatGPT and human raters, systematic differences emerged at the trait level. ChatGPT assigned higher scores for content, whereas human raters assigned higher scores for language (vocabulary/ grammar), with text organization showing comparable evaluations. This pattern suggests that, while ChatGPT aligns with human judgments at a global level, it prioritizes different aspects of writing quality.

5.2 Contribution of trait-level components to overall scores (RQ2)

With regard to the second research question, the results indicate that all three trait-level components -content, language (vocabulary/grammar), text organization- were strongly associated with overall scores for both human

and ChatGPT ratings. Importantly, regression analyses showed that these components contributed in a relatively balanced manner, with only minor differences in their relative weighting.

For human raters, text organization showed a slightly stronger contribution, whereas for ChatGPT, language (vocabulary/grammar) showed a marginally stronger contribution. However, these differences were small, suggesting that both human and AI raters rely on similar underlying dimensions of writing quality when forming holistic judgments. This convergence supports the interpretation that ChatGPT captures core aspects of argumentative writing competence, including content development and text organization. At the same time, the analyses revealed higher intercorrelations among trait-level components in ChatGPT ratings, as well as increased multicollinearity compared to human ratings. This pattern suggests that ChatGPT may apply a more unified or less differentiated construct of writing quality, whereas human raters appear to distinguish more clearly between components. In other words, ChatGPT's evaluations may reflect a more integrated representation of writing performance, while human scoring remains more analytically differentiated.

The findings suggest that both human raters and ChatGPT rely on all three components in forming overall judgments, with relatively balanced weighting across traits. However, slight differences emerged: human raters showed a marginally stronger emphasis on text organization, whereas ChatGPT placed slightly greater weight on language (vocabulary/ grammar). These differences, although small, suggest subtle divergences in how human and AI raters operationalize writing quality. These findings both align with and extend prior research. Earlier AES systems were often criticized for over-reliance on surface-level features such as lexical diversity or cohesion (Bejar et al., 2014; Vögelin et al., 2019). In contrast, the present results suggest that ChatGPT places substantial emphasis on semantic relevance and argumentative content, indicating a shift in construct representation. This shift may be attributed to the architecture of large language models, which are optimized to capture meaning, coherence, and contextual relationships across extended discourse. Nevertheless, ChatGPT's relatively lower emphasis on language (vocabulary/grammar) highlights an important limitation. Features such as rhetorical nuance, stylistic appropriateness, and register sensitivity remain areas where human raters retain an advantage. These aspects are inherently context-dependent and require socio-pragmatic judgment, which current AI systems may approximate but not fully replicate.

5.3 Implications for AES and educational practice

Taken together, the findings suggest that ChatGPT demonstrates promising agreement and construct alignment, while also revealing systematic differences in evaluative emphasis. From a theoretical perspective, this supports the view that modern LLM-based systems may overcome some limitations of earlier AES approaches, particularly in capturing meaning and argumentation. From an educational perspective, the results have important implications for education. ChatGPT may serve as a valuable complementary tool, supporting human raters by enhancing consistency and reducing workload. However, it should not be considered a replacement for human evaluation, particularly in tasks requiring sensitivity to rhetorical nuance and contextual appropriateness. A hybrid human–AI approach appears to be the most appropriate direction. Such an approach would combine the consistency and scalability of AI systems with the interpretive depth and contextual awareness of human raters. This aligns with prior research demonstrating the benefits of combining automated and human feedback in writing assessment (Sari & Han, 2024). At the same time, caution is warranted. Overreliance on AI tools may lead to unintended consequences, including reduced learner engagement or overdependence on automated feedback (Barrot, 2023). Therefore, the integration of ChatGPT into educational practice should be carefully designed to support, rather than replace, pedagogical processes.

5.4 Limitations and Future Research

Despite the encouraging findings, several limitations should be acknowledged. First, the study is based on a specific sample of Greek upper secondary students and argumentative writing tasks, which may limit the generalizability of the results. Future research should examine whether similar patterns of agreement and trait-

level weighting are observed across different learner populations, genres, and educational contexts. Second, the study relies exclusively on quantitative analyses, which do not fully capture how ChatGPT interprets complex features of writing such as creativity, rhetorical nuance, and stylistic appropriateness. Given the observed differences in trait-level scoring—particularly ChatGPT’s emphasis on content and lower sensitivity to language (vocabulary/ grammar)—qualitative analyses would provide valuable insight into the underlying evaluative processes of both human and AI raters. Third, the findings suggest that ChatGPT’s trait-level scores are more strongly interrelated than those of human raters, indicating a potentially more unified or less differentiated representation of writing quality. While this contributes to scoring consistency, it may also limit the model’s ability to distinguish between distinct dimensions of writing competence. Future studies should further investigate this issue, particularly through alternative modeling approaches or more fine-grained trait definitions. Fourth, issues of fairness and bias remain an important concern. As ChatGPT is trained on large-scale human-produced data, its evaluations may reflect embedded linguistic or cultural biases. Systematic fairness audits across diverse demographic and linguistic groups are therefore necessary to ensure equitable assessment practices. Finally, the study adopts a cross-sectional design, which does not capture how ChatGPT evaluates writing development over time. Longitudinal research is needed to examine the stability and sensitivity of AI-based scoring across different stages of learner development, as well as its potential role in formative feedback contexts.

6. Conclusion

In conclusion, the findings indicate that ChatGPT achieves levels of agreement with human raters comparable to human–human agreement, while also exhibiting distinct patterns in the weighting of writing components. These results suggest that ChatGPT functions as a relatively consistent essay-scoring system, but one that reflects a slightly different evaluative logic—one that emphasizes semantic content and coherence over stylistic nuance. As such, its role in writing assessment is best understood as complementary, contributing to more efficient and consistent evaluation while preserving the essential role of human judgment. More broadly, the study contributes to the growing literature on AI-assisted assessment by providing empirical evidence from a non-English, high-stakes educational context, highlighting both the potential and the current limitations of large language models in educational evaluation.

AI Use Disclosure. We used ChatGPT-4 to assess argumentative essays written by Greek upper secondary school students. All outputs were reviewed, verified, and edited by the authors. No confidential or personally identifiable data were entered into AI tools. The authors take full responsibility for the content.

Author contributions statement (CRediT). Koskinas Emmanouil: Conceptualization, Methodology, Data curation, Writing – original draft, Writing – review & editing, Chadjipapa Elina: Conceptualization, Methodology, Data curation, Writing – original draft, Writing – review & editing, Dosi Ifigeneia: Formal analysis, Writing – original draft, Writing – review & editing, Gavriilidou Zoe: Conceptualization, Writing – original draft, Writing – review & editing. All authors have read and approved the final version of the manuscript and agree to be accountable for all aspects of the work.

7. References

- Anson, C. M., & Straume, I. (2022). Amazement and trepidation: Implications of AI-based natural language production for the teaching of writing. *Journal of Academic Writing*, 12(1), 1-9.
<http://dx.doi.org/10.18552/joaw.v12i1.820>
- Aryadoust V., & Liu S. (2015). Predicting EFL writing ability from levels of mental representation measured by Coh-Metrix: A structural equation modeling study. *Assessing Writing*, 24, 35-58.
<http://dx.doi.org/10.1016/j.asw.2015.03.001>
- Attali, Y., & Burstein, J. (2005). *Automated essay scoring with e-rater version 2.0 (ETS RR-04-45)*. Princeton, NJ: Educational Testing Service. <http://dx.doi.org/10.1002/j.2333-8504.2004.tb01972.x>
- Attali, Y., Lewis, W., & Steier, M. (2013). Scoring with the computer: Alternative procedures for improving the reliability of holistic essay scoring. *Language Testing*, 30(1), 125–141.
<http://dx.doi.org/10.1177/0265532212452396>

- Barrot, J. S. (2023). Using ChatGPT for second language writing: Pitfalls and potentials. *Assessing Writing*, 57, Article 100745. <http://dx.doi.org/10.1016/j.asw.2023.100745>
- Bejar, I., Flor, M., Futagi, Y., & Ramineni C. (2014). On the vulnerability of automated scoring to construct-irrelevant response strategies (CIRS): An illustration. *Assessing Writing*, 22, 48–59. <http://dx.doi.org/10.1016/j.asw.2014.06.001>
- Bridgeman, B., & Ramineni, C. (2017). Design and evaluation of automated writing evaluation models: Relationships with writing in naturalistic settings. *Assessing Writing*, 34, 62–71. <http://dx.doi.org/10.1016/j.asw.2017.10.001>
- Chan, K., Trevor Bond, T., & Yan, Z. (2023). Application of an Automated Essay Scoring engine to English writing assessment using Many Facet Rasch Measurement. *Language Testing*, 40(1), 61–85. <http://dx.doi.org/10.1177/02655322221076025>
- Chapelle, C. (1999). Validity in Language Assessment. *Annual Review of Applied Linguistics*, 19, 254–272. <http://dx.doi.org/10.1017/S0267190599190135>
- Chen, L., Zaharia, M., & Zou, J. (2023). How is ChatGPT's behavior changing over time? *arXiv*. 1(1), 1–23. <http://dx.doi.org/10.48550/arXiv.2307.09009>
- Cope, B., Kalantzis, M., & Searsmith, D. (2021). Artificial intelligence for education: Knowledge and its assessment in AI-enabled learning ecologies. *Educational Philosophy and Theory*, 53(12), 1229–1245. <http://dx.doi.org/10.1080/00131857.2020.1728732>
- Deane, P. (2013). On the relation between automated essay scoring and modern views of the writing construct. *Assessing Writing*, 18, 7–24. <http://dx.doi.org/10.1016/j.asw.2012.10.002>
- Douglas, D., & Hegelheimer, V. (2007). Assessing Language Using Computer Technology. *Annual Review of Applied Linguistics*, 27, 115–132. <http://dx.doi.org/10.1017/S0267190508070062>
- Durrant, P., & Brenchley, M. (2023). Development of Noun Phrase Complexity Across Genres in Children's Writing. *Applied Linguistics*, 44(2), 239–264. <http://dx.doi.org/10.1093/applin/amac032>
- Elliot, N., A. Ruggles Gere, G. Gibson, C. Toth, C. Whithaus, & Presswood, A. (2013). Use and limitations of automated writing evaluation software. *WPA-CompPile Research Bibliographies*, 23. Retrieved [10 September 2018] from <http://comppile.org/wpa/bibliographies/Bib23/AutoWritingEvaluation.pdf>
- Enright, M. K., & Quinlan, T. (2010). Complementing human judgment of essays written by English language learners with e-rater® scoring. *Language Testing*, 27(3), 317–334. <https://doi.org/10.1177/0265532210363144>
- Grace, K., Salvatier, J., Dafoe, A., Zhang, B., & Evans, O. (2018). Viewpoint: When will AI exceed human performance? Evidence from AI experts. *Journal of Artificial Intelligence Research*, 729–754. <http://dx.doi.org/10.1613/jair.1.11222>
- Guo, L., Crossley, S., & McNamara, D. (2013). Predicting human judgments of essay quality in both integrated and independent second language writing samples: A comparison study. *Assessing Writing*, 18, 218–238. <http://dx.doi.org/10.1016/j.asw.2013.05.002>
- Hockly, N. (2019). Automated writing evaluation. *ELT Journal*, 73(1), 82–88. <http://dx.doi.org/10.1093/elt/ccy044>
- Honko, M., Neittaanmaki, R., Jarvis, S., & Huhta, A. (2023). Beyond literacy and competency – The effects of raters' perceived uncertainty on assessment of writing. *Assessing Writing*, 57, <http://dx.doi.org/10.1016/j.asw.2023.100768>
- Huawei, S., & Aryadoust, V. (2023). A systematic review of automated writing evaluation systems. *Education and Information Technologies*, 28(1), 771–795. <http://dx.doi.org/10.1007/s10639-022-11200-7>
- Hwang, H., & Hyunwoo, K. (2023). Automatic Analysis of Constructional Diversity as a Predictor of EFL Students' Writing Proficiency. *Applied Linguistics*, 44(1), 127–147, <http://dx.doi.org/10.1093/applin/amac046>
- Keller Margulis, M., Sterett, M., & Matta, M. (2021). Validity of automated text evaluation tools for written expression curriculum based measurement: a comparison study. *Reading and Writing*, 34, 2461–2480. <http://dx.doi.org/10.1007/s11145-021-10153-6>
- Klobucar, A., Norbert, E., Perry D., Oleksandr, R., & Kamal, J. (2013). Automated scoring in context: Rapid

- assessment for placed students. *Assessing Writing*, 18, 62–84.
<http://dx.doi.org/10.1016/j.asw.2012.10.001>
- Koskinas, E., Gavrilidou, Z., Andras, C. & Markos, A. (2024). Linguistic factors affecting L1 language evaluation in argumentative essays of students aged 16 to 18 attending secondary education in Greece, *Assessing Writing*, 60, 3-10, <https://doi.org/10.1016/j.asw.2024.100844>
- Latifi, S., & Gierl, M. (2021). Automated scoring of junior and senior high essays using Coh-Metrix features: Implications for large-scale language testing. *Language Testing*, 38(1), 62-85.
<http://dx.doi.org/10.1177/0265532220929918>
- Lumley, T. (2002). Assessment criteria in a large-scale writing test: What do they really mean to the raters? *Language Testing*, 19(3), 246-276. <http://dx.doi.org/10.1191/0265532202lt230oa>
- MacArthur, C., Jennings, A., & Philippakos, Z. (2018). Which linguistic features predict quality of argumentative writing for college basic writers, and how do those features change with instruction? *Reading and Writing*, 32(1), 1553–1574. <http://dx.doi.org/10.1007/s11145-018-9853-6>
- McCurry, D. (2010). Can machine scoring deal with broad and open writing tests as well as human readers? *Assessing Writing*, 15, 118-129. <http://dx.doi.org/10.1016/j.asw.2010.04.002>
- Mulder, K., & Hulstijn, J. (2011). Linguistic Skills of Adult Native Speakers, as a Function of Age and Level of Education. *Applied Linguistics*, 32(5), 475–494, <http://dx.doi.org/10.1093/applin/amr016>
- Nasseri, M., & Thompson, P. (2021). Lexical density and diversity in dissertation abstracts: Revisiting English L1 vs. L2 text differences. *Assessing Writing*, 47, Article 100511.
<http://dx.doi.org/10.1016/j.asw.2020.100511>
- Oka, R., Kusumi, T., & Utsumi, A. (2024). Performance evaluation of automated scoring for the descriptive similarity response task. *Scientific Reports*, 14, Article 6228. <http://dx.doi.org/10.1038/s41598-024-56743-6>
- Perelman, L. (2014). When “the state of the art” is counting words. *Assessing Writing*, 21, 104–111, <http://dx.doi.org/10.1016/j.asw.2014.05.001>
- Ramineni, C., & Williamson, D. (2013). Automated essay scoring: Psychometric guidelines and practices. *Assessing Writing*, 18, 25–39. <http://dx.doi.org/10.1016/j.asw.2012.10.004>
- Read, J. (2023). Towards a new sophistication in vocabulary assessment. *Language Testing*, 40(1), 40 –46. <http://dx.doi.org/10.1177/02655322221125698>
- Reiter, E., & Belz, A. (2009). An investigation into the validity of some metrics for automatically evaluating natural language generation systems. *Computational Linguistics*, 35(4), 529–558.
<https://doi.org/10.1162/coli.2009.35.4.35405>
- Richardson, M., & Clesham, R. (2021). Rise of the machines? The evolving role of AI technologies in high-stakes assessment. *London Review of Education*, 19(1), Article 9, 1–13. <http://dx.doi.org/10.14324/LRE.19.1.09>
- Robinson, P. (2001). Task Complexity, Task Difficulty, and Task Production: Exploring Interactions in a Componential Framework. *Applied Linguistics*, 22(1), 27–57. <http://dx.doi.org/10.1093/applin/22.1.27>
- Rotou, O., & Rupp, A. A. (2020). Evaluations of Automated Scoring Systems in Practice. *ETS Research Report Series*, 2020(1), 1–18. <http://dx.doi.org/10.1002/ets2.12293>
- Rudolph, J., Tan, S., & Tan, S. (2023). ChatGPT: Bullshit spewer or the end of traditional assessments in higher education? *Journal of Applied Learning and Teaching*, 6(1), 342–363.
<https://doi.org/10.37074/jalt.2023.6.1.9>
- Sari, E., & Han, T. (2024). The impact of automated writing evaluation on English as a foreign language learners' writing self-efficacy, self-regulation, anxiety, and performance. *Journal of Computed Assisted Learning*, 40, 2065-2080. <http://dx.doi.org/10.1111/jcal.13004>
- Schulhoff, S., Ilie, M., Balepur, N., Kahadze, K., Liu, A., Si, C., Li, Y., Gupta, A., Han, H., Schulhoff, S., Dulepet, P., Vidyadhara, S., Ki, D., Agrawal, S., Pham, C., Kroiz, G., Li, F., Tao, H., Srivastava, A., & Resnik, Ps. (2024). The Prompt Report: A Systematic Survey of Prompting Techniques. preprint arXiv: 2406.06608. <http://dx.doi.org/10.48550/arXiv.2406.06608>
- Shermis, M. (2014). State-of-the-art automated essay scoring: Competition, results, and future directions from a

- United States demonstration. *Assessing Writing*, 20, 53–76. <http://dx.doi.org/10.1016/j.asw.2013.04.001>
- Su, Y., Lin, Y., & Lai, C. (2023). Collaborating with ChatGPT in argumentative writing classrooms. *Assessing Writing*, 57. <http://dx.doi.org/10.1016/j.asw.2023.100752>
- Treffers-Daller, J., Parslow, P., & Williams, S. (2018). Back to Basics: How Measures of Lexical Diversity Can Help Discriminate between CEFR Levels. *Applied Linguistics*, 39(3), 302–327. <http://dx.doi.org/10.1093/applin/amw009>
- Tsai, M. H. (2012). The Consistency Between Human Raters and an Automated Essay Scoring System in Grading High School Students' English Writing. *Action in Teacher Education*, 34(4), 328–335. <https://doi.org/10.1080/01626620.2012.717033>
- Vo, Y., Rickels, H., Welch, C., & Dunbar, S. (2023). Human scoring versus automated scoring for english learners in a statewide evidence-based writing assessment. *Assessing Writing*, 56. <http://dx.doi.org/10.1016/j.asw.2023.100719>
- Vögelin, C., Jansen, T., Keller, S., Machts, N., & Möller, J. (2019). The influence of lexical features on teacher judgements of ESL argumentative essays. *Assessing Writing*, 19, 50–63. <http://dx.doi.org/10.1016/j.asw.2018.12.003>
- Wang, J., & Brown, M. S. (2007). Automated Essay Scoring Versus Human Scoring: A Comparative Study. *The Journal of Technology, Learning and Assessment*, 6(2). Retrieved from <https://ejournals.bc.edu/index.php/jtla/article/view/1632>
- Warschauer, M., & Ware, P. (2006). Automated writing evaluation: Defining the classroom research agenda. *Language Teaching Research*, 10(2), 157–180. <http://dx.doi.org/10.1191/1362168806lr190oa>
- Weigle, S., C. (2010). Validation of automated scores of TOEFL iBT tasks against non-test indicators of writing ability. *Language Testing*, 27(3), 335–353. <http://dx.doi.org/10.1177/0265532210364406>
- Wilson, J., Roscoe R., & Ahmed, Y. (2017). Automated formative writing assessment using a levels of language framework. *Assessing Writing*, 34, 16–36. <http://dx.doi.org/10.1016/j.asw.2017.08.002>
- Wingrove, P. (2022). Measuring the frequency of the academic formulas list across corpora: A case study based in TED talks and Yale lectures. *Applied Corpus Linguistics*, 2, Article 100012. <http://dx.doi.org/10.1016/j.acorp.2021.100012>
- Woods, K., Hashimoto, B., & Brown, E. (2023). A multi-measure approach for lexical diversity in writing assessments: Considerations in measurement and timing. *Assessing Writing*, 55, Article 100688. <http://dx.doi.org/10.1016/j.asw.2022.100688>
- Yu, G. (2009). Lexical Diversity in Writing and Speaking Task Performances. *Applied Linguistics*, 31(2), 236–259. <http://dx.doi.org/10.1093/applin/amp024>
- Zenker, F., & Kyle, K. (2021). Investigating minimum text lengths for lexical diversity indices. *Assessing Writing*, 47, Article 100505. <http://dx.doi.org/10.1016/j.asw.2020.100505>
- Zhang, D., & Yuan, X. (2022). Intelligent Scoring of English Composition by Machine Learning from the Perspective of Natural Language Processing. *Mathematical Problems in Engineering*, Article 9070272. <http://dx.doi.org/10.1155/2022/9070272>
- Zhang, X., Lu, X., & Li, W. (2022). Beyond differences: Assessing effects of shared linguistic features on L2 writing quality of two genres. *Applied Linguistics*, 43(1), 168–195. <https://doi.org/10.1093/applin/amab007>

Tactile learning approach for better cognitive understanding in solving problems with exponents among Grade VI learners

Mendol, Madelyn G. ✉

Sidaen Elementary School, Philippines (madelyngmendol22@gmail.com)



ISSN: 2243-7703
Online ISSN: 2243-7711

Received: 25 July 2026

Available Online: 18 August 2026

Revised: 15 August 2026

DOI: 10.5861/ijrse.2026.26393

Accepted: 17 August 2026

OPEN ACCESS

Abstract

Mathematics is essential to modern life. It is used to solve problems across a wide range of sectors, including engineering, health, business, and finance. This action research investigated the effectiveness of a tactile learning approach, specifically the Mathopoly game, in improving the conceptual understanding of and problem-solving skills related to exponents among Grade 6 learners at Sidaen Elementary School. Using a one-group pretest–posttest design, 19 learners were assessed to determine the effect of tactile learning on their mathematical performance. Pre-intervention results indicated a Poor level of understanding ($M = 8.18$), while post-intervention scores improved to an Outstanding level ($M = 24.55$), a mean gain of 16.37. A t -test for dependent means confirmed that the difference was statistically significant, $t(18) = 9.15$, $p = .001$. These findings underscore the potential of hands-on, game-based learning to enhance engagement and comprehension in challenging mathematical concepts. The study recommends integrating tactile learning tools into the mathematics curriculum and providing teachers with training so that the benefits of such interactive learning strategies can be maximized.

Keywords: conceptual understanding, elementary education, exponents, game-based learning, Mathopoly, tactile learning

Tactile learning approach for better cognitive understanding in solving problems with exponents among Grade VI learners

1. Introduction

Mathematics is essential to modern life. It is used to solve problems in a variety of sectors, including engineering, health, business, and finance. The application of mathematical techniques facilitates data analysis, the forecasting of outcomes, and decision making. Its applications include the development of new technologies, the modeling of complex systems, and the formation of multidisciplinary links. Mathematics is also used to develop theories and models that describe the behavior of matter and energy, allowing people to better understand their place in the universe and the laws that govern it. In short, mathematics is the language of the universe and is critical to human progress.

The purpose of mathematics education around the world is to provide learners with the tools they need to think critically and creatively in a number of contexts, from the hard sciences to commerce (Wong & Yip, 2023). It also provides learners with tools for the investigation and analysis of the information they encounter. A solid understanding of mathematics equips learners with the quantitative and qualitative reasoning abilities required for professional and personal success in a variety of fields (Amalina & Vidákovich, 2023). Having a firm grasp of mathematics aids in the development of problem-solving and critical-thinking abilities that can be applied in a wide variety of contexts. Careers in finance, engineering, and information technology rely heavily on the ability to solve mathematical problems, and as society becomes more complex, mathematics becomes ever more important to everyday life (Cui et al., 2023; Li et al., 2023).

Despite this importance, many learners regard mathematics as a difficult and uninteresting subject. Filipino learners in particular have consistently struggled with the subject. In the 2019 Trends in International Mathematics and Science Study, the Philippines obtained the lowest mathematics score among all 58 participating education systems (Mullis et al., 2020). Within the classroom, learners are assessed through a variety of processes and measures that are suitable to and consistent with the learning competencies specified in the K to 12 curriculum, and these measures may be used for both formative and summative purposes (Department of Education, 2015).

The need to examine the use of a tactile learning approach to enhance problem solving involving numbers with exponents among Grade 6 learners is therefore pressing. Problem solving is a key skill that all learners must possess in order to succeed in mathematics, and exponents are a foundational concept that learners must understand before they can progress to more advanced topics. Tactile learning, sometimes called kinesthetic learning, is a strategy that helps learners acquire and retain information through physical interaction with instructional materials. This strategy is particularly useful when teaching challenging topics such as exponents, because it allows learners to attach abstract symbols to concrete actions (Adigun et al., 2024; Merrick & Fyfe, 2023).

At Sidaoen Elementary School, only 4 of the 19 Grade 6 learners had mastered exponent-based problem solving. This was the competency in which the class showed the greatest need for improvement, as evidenced by learners' outputs in homework and periodic tests. The purpose of this action research, therefore, was to determine whether a tactile learning approach helps Grade 6 learners become more proficient in solving problems involving numbers with exponents.

Statement of the Problem - This study utilized a tactile learning approach to enhance the mathematics performance of Grade 6 learners of Sidaoen Elementary School for School Year 2023–2024. Specifically, it sought to answer the following questions:

1. What is the level of conceptual understanding of the learners in solving problems on numbers with exponents before and after the utilization of the tactile learning approach?

2. Is there a significant difference between the learners' levels of conceptual understanding before and after the utilization of the tactile learning approach?

Hypothesis - The study tested the following null hypothesis at the .05 level of significance: There is no significant difference between the levels of conceptual understanding of Grade 6 learners in solving problems on numbers with exponents before and after the utilization of the tactile learning approach.

2. Proposed Innovation, Intervention, and Strategy

The tactile learning approach is a promising means of improving the mathematics performance of Grade 6 learners. Tactile learning, also referred to as kinesthetic learning, is learning by doing. It engages the sense of touch and invites learners to interact physically with the learning material rather than only reading or listening. By encouraging hands-on experience and experimentation, it positions learners as active participants in their own education. The approach also allows learners to make meaningful connections between abstract concepts and tangible experiences. Learners forge a link between what they see and hear and what they physically manipulate. This multisensory experience strengthens understanding and makes complex ideas easier to grasp and to remember (Yu et al., 2022).

In this study, the researcher used a manipulative game to boost the mathematics performance of the learners. Manipulative games engage learners while they are learning mathematics; they make concepts more enjoyable and provide opportunities for learners to practice newly acquired skills. Specifically, the researcher developed and used Mathopoly, a board game adapted from the familiar property-trading format, in which each space requires the player to evaluate, simplify, or compare expressions involving exponents before advancing. Game cards were prepared at three levels of difficulty so that learners could progress from evaluating simple powers to solving multi-step problems. Mathopoly was integrated into classroom discussions, formative assessments, and remedial classes in mathematics over a two-week period. Learners played in groups of four to five, with the teacher circulating as facilitator, correcting misconceptions as they surfaced and prompting learners to verbalize their reasoning before moving a token.

3. Action Research Methodology

Research Design and Participants. The study employed a one-group pretest–posttest experimental design. It involved one section of Grade 6 learners of Sidaoen Elementary School ($N = 19$), selected through total enumeration sampling. A letter requesting permission was sent to the parents of the participants before the start of data gathering, and consent was obtained for all 19 learners.

Data Gathering Methods. The researcher developed a 30-item teacher-made test on solving problems involving numbers with exponents, which was administered as both the pretest and the posttest. The test was content-validated by three Master Teachers of Sta. Cruz District, Schools Division Office of Ilocos Sur, using a validation rubric covering content coverage, clarity of language, and appropriateness to the grade level. The pretest was administered before the two-week implementation of Mathopoly and the posttest immediately after.

Data Analysis Plan. The mean scores of the pretest and posttest were computed and interpreted using the descriptive equivalents adopted by the school. The t test for dependent means was used to determine whether the difference between the pretest and posttest means was significant. The .05 alpha level was used to test significance. Data were presented in tabular and narrative form for the clearer understanding of readers.

4. Results and Discussion

4.1 Level of conceptual understanding in solving problems on numbers with exponents before and after the utilization of the tactile learning approach

Table 1 presents the level of conceptual understanding of the Grade 6 learners in solving problems on numbers with exponents before and after the utilization of the tactile learning approach through the Mathopoly game.

Table 1

Level of conceptual understanding in solving problems on numbers with exponents before and after the utilization of the tactile learning approach (Mathopoly)

Test	<i>n</i>	<i>M</i>	Descriptive Level
Pretest	19	8.18	Poor
Posttest	19	24.55	Outstanding

Note. Mean gain = 16.37. Maximum possible score = 30. Descriptive levels follow the school's adopted scale: 0–9 = Poor, 10–15 = Fair, 16–21 = Satisfactory, 22–26 = Very Satisfactory, 27–30 = Outstanding.

The mean score before the use of Mathopoly was 8.18, indicating a Poor level of understanding. After the implementation of the tactile learning approach, the mean score rose to 24.55, described as Outstanding. The mean gain of 16.37 between the pretest and the posttest demonstrates a substantial improvement in the learners' understanding and suggests that Mathopoly was effective in strengthening their grasp of concepts related to exponents. This result is consistent with studies showing that hands-on approaches can markedly raise learners' engagement and understanding in mathematics (Shi et al., 2022; Zhang, 2023).

Tactile learning approaches support cognitive processing by allowing learners to interact physically with mathematical ideas, which makes abstract concepts such as exponents more accessible. By integrating game-based learning, teachers can create an environment in which learners actively participate and build understanding through direct manipulation and visualization. This aligns with research indicating that interactive tools in mathematics can reduce cognitive load, enabling learners to focus on conceptual mastery rather than rote memorization (Guzmán et al., 2023; St Omer & Chen, 2023).

The improvement also underscores the value of active learning for young learners, who often struggle with abstract mathematical content and benefit from instructional strategies that offer hands-on engagement (Chen et al., 2022). By providing an interactive context, Mathopoly appears to have demystified the concept of exponents and reinforced the connection between concrete activity and mathematical reasoning (Zhou et al., 2023). This is consistent with constructivist theory, which holds that learners build understanding most effectively when they engage in meaningful, contextualized activity.

Motivation is a further consideration. Game-based learning models such as Mathopoly foster intrinsic motivation, allowing learners to approach complex concepts with curiosity rather than apprehension (Simmons et al., 2024). The Outstanding level of post-intervention understanding suggests that learners not only grasped the concept but may also have retained it better because of the enjoyable and interactive nature of the process. Engaging with the material in a game format likely reduced anxiety about mathematics, a known barrier to performance, and allowed learners to practice problem solving more freely (Eidlin-Levy et al., 2023).

In addition, tactile methods address a wider range of learning preferences. Traditional classroom approaches often cater primarily to auditory and visual learners, potentially neglecting those who benefit from movement and manipulation. The shift in instructional approach demonstrated here is consistent with contemporary arguments for differentiated instruction (Živković et al., 2023). By implementing Mathopoly, the teacher provided a more inclusive learning experience that reached a broader range of learners.

Finally, the size of the mean gain speaks to the contribution of educational games to cognitive retention. Game-based learning supports memory and skill transfer because learners repeatedly revisit learned concepts in new

contexts (Chen & Wang, 2022). The repetitive structure of Mathopoly, combined with its tactile element, likely reinforced understanding by engaging multiple senses and creating durable mental connections to the concept of exponents.

4.2 Significance of the difference in the level of conceptual understanding before and after the utilization of the tactile learning approach

Table 2 presents the results of the t test for dependent means evaluating the effect of the tactile learning approach on the learners' ability to solve problems involving numbers with exponents.

Table 2

Results of the t-Test for dependent means on the difference between the pretest and posttest scores

Comparison	<i>n</i>	<i>df</i>	<i>t</i>	<i>p</i>	Decision on H_0
Pretest–Posttest	19	18	9.15	.001	Reject

Note. Significant at the .05 level.

With a *t* value of 9.15 and a *p* value of .001, the results indicate a statistically significant difference between the pretest and posttest scores, leading to the rejection of the null hypothesis. The tactile learning approach therefore had a substantial positive effect on the learners' understanding of numbers with exponents. This finding is consistent with studies highlighting the benefits of interactive, tactile approaches in improving mathematical skills (Iyamuremye et al., 2023; Zhou et al., 2022).

The significant difference supports the argument that tactile learning promotes conceptual understanding more effectively than traditional exposition alone. Tactile and kinesthetic experiences help learners form lasting mental connections, allowing them to recall and apply knowledge more readily than through passive learning (Li et al., 2023). The success of Mathopoly is consistent with research advocating active learning to boost comprehension and retention, particularly in mathematics, where abstract concepts are challenging for young learners (Al Balqa Applied University & Sbaih, 2023; Amalina & Vidákovich, 2023).

The *p* value of .001 indicates a high level of confidence in the result, reinforcing the reliability of the observed improvement and suggesting that the change in scores is unlikely to be attributable to chance alone. Learning tools that encourage physical engagement can enhance cognitive processing and facilitate deeper understanding (Cui et al., 2023; Tong et al., 2023). It should nevertheless be noted that a one-group design cannot rule out maturation, testing effects, or ordinary instruction as contributing influences; this limitation is discussed further below.

Rejecting the null hypothesis implies that traditional teaching methods alone may not be sufficient to foster robust understanding in areas such as exponents. This is supported by literature suggesting that learners benefit from diverse instructional methods that address different learning preferences, especially in complex subjects (Osuna & Munson, 2024). Integrating tactile methods into the curriculum could provide a more comprehensive learning environment for kinesthetic learners and help bridge gaps in understanding for learners who struggle with abstract reasoning alone (Merrick & Fyfe, 2023).

The result also highlights the motivational potential of game-based learning. Learners are more likely to engage deeply with material when learning is enjoyable and interactive, which in turn improves outcomes (Mehrvarez et al., 2023). Mathopoly likely helped reduce mathematics anxiety and encouraged learners to explore mathematical concepts with greater confidence (Sadak et al., 2022). Hands-on, repetitive interaction further allows learners to revisit and reinforce material, supporting retention and later retrieval (Ulusoy, 2023; Yu et al., 2022).

Limitations - Three limitations should be borne in mind when interpreting these findings. First, the one-group pretest–posttest design has no comparison group, so improvement cannot be attributed to Mathopoly with certainty. Second, the sample was confined to a single intact section of 19 learners in one school, which limits generalizability. Third, the two-week implementation period and the absence of a delayed posttest mean that long-term retention was not measured. Future action research in this school may address these limitations by adding a comparison

section and a delayed posttest.

5. Conclusions

1. The learners' conceptual understanding of numbers with exponents improved substantially, with mean scores rising from 8.18 (Poor) before the utilization of the tactile learning approach to 24.55 (Outstanding) after its implementation, a mean gain of 16.37.

2. The t-test revealed a statistically significant improvement in the learners' ability to solve problems on numbers with exponents after the utilization of the tactile learning approach, $t(18) = 9.15$, $p = .001$, leading to the rejection of the null hypothesis.

Practical Educational Implications - Beyond the statistical outcome, the findings of this action research carry concrete meaning for the people who work in and are served by the classroom. The following implications are organized according to the three groups most directly affected.

For Teachers and Practitioners - The findings suggest that a low-cost, teacher-made manipulative can produce measurable gains on a competency that learners have consistently failed to master. Mathopoly required no digital equipment, no external funding, and no specialized training beyond ordinary lesson preparation, which means that the strategy is genuinely reproducible in resource-constrained classrooms. Practically, teachers may treat tactile games as a delivery mode for practice rather than as a reward at the end of a unit. Because Mathopoly was used inside discussion, formative assessment, and remediation, the teacher was able to observe reasoning in real time and correct misconceptions about the difference between a base and an exponent as they occurred, rather than discovering them later in test papers. Teachers may therefore use game play diagnostically, recording which spaces or card types repeatedly stall particular learners and using that record to plan targeted follow-up. The result also invites teachers to reconsider the sequencing of abstract topics. Introducing exponents through physical repetition of a base before introducing the symbolic shorthand gives learners a concrete referent to return to when the notation becomes confusing. Teachers in other subject areas with similarly compressed notation, such as science, may adapt the same principle.

For Learners - For learners, the most immediate implication is that difficulty with exponents was not a fixed limitation. Learners who had been classified as Poor moved to an Outstanding level within two weeks, which suggests that the earlier weakness reflected the mode of instruction at least as much as the learners' capacity. The game format also changed the cost of being wrong. In a board game, an incorrect answer stalls a turn rather than producing a permanent mark, so learners were willing to attempt problems they would previously have left blank. This lowering of risk is significant for learners who avoid mathematics because of anxiety, and it gave learners more practice attempts than a conventional seatwork exercise would have allowed. Working in small groups additionally required learners to justify their moves aloud. This gave them practice in mathematical explanation, a skill that transfers to word problems and to later topics such as scientific notation and exponential growth, and it allowed peers to serve as an immediate source of correction.

For Schools - At the school level, the findings provide local evidence that can inform decisions about remediation. Schools may position tactile, game-based activities within existing intervention periods rather than creating new programs, since the intervention in this study was delivered inside regular and remedial class time. School heads and department heads may also use the results to justify allocating Learning Action Cell sessions to the design and validation of manipulatives. Because the materials are teacher-made, a single session can produce games for several competencies, and these can be catalogued in a shared instructional bank so that the effort is not lost when a teacher is reassigned. Finally, the results have implications for how schools identify priority competencies. The decision to target exponents came from the observation that only 4 of 19 learners had mastered it. Schools that review item-level results from periodic tests in the same way can direct scarce remediation time to the competencies where the gap is widest, and can use pretest-posttest data of the kind reported here to judge whether the chosen intervention is working.

Recommendations

1. Schools may consider integrating tactile learning tools such as Mathopoly into the mathematics curriculum to enhance learners' conceptual understanding and problem-solving abilities, particularly for challenging topics such as exponents.
2. Teachers may be provided with training, through Learning Action Cell sessions or in-service programs, on the design and classroom use of tactile and game-based learning strategies.
3. Future action research may replicate this study using a comparison group, a larger number of participants, and a delayed posttest in order to establish the durability of the gains reported here.
4. Division and district offices may consider building a shared repository of validated teacher-made manipulatives so that effective materials can be used beyond the classroom in which they were developed.

6. References

- Adigun, O. T., Kent, C. D., Khanare, F., & Matsie, N. (2024). The effects of rational emotive behavioural and relaxation therapies on mathematics anxiety among deaf learners. *Journal of Research in Special Educational Needs*, 24(1), 94–107. <https://doi.org/10.1111/1471-3802.12615>
- Al Balqa Applied University, & Sbaih, A. D. (2023). Creative thinking in students of mathematics in universities and its relationship with some variables. *Perspectives of Science and Education*, 64(4), 108–124. <https://doi.org/10.32744/pse.2023.4.7>
- Amalina, I. K., & Vidákovich, T. (2023). Development and differences in mathematical problem-solving skills: A cross-sectional study of differences in demographic backgrounds. *Heliyon*, 9(5), Article e16366. <https://doi.org/10.1016/j.heliyon.2023.e16366>
- Chen, L., & Wang, Y. (2022). Mathematics anxiety and mathematical calculation in deaf children: A moderated mediation model of mathematics self-efficacy and intelligence. *Research in Developmental Disabilities*, 120, Article 104125. <https://doi.org/10.1016/j.ridd.2021.104125>
- Chen, S., Jiang, H., & Guan, J. (2022). Exploring the influence of problematic mobile phone use on mathematics anxiety and mathematics self-efficacy: An empirical study during the COVID-19 pandemic. *Sustainability*, 14(15), Article 9032. <https://doi.org/10.3390/su14159032>
- Clivaz, S., Batteau, V., Pellet, J.-P., Bünzli, L.-O., Daina, A., & Presutti, S. (2023). Teachers' mathematical problem-solving knowledge: In what way is it constructed during teachers' collaborative work? *The Journal of Mathematical Behavior*, 69, Article 101051. <https://doi.org/10.1016/j.jmathb.2023.101051>
- Cui, J., Wang, S., Lv, L., Ran, X., Cui, Z., & Zhou, X. (2023). Different cognitive mechanisms used for solving open and closed math problems. *International Journal of Psychology*, 58(6), 584–593. <https://doi.org/10.1002/ijop.12934>
- Department of Education. (2015). *DepEd Order No. 8, s. 2015: Policy guidelines on classroom assessment for the K to 12 Basic Education Program*. <https://www.deped.gov.ph>
- DiStefano, M., Retanal, F., Bureau, J.-F., Hunt, T. E., Lafay, A., Osana, H. P., Skwarchuk, S.-L., Trepia, P., Xu, C., LeFevre, J.-A., & Maloney, E. A. (2023). Relations between math achievement, math anxiety, and the quality of parent–child interactions while solving math problems. *Education Sciences*, 13(3), Article 307. <https://doi.org/10.3390/educsci13030307>
- Du, C., Qin, K., Wang, Y., & Xin, T. (2021). Mathematics interest, anxiety, self-efficacy and achievement: Examining reciprocal relations. *Learning and Individual Differences*, 91, Article 102060. <https://doi.org/10.1016/j.lindif.2021.102060>
- Eidlin-Levy, H., Avraham, E., Fares, L., & Rubinsten, O. (2023). Math anxiety affects career choices during development. *International Journal of STEM Education*, 10(1), Article 49. <https://doi.org/10.1186/s40594-023-00441-8>
- Guzmán, B., Rodríguez, C., & Ferreira, R. A. (2023). Effect of parents' mathematics anxiety and home

- numeracy activities on young children's math performance-anxiety relationship. *Contemporary Educational Psychology*, 72, Article 102140. <https://doi.org/10.1016/j.cedpsych.2022.102140>
- Iyamuremye, E., Ndayambaje, I., & Muwonge, C. M. (2023). Relationships of mathematics achievement with self-determined motivation and mathematics anxiety among senior two students in Northern Rwanda. *Heliyon*, 9(4), Article e15411. <https://doi.org/10.1016/j.heliyon.2023.e15411>
- Li, T., Sun, G., Zhou, X., & Wang, T. (2023). Controlled attention, but not temporal storage of working memory correlates to math problem solving. *Educational Psychology*, 43(8), 895–913. <https://doi.org/10.1080/01443410.2023.2254522>
- Mehrvarz, M., Keshavarzi, F., Heidari, E., & McLaren, B. M. (2023). Improving computational thinking: The role of students' networking skills and digital informal learning. *Interactive Learning Environments*. Advance online publication. <https://doi.org/10.1080/10494820.2023.2249049>
- Merrick, M., & Fyfe, E. R. (2023). Feelings on feedback: Children's emotional responses during mathematics problem solving. *Contemporary Educational Psychology*, 74, Article 102209. <https://doi.org/10.1016/j.cedpsych.2023.102209>
- Mullis, I. V. S., Martin, M. O., Foy, P., Kelly, D. L., & Fishbein, B. (2020). *TIMSS 2019 international results in mathematics and science*. TIMSS & PIRLS International Study Center, Boston College. <https://timssandpirls.bc.edu/timss2019/international-results/>
- Osuna, J. M., & Munson, J. (2024). Exploring what teachers notice about students' interactional dynamics during collaborative mathematics problem-solving and their connections to instructional practice. *Teaching and Teacher Education*, 137, Article 104380. <https://doi.org/10.1016/j.tate.2023.104380>
- Pizzie, R. G., & Kraemer, D. J. M. (2023). Strategies for remediating the impact of math anxiety on high school math performance. *npj Science of Learning*, 8(1), Article 44. <https://doi.org/10.1038/s41539-023-00188-5>
- Poole, B. J., & Lah, S. (2023). Mathematics difficulties are related to mathematics anxiety in children with epilepsy: An online study. *Epilepsy & Behavior*, 139, Article 109068. <https://doi.org/10.1016/j.yebeh.2022.109068>
- Sadak, M., Incikabi, L., Ulusoy, F., & Pektas, M. (2022). Investigating mathematical creativity through the connection between creative abilities in problem posing and problem solving. *Thinking Skills and Creativity*, 45, Article 101108. <https://doi.org/10.1016/j.tsc.2022.101108>
- Shi, X., Xu, J., Wang, F., & Cai, D. (2022). Cognitive processing features of elementary school children with mathematical anxiety: Attentional control theory-based explanation. *Journal of Experimental Child Psychology*, 224, Article 105513. <https://doi.org/10.1016/j.jecp.2022.105513>
- Simmons, F. R., Soto-Calvo, E., Adams, A.-M., Francis, H. N., Patel, H., & Hartley, C. (2024). Longitudinal associations between parental mathematics anxiety and attitudes and young children's mathematics attainment. *Journal of Experimental Child Psychology*, 238, Article 105779. <https://doi.org/10.1016/j.jecp.2023.105779>
- St Omer, S. M., & Chen, S. (2023). Examining the dynamics of mathematics anxiety, perceived cost, and achievement: A control-value theory approach. *Contemporary Educational Psychology*, 73, Article 102169. <https://doi.org/10.1016/j.cedpsych.2023.102169>
- Tong, C. K.-Y., Yip, E. S.-K., & Wong, T. T.-Y. (2023). Examining the unique contributions and developmental stability of individual forms of relational reasoning to mathematical problem solving. *Contemporary Educational Psychology*, 73, Article 102181. <https://doi.org/10.1016/j.cedpsych.2023.102181>
- Ulusoy, F. (2023). Middle level mathematics teachers' problems on linear relationships in a semi-structured problem posing situation. *RMLE Online*, 46(10), 1–19. <https://doi.org/10.1080/19404476.2023.2272570>
- Wong, T. T.-Y., & Yip, E. S.-K. (2023). What is the unknown? The ability to identify the semantic role of the unknown from word problems longitudinally predicts mathematical problem solving performance. *Contemporary Educational Psychology*, 73, Article 102183. <https://doi.org/10.1016/j.cedpsych.2023.102183>
- Yu, M., Cui, J., Wang, L., Gao, X., Cui, Z., & Zhou, X. (2022). Spatial processing rather than logical reasoning was found to be critical for mathematical problem-solving. *Learning and Individual Differences*, 100,

Article 102230. <https://doi.org/10.1016/j.lindif.2022.102230>

Zhang, Z. (2023). A meta-analysis of relationship between self-efficacy and mathematical academic achievement among primary and secondary school students in China. In S. Jin & W. Dai (Eds.), *Second International Conference on Statistics, Applied Mathematics, and Computing Science (CSAMCS 2022)* (p. 113). SPIE. <https://doi.org/10.1117/12.2672576>

Zhou, D., Liu, J., Wang, T., Liu, J., & Li, G. (2022). Relationships among problematic smartphone use, mathematics anxiety, learning interest, and achievement: A multiple mediation model. *Computers in Human Behavior*, 129, Article 107171. <https://doi.org/10.1016/j.chb.2021.107171>

Zhou, S., Chiu, M. M., Dong, Z., & Zhou, W. (2023). Foreign language anxiety and foreign language self-efficacy: A meta-analysis. *Current Psychology*, 42(35), 31536–31550. <https://doi.org/10.1007/s12144-022-04110-x>

Živković, M., Pellizzoni, S., Doz, E., Cuder, A., Mammarella, I., & Passolunghi, M. C. (2023). Math self-efficacy or anxiety? The role of emotional and motivational contribution in math performance. *Social Psychology of Education*, 26(3), 579–601. <https://doi.org/10.1007/s11218-023-09760-8>

Digital leadership practices of secondary school heads in Santa Fe District and its relationship with teachers' digital citizenship skills

Apiado, Allan S.

Department of Education- SDO Nueva Vizcaya, Philippines

Nauí, Jesusa L. 

Nueva Vizcaya State University, Philippines

Agustin, Arnel A.

Nueva Vizcaya State University, Philippines



ISSN: 2243-7703
Online ISSN: 2243-7711

OPEN ACCESS

Received: 8 July 2026

Available Online: 21 August 2026

Revised: 17 August 2026

DOI: 10.5861/ijrse.2026.26200

Accepted: 20 August 2026

Abstract

This study examined the digital leadership practices of school heads and the digital citizenship skills of teachers in secondary schools in Santa Fe District during the academic year 2026–2027. It employed a quantitative research design using the descriptive-correlational method. Data were collected through validated and reliable research instruments and analyzed using the mean and Spearman Rank Correlation, with the hypothesis tested at the 0.05 level of significance. The investigation focused on the digital leadership practices of school administrators in terms of communication, public relations, branding, professional growth and development, student engagement and learning, opportunity, and learning environment and spaces, as well as teachers' digital citizenship skills in digital access, communication, literacy, etiquette, health and wellness, and security. Findings revealed that school administrators demonstrated a very good level of digital leadership practices ($M = 3.79$), with branding obtaining the highest rating, while communication received the lowest. Likewise, teachers exhibited a very good level of digital citizenship skills ($M = 3.16$), with digital communication ranked highest and digital security lowest. Statistical analysis showed a negligible positive, but non-significant relationship between digital leadership practices and digital citizenship skills ($\rho = 0.0361$, $p = 0.7820$), indicating that administrators' digital leadership did not significantly influence teachers' digital citizenship competencies. The study concluded that although both variables were rated very good, they operated independently within the research context. Based on the findings, two intervention programs were developed: the Digital Leadership Enhancement Program for School Heads and the Digital Citizenship Empowerment Program for Teachers to strengthen leadership capacity and promote responsible, ethical, and effective digital engagement in schools.

Keywords: digital citizenship skills, digital leadership practices, educational administration intervention

Digital leadership practices of secondary school heads in Santa Fe District and its relationship with teachers' digital citizenship skills

1. Introduction

In the rapidly evolving educational landscape, digital technologies have become integral to shaping teaching and learning processes. Schools are no longer isolated institutions but dynamic environments where digital tools mediate communication, collaboration, and access to knowledge. Globally, educational leaders are expected to harness digital resources strategically to drive innovation, maintain competitiveness, and ensure student engagement in a digital age. The emergence of smart classrooms, online learning platforms, and digital assessment tools highlights the pivotal role of school heads in navigating these transformations. Leadership in this context extends beyond administrative duties, requiring visionary capacity to integrate technology into the core functions of education.

At the national level, the Philippines has prioritized digital education through initiatives such as the Department of Education's "DepEd Commons" and the implementation of blended learning programs across public schools. These programs aim to enhance access to learning resources, promote teacher collaboration, and prepare students for the demands of the 21st century. However, successful implementation hinges on the digital competence of school leaders, whose decisions and practices influence the degree to which teachers and students effectively adopt technology. At the local level, secondary schools in Santa Fe District face challenges such as limited technological infrastructure, variable digital literacy among staff, and the need for strategic integration of digital tools to maximize learning outcomes. This situation underscores the importance of examining how school heads exercise digital leadership and how it affects teachers' digital citizenship skills, including responsible online behavior, critical digital literacy, and effective communication in virtual spaces.

Digital leadership practices encompass a spectrum of strategic actions, from branding and public relations to fostering professional growth and cultivating student engagement (Sheninger, 2014). Recent studies indicate that school leaders who demonstrate proactive digital leadership positively influence teacher effectiveness and the adoption of innovative instructional strategies (Nguyen et al., 2020; Al-Fraihat et al., 2021). Similarly, teachers' digital citizenship skills are critical in ensuring ethical, safe, and productive use of technology in educational settings, which in turn enhances student learning experiences (Ribble, 2015; García-Peñalvo et al., 2019). Evidence suggests that the relationship between digital leadership and teachers' digital competencies is increasingly relevant in the post-pandemic educational context. School heads who prioritize communication, digital access, and collaborative learning environments empower teachers to model responsible and effective technology use, ultimately fostering a culture of innovation and digital accountability (O'Dwyer et al., 2018; Sánchez-Cruzado et al., 2021). Furthermore, understanding this relationship allows policymakers and educators to develop targeted interventions, such as professional development programs, to strengthen both leadership capacities and teacher digital competencies.

This study seeks to explore the digital leadership practices of secondary school heads in Santa Fe District and their relationship with teachers' digital citizenship skills. By identifying key leadership dimensions that influence responsible and effective technology use among teachers, the research aims to contribute to the enhancement of digital education strategies, inform policy decisions, and support a holistic approach to integrating technology in local educational contexts. The present study is anchored on global, national, and institutional frameworks that emphasize the integration of technology in education, the promotion of quality teaching, and the development of responsible digital citizens. Globally, the United Nations Sustainable Development Goals (SDGs) provide a guiding framework for educational research that aligns with social, technological, and ethical development. In particular, this study contributes to SDG 4: "Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all" by examining how digital leadership practices influence teachers' ability to integrate

technology responsibly and effectively in their teaching. By fostering digital competence and citizenship, the study indirectly supports SDG 5 (gender equality), SDG 9 (industry, innovation, and infrastructure), and SDG 17 (partnerships for the goals), as empowered school leaders and digitally competent teachers contribute to equitable access to quality learning, innovation in teaching practices, and stronger collaboration within the educational community.

At the national level, the study aligns with the Philippine National Research Agenda on Teacher Education (NRATE), which emphasizes the enhancement of teacher competencies, innovative pedagogical practices, and professional development. By investigating the digital leadership practices of secondary school heads and their effect on teachers' digital citizenship skills, this study provides empirical insights into how leadership influences technology-mediated teaching practices, professional growth, and ethical digital behavior. Furthermore, it supports the NRATE's emphasis on research that contributes to teacher quality, leadership effectiveness, and the development of 21st-century skills, ensuring that public school education keeps pace with technological and pedagogical advancements.

This study aligns with the research priorities of the Department of Education (DepEd) by contributing to its Research Agenda, which emphasizes educational leadership, teacher quality, curriculum innovation, and the effective integration of information and communication technology (ICT) in teaching and learning. By investigating the digital leadership practices of school heads and the digital citizenship skills of teachers, the study provides empirical evidence that supports the development of technology-enabled schools and the continuous improvement of educational management and instructional practices. Moreover, the study is consistent with the Philippine Professional Standards for Teachers (PPST), particularly the domains that promote the effective integration of ICT, the creation of safe and inclusive learning environments, professional engagement, and continuous professional development. The findings reinforce the importance of equipping teachers with digital citizenship competencies that enable them to utilize technology responsibly, ethically, and effectively while fostering meaningful learning experiences for students. Likewise, the study highlights the vital role of school heads in exercising digital leadership to support teachers' professional growth, encourage innovation, and strengthen technology-enhanced learning environments.

The findings may serve as valuable inputs for DepEd in formulating policies, designing capacity-building programs, and implementing evidence-based interventions that strengthen digital leadership and digital citizenship across schools. Ultimately, the study contributes to DepEd's commitment to developing future-ready educational leaders and teachers who are capable of meeting the demands of 21st-century education while upholding the standards of the PPST and advancing quality, equitable, and technology-driven basic education. At the regional and institutional levels, the study is anchored on the Nueva Vizcaya State University (NVSU) Research Agenda, which emphasizes education, technology integration, and leadership development as key focus areas. By focusing on the digital leadership practices of school heads in Santa Fe District, the study addresses institutional priorities on the promotion of research that improves educational management, professional development, and teaching effectiveness. Specifically, it provides empirical evidence that can guide NVSU in developing leadership training programs, digital literacy initiatives, and research-based interventions tailored to local school contexts.

Finally, the study contributes to the College of Teacher Education Research Agenda, which highlights innovative instructional practices, teacher professional growth, and the use of ICT in teaching and learning. By linking school heads' digital leadership with teachers' digital citizenship skills, the study provides actionable insights into leadership-driven strategies for digital integration, professional development, and the ethical use of technology in the classroom. It reinforces the college's commitment to producing teachers who are not only competent in subject matter but also capable of modeling responsible digital behavior and contributing to a digitally empowered educational environment. In essence, this study is strategically anchored in international, national, and local research priorities, bridging the gap between leadership practices and teacher digital competencies. Its findings have the potential to enhance educational policy, professional development, and the promotion of ethical digital practices, contributing to a holistic and forward-looking approach to technology

integration in Philippine schools.

Despite the growing emphasis on digital education worldwide, there remains a significant gap in understanding how school leadership directly influences teachers' digital citizenship skills, particularly in the Philippine context. While studies have explored digital leadership and teacher competencies separately, few have examined the relationship between the two in local secondary schools, creating a critical gap in evidence-based strategies for improving digital integration in education. Globally, research has emphasized the importance of digital leadership in fostering innovation and engagement (Nguyen, Barton, & Nguyen, 2020; Al-Fraihat, Joy, & Sinclair, 2021), but these studies are often context-specific to developed nations, limiting their applicability to resource-constrained settings like Santa Fe District. Locally, most research focuses on teacher digital literacy or ICT adoption without considering the role of school heads as enablers of digital competence and responsible online behavior.

In the context of Santa Fe District, teachers encounter multiple challenges that highlight the need for this study. Many educators struggle with limited access to digital tools and internet connectivity, which hinders effective instructional delivery and prevents full engagement in technology-mediated learning. Additionally, there is a lack of structured professional development programs that target both pedagogical use of technology and the cultivation of ethical digital citizenship. Teachers also report inconsistencies in digital leadership practices across schools, with some school heads demonstrating proactive technology integration while others lack the capacity or awareness to support teachers effectively. These disparities impact not only instructional quality but also students' ability to engage safely and responsibly in digital environments. Recognizing these gaps and challenges, the researcher was motivated to investigate the digital leadership practices of secondary school heads and their influence on teachers' digital citizenship skills. This study seeks to provide empirical evidence that can inform leadership strategies, professional development initiatives, and policy interventions aimed at strengthening digital education in local schools, ultimately contributing to the enhancement of both teacher competence and student learning outcomes in the digital era.

The study aimed to look into the digital leadership practices of secondary school heads of Santa Fe District during the academic year 2025-2026 and its relationships with the teachers' digital citizenship skills. Specifically, it answered the following questions.

- What is the assessment of the teacher-respondents on their school administrators' digital leadership practices along the dimensions of communication, public relations, branding, professional growth and development, student engagement and learning, opportunity, and learning environment and spaces?
- What is the assessment of the respondents of their digital citizenship skills along the dimension of digital access, digital communication, digital literacy, digital etiquette, digital health and wellness, and digital security?
- Are there a significant relationship between the assessed school administrators' digital leadership practices and digital citizenship skills of the respondents?
- Based on the significant findings of the study, what educational administration intervention could be developed?

Based on the specific questions posted above, the following are the objectives of the study.

- To assess the perceptions of teacher-respondents on their school administrators' digital leadership practices along the dimensions of communication, public relations, branding, professional growth and development, student engagement and learning, opportunity, and learning environment and spaces.
- To determine the level of digital citizenship skills of the respondents along the dimensions of digital access, digital communication, digital literacy, digital etiquette, digital health and wellness, and digital

security.

- To examine the significant relationship between school administrators' digital leadership practices and the digital citizenship skills of the respondents.
- To develop an educational administration intervention based on the significant findings of the study.

2. Related Literature

This study is anchored on the Diffusion of Innovation Theory (DIT) originally proposed by Rogers (2003) as cited by Cinense (2024), which explains how new ideas, technologies, and practices spread within a social system over time. The theory has been widely applied in educational technology research to understand how innovations are adopted and implemented in schools and other learning institutions. According to recent scholars, the diffusion of innovation emphasizes the roles of communication channels, leadership influence, and social systems in shaping how individuals adopt technological practices (Al-Rahmi et al., 2019; Taherdoost, 2018). In educational settings, this theory provides a valuable framework for examining how school leaders promote the adoption of digital initiatives and support teachers in integrating technology into teaching and learning processes.

In the context of this study, Diffusion of Innovation Theory helps explain how school administrators, as change agents, influence the adoption of digital leadership practices within their institutions. School heads play a significant role in introducing technological innovations, encouraging professional development, and creating a supportive environment that fosters the use of digital tools for communication, collaboration, and instructional improvement. Studies have shown that leadership support is a critical factor in the successful implementation of digital initiatives in schools, as it motivates teachers to adopt innovative practices and enhances their readiness to utilize technology effectively (Petko et al., 2018; Scherer et al., 2019). Furthermore, the theory also supports the development of teachers' digital citizenship skills. As digital practices are gradually introduced and reinforced within the school environment, teachers become more exposed to responsible technology use, ethical online behavior, and effective digital communication. Research indicates that institutional leadership and supportive school cultures significantly influence teachers' ability to develop and sustain digital competencies necessary for responsible participation in digital environments (Instefjord & Munthe, 2020; Redecker, 2020). Thus, Diffusion of Innovation Theory provides a strong theoretical lens for examining how digital leadership practices of school heads contribute to the diffusion and adoption of digital citizenship skills among teachers. By understanding how innovations are introduced, communicated, and adopted within schools, this framework helps explain how leadership practices can foster a technology-driven educational environment that promotes responsible and effective digital engagement.

Digital leadership practices have become increasingly important in modern educational settings as schools continue to integrate technology into teaching, learning, and administrative processes. Digital leadership refers to the ability of school leaders to strategically use digital technologies to improve communication, collaboration, innovation, and overall educational effectiveness. In the context of educational leadership, digital leaders guide schools in adapting to rapid technological changes while promoting a culture that supports digital learning, responsible technology use, and continuous professional development. Recent studies emphasize that effective digital leadership is critical in fostering innovative teaching practices, improving organizational communication, and enhancing the overall digital readiness of teachers and learners (Dexter, 2018; Scherer et al., 2021).

One of the core dimensions of digital leadership is communication, which involves the strategic use of digital platforms to facilitate timely, transparent, and effective information sharing among teachers, students, parents, and the broader school community. Digital communication tools such as learning management systems, school websites, and social media platforms allow school leaders to maintain open communication channels and ensure that stakeholders remain informed and engaged in school initiatives. Effective digital communication also supports collaboration and strengthens relationships within the educational community (Trust, 2018).

Another important dimension is public relations, which involves utilizing digital platforms to highlight school achievements, programs, and initiatives. School leaders who effectively manage digital public relations can build trust, credibility, and positive relationships with stakeholders by showcasing the accomplishments of teachers and students through online platforms. Digital public relations also strengthens the school's visibility and fosters community support for educational programs (Scherer et al., 2021). Closely related to this is branding, which refers to establishing a strong and recognizable identity for the school through digital channels. Through strategic digital branding, school leaders can promote the school's mission, values, and achievements, helping the institution maintain a positive reputation in the community (Carver, 2020).

Digital leadership also emphasizes professional growth and development, which focuses on encouraging teachers to continuously enhance their digital competencies through training, collaboration, and professional learning networks. School leaders play a vital role in facilitating opportunities for teachers to participate in technology-related professional development that strengthens their ability to integrate digital tools into instruction (Instefjord & Munthe, 2020). Another dimension is student engagement and learning, which involves integrating technology into instructional practices to create interactive, meaningful, and student-centered learning experiences. Digital leadership supports the use of innovative teaching strategies that encourage active participation and critical thinking among learners (Bond, 2020). Additionally, opportunity refers to the ability of school leaders to recognize and maximize digital tools that expand access to educational resources, partnerships, and collaborative learning opportunities for both teachers and students (Scherer et al., 2021). Lastly, learning environment and spaces focus on transforming both physical and virtual learning environments to support technology integration, collaboration, and the development of 21st-century skills. School leaders who prioritize digital learning environments create spaces that encourage innovation, flexibility, and effective technology use in teaching and learning (Dexter, 2018).

It is noted that digital leadership practices play a crucial role in shaping how schools adapt to technological advancements and support teachers in developing digital competencies necessary for effective teaching and responsible participation in the digital world. Digital citizenship skills have become an essential component of education in the digital age as teachers and learners increasingly interact, communicate, and access information through online platforms and technological tools. Digital citizenship refers to the responsible, ethical, and effective use of technology in digital environments. It encompasses a set of competencies that enable individuals to navigate the digital world safely, critically, and productively. In educational settings, teachers play a vital role in modeling responsible technology use and guiding learners in developing appropriate digital behaviors. Recent studies emphasize that strengthening teachers' digital citizenship skills helps promote ethical online conduct, protect digital privacy, and support effective participation in digital learning communities (Choi et al., 2018; Jones & Mitchell, 2019).

One of the fundamental dimensions of digital citizenship is digital access, which refers to the equitable opportunity for individuals to participate in the digital world by having access to digital tools, devices, and internet connectivity. In schools, digital access ensures that teachers and students can utilize technological resources necessary for communication, information retrieval, and instructional activities. Ensuring equitable digital access helps reduce the digital divide and supports inclusive learning opportunities for all members of the school community (Van Dijk, 2020). Another important dimension is digital communication, which involves the effective and responsible use of digital platforms to exchange information and collaborate with others. Teachers utilize digital communication tools such as emails, online learning management systems, and virtual classrooms to facilitate interaction with students, colleagues, and parents. Effective digital communication also requires awareness of appropriate online behavior and the ability to use digital tools efficiently to support teaching and learning processes (Choi et al., 2018).

Digital literacy is also a critical component of digital citizenship. It refers to the ability to locate, evaluate, analyze, and utilize digital information responsibly. Teachers with strong digital literacy skills are able to critically assess the credibility of online sources, integrate digital content into instruction, and guide students in developing information evaluation skills. Developing digital literacy is particularly important in combating misinformation

Another key dimension is digital etiquette, which refers to the standards of respectful and responsible behavior when interacting in online spaces. In educational contexts, digital etiquette encourages teachers and students to maintain professionalism, respect, and courtesy in digital communication. Practicing appropriate online conduct fosters positive digital interactions and helps maintain a safe and respectful learning environment (Jones & Mitchell, 2019). The dimension of digital health and wellness focuses on maintaining physical, psychological, and emotional well-being while using digital technologies. Excessive use of digital devices may lead to issues such as eye strain, digital fatigue, and stress. Teachers who understand digital health and wellness promote balanced technology use and encourage healthy digital habits among students (Hale & Guan, 2019).

Lastly, digital security refers to the ability to protect personal information and maintain safety in digital environments. This includes understanding online risks, safeguarding digital identities, and implementing protective measures such as strong passwords and secure data practices. Teachers who possess strong digital security awareness are better equipped to protect themselves and guide students in maintaining safe digital practices (Livingstone et al., 2018). It is also noted by the current researcher that digital citizenship skills are crucial for ensuring that teachers and learners can responsibly navigate the digital world. Strengthening these competencies supports ethical technology use, promotes safe online behavior, and enhances the effectiveness of digital learning environments.

This study assumes that there is a meaningful relationship between the digital leadership practices of school administrators and the digital citizenship skills of teachers. It is presumed that effective digital leadership—manifested through communication, public relations, branding, professional growth and development, student engagement and learning, opportunity, and learning environment and spaces—can influence and support the development of teachers' competencies in digital access, digital communication, digital literacy, digital etiquette, digital health and wellness, and digital security. The study also assumes that school leaders who actively promote digital initiatives and provide supportive technological environments can positively contribute to teachers' responsible, ethical, and effective use of digital tools in educational settings.

3. Methodology

Research Design. The study employed a quantitative descriptive-correlational research design to examine the digital leadership practices of secondary school heads and their relationship with teachers' digital citizenship skills in Santa Fe District. The descriptive component determined the level of digital leadership practices across communication, public relations, branding, professional growth and development, student engagement and learning, opportunity, and learning environment and spaces. It also assessed teachers' digital citizenship skills in terms of digital access, communication, etiquette, health and wellness, literacy, and security. The correlational component examined the strength and direction of the relationship between digital leadership practices and teachers' digital citizenship skills without manipulating the study variables. This design was appropriate for examining naturally occurring relationships within the educational setting. Quantitative methods also enabled the systematic measurement and statistical analysis of the study variables (Leedy & Ormrod, 2015; American Psychological Association, 2020).

Research Setting. The study was conducted in two public secondary schools in Santa Fe District under the Department of Education: Canabuan National High School (NHS) and Santa Fe National High School (NHS). The two schools represented different organizational contexts in terms of school size, teaching personnel, and student population. Canabuan NHS had 18 teachers and approximately 322 students, while Santa Fe NHS had 53 teachers and 1,281 students. The inclusion of these schools provided a setting that represented both relatively small and large public secondary school environments. These differences offered an appropriate context for examining how digital leadership practices operate across varying organizational and technological conditions. Both schools were engaged in technology-supported teaching, digital communication, professional collaboration, and other

educational technology initiatives. The setting was therefore considered appropriate for investigating the relationship between school heads' digital leadership practices and teachers' digital citizenship skills.

Participants and Sampling. The study involved 61 teacher-respondents from a total population of 71 teachers, representing 85.92% of the teacher population in the two participating schools. The sample size was determined using the Raosoft Online Sample Size Calculator. A multistage sampling procedure consisting of stratified sampling and simple random sampling was employed. Each school served as a stratum to ensure proportional representation. Within each stratum, teachers were selected through simple random sampling, giving each teacher an equal probability of participation and minimizing selection bias. As shown in Table 1, 15 of the 18 teachers from Canabuan NHS participated in the study, representing 24.59% of the respondents, while 46 of the 53 teachers from Santa Fe NHS participated, representing 75.41%.

Table 1
Frequency and Percentage Distribution of Respondents by School

School	Total Teachers	Respondents	Percentage
Canabuan NHS	18	15	24.59%
Santa Fe NHS	53	46	75.41%
Total	71	61	100.00%

Research Instruments. Two validated questionnaires were used to collect the data.

The *Digital Citizenship Skills Questionnaire* consisted of 36 items developed and validated by Vadil and Tallungan (2023). The instrument obtained a split-half reliability coefficient of 0.892, indicating high internal consistency. It measured digital citizenship skills in six dimensions: digital access, digital communication, digital literacy, digital etiquette, digital health and wellness, and digital security. The instrument was informed by Ribble's (2015) framework on digital citizenship. Responses were rated using a four-point scale from 1 (Seldom) to 4 (Always). The resulting mean scores were interpreted as Seldom/Poor (1.00–1.49), Sometimes/Good (1.50–2.49), Often/Very Good (2.50–3.49), and Always/Excellent (3.50–4.00). Negatively worded items were reverse-scored.

The *Digital Leadership Practices Questionnaire* consisted of 42 items developed and validated by Lanuza-Quimson et al. (2024), with a reported Cronbach's alpha of 0.874. Based on the framework of Sheninger (2014), the instrument assessed communication, public relations, branding, professional growth and development, student engagement and learning, opportunity, and learning environments and spaces. Responses were measured using a five-point scale ranging from 1 (Never) to 5 (Always). Mean scores were interpreted as Never/Very Poor DLP (1.00–1.49), Seldom/Poor DLP (1.50–2.49), Sometimes/Good DLP (2.50–3.49), Often/Very Good DLP (3.50–4.49), and Always/Excellent DLP (4.50–5.00).

Data Collection Procedure. Prior to data collection, formal permission was obtained from the District Supervisor of Santa Fe District through an official request endorsed by the Dean of the College of Teacher Education. Coordination with the school heads was subsequently undertaken to facilitate the administration and retrieval of the questionnaires. The respondents were informed about the purpose, scope, and procedures of the study before participating. Participation was voluntary, and informed consent was secured. Ethical principles concerning confidentiality, anonymity, privacy, and the right to withdraw were observed throughout the research process. The respondents were encouraged to provide honest responses, and adequate time was provided for completion of the instruments. After retrieval, the questionnaires were checked, organized, coded, and tabulated. The resulting data were subjected to appropriate statistical analyses corresponding to the research questions.

Data Analysis. Descriptive and inferential statistical procedures were employed to analyze the data. The mean was used to determine the levels of digital leadership practices of school heads and teachers' digital citizenship skills. This measure provided an overall description of respondents' assessments across the identified dimensions.

The Spearman's rank-order correlation coefficient (Spearman's rho) was used to determine the strength and direction of the relationship between digital leadership practices and teachers' digital citizenship skills. This nonparametric procedure was appropriate for determining associations between the study variables based on the ordinal nature of the questionnaire responses. Statistical significance was evaluated to determine whether the observed relationships were statistically meaningful.

Ethical Considerations. The study adhered to established ethical principles governing research involving human participants. Respondents were provided with sufficient information about the study and participated voluntarily through informed consent. Confidentiality and anonymity were maintained by ensuring that individual responses and identities were not disclosed. The collected information was used exclusively for academic purposes and was handled in accordance with applicable institutional and research ethics requirements. Overall, the methodological procedures provided a systematic framework for assessing digital leadership practices and teachers' digital citizenship skills and for determining the relationship between these variables within the selected public secondary schools in Santa Fe District.

4. Conclusions

1. The school administrators demonstrated a generally very good level of digital leadership practices, indicating that they are effectively utilizing digital tools and strategies to support communication, professional development, stakeholder engagement, instructional innovation, and the creation of technology-enhanced learning environments within their schools.
2. The teacher-respondents demonstrated a generally very good level of digital citizenship skills, indicating that they possess adequate competencies in the responsible, ethical, and effective use of digital technologies across various dimensions, including communication, access, etiquette, literacy, health and wellness, and security.
3. There is no significant relationship between school administrators' digital leadership practices and teachers' digital citizenship skills, indicating that improvements or variations in leadership practices do not necessarily translate into corresponding changes in teachers' digital citizenship competencies within the current context.
4. Two training designs were developed based on the significant findings of the study, aimed at enhancing school heads' digital leadership capacities and strengthening teachers' digital citizenship skills in support of more effective and responsible digital learning environments.

Recommendations

1. School administrators may sustain and further enhance their digital leadership practices by regularly integrating structured digital leadership planning, with emphasis on strengthening communication systems, data-driven decision-making, and stakeholder engagement to support more responsive and technology-driven school management.
2. Teachers may continuously improve their digital citizenship skills through sustained participation in school-based and self-directed professional development programs focusing on responsible technology use, digital literacy, cybersecurity awareness, ethical online behavior, and critical evaluation of digital information.
3. Schools may establish stronger alignment between digital leadership practices and teacher development initiatives by promoting collaborative programs that ensure leadership strategies are effectively translated into meaningful support for teachers' digital citizenship development.
4. The proposed training designs—*Digital Leadership Enhancement Program for School Heads* and

Digital Citizenship Empowerment Program for Teachers—may be implemented through structured in-service training sessions, workshops, and learning action cells, with continuous monitoring and follow-up activities to ensure practical application in school settings.

5. Future researchers are recommended to replicate this study in other contexts and extend it by incorporating additional variables such as institutional support, teacher motivation, ICT training exposure, and technological readiness, and by employing a qualitative research design to explore deeper lived experiences and contextual factors influencing digital leadership and digital citizenship.

5. References

- Abella, J. L., & Dela Rosa, E. (2023). Digital literacy and digital competence of selected Filipino teachers: Basis for a post-pandemic pedagogy. *International Journal of Recent Educational Research*, 4(5).
- Al-Fraihat, D., Joy, M., & Sinclair, J. (2021). Evaluating E-learning systems success: An empirical study. *Computers in Human Behavior*, 102, 67–86. <https://doi.org/10.1016/j.chb.2019.08.004>
- Al-Rahmi, W. M., Alias, N., Othman, M. S., Marin, V. I., & Tur, G. (2019). A model of factors affecting learning performance through the use of social media in Malaysian higher education. *Computers & Education*, 121, 59–72. <https://doi.org/10.1016/j.compedu.2018.12.002>
- Antia, J. C., & Dioso, E. D. (2023). The impact of digital literacy of school heads on their performance as school leaders. *EPRA International Journal of Multidisciplinary Research*, 9(7), 214–220.
- Avolio, B. J., Sosik, J. J., Kahai, S. S., & Baker, B. (2020). Leadership in the digital age: A review and research agenda. *The Leadership Quarterly*, 31(1), 101–118.
- Baldera, J. (2024). Digital leadership pioneers: Navigating outstanding school principals' successes in the evolving educational landscape. *International Journal of Learning, Teaching and Educational Research*.
- Belano, H. D., & Aclao, J. T. (2025). Digital citizenship and leadership: How school heads promote safe and inclusive digital learning environments. *International Journal of Research and Innovation in Social Science*.
- Bond, M. (2020). Facilitating student engagement through the flipped learning approach in K–12: A systematic review. *Computers & Education*, 151, 103819. <https://doi.org/10.1016/j.compedu.2020.103819>
- Brown, T. (2023). Integrating digital citizenship into expert teaching practices. *Journal of Educational Technology Studies*, 18(2), 45–58.
- Capuno, R., Necesario, R., Etcuban, J., Espina, R., Padillo, G., & Manguilimotan, R. (2022). Attitudes, study habits, and academic performance of junior high school students in the new normal. *International Journal of Learning, Teaching and Educational Research*, 21(3), 1–17.
- Carver, L. B. (2020). School branding and social media: Educational leadership in the digital age. *Educational Management Administration & Leadership*, 48(3), 484–500. <https://doi.org/10.1177/1741143218792911>
- Çemçem, Ö., Yıldız, E., & Kılınç, E. (2023). Digital citizenship, digital fluency and digital wisdom among pre-service teachers. *Education and Information Technologies*, 28, 4531–4547.
- Choi, M., & Park, S. (2023). Digital citizenship profiles and internet ethics among adolescents. *Computers & Education*, 194, 104704.
- Choi, M., Glassman, M., & Cristol, D. (2018). What it means to be a citizen in the internet age: Development of a reliable and valid digital citizenship scale. *Computers & Education*, 107, 100–112. <https://doi.org/10.1016/j.compedu.2017.12.002>
- Cinense, J. C., & Vadil, C. F. (2024). Interplay between digital citizenship skills and teaching styles of public elementary school teachers in Quezon District, Nueva Vizcaya. *International Journal of Research Studies in Education*, 13(8), 101–122.
- De Los Reyes, M. A., & Paglinawan, J. L. (2024). Work adaptability and leadership competence on the digital fluency of school administrators. *International Journal of Research and Innovation in Social Science*, 8(14), 417–431.

- Del Castillo, F., & Caballero, J. (2021). Digital citizenship practices and implementation of learning modalities in higher education institutions under the new normal. *JPAIR Institutional Research Journal*.
- Delgado, D. E. (2024). School heads' digital leadership and its impact on technology integration in the public schools of Lucena City Division.
- Delizo, J. J., & Vadil, C. F. (2025). School administrators' digital leadership practices and organizational agility: The case of Dupax del Norte I District. *International Journal of Research Studies in Education*, 14(15), 247–262.
- Dexter, S. (2018). The role of leadership for information technology in education: Systems of practices. *Educational Administration Quarterly*, 54(4), 1–33. <https://doi.org/10.1177/0013161X18769095>
- Erdem, C., Koçyiğit, M., & Yılmaz, E. (2023). The mediating role of digital literacy in the relationship between media literacy and digital citizenship. *Education and Information Technologies*, 28, 13215–13230.
- Falloon, G. (2020). From digital literacy to digital competence: The teacher digital competency framework. *Educational Technology Research and Development*, 68(5), 2449–2472. <https://doi.org/10.1007/s11423-020-09767-4>
- García-Peñalvo, F. J., Corell, A., Abella-García, V., & Grande-de-Prado, M. (2019). Digital competence in higher education: The role of digital citizenship. *Education in the Knowledge Society*, 20, 1–19. <https://doi.org/10.14201/eks.21034>
- Hale, L., & Guan, S. (2019). Screen time and sleep among school-aged children and adolescents: A systematic literature review. *Sleep Medicine Reviews*, 21, 50–58. <https://doi.org/10.1016/j.smrv.2018.01.007>
- Hensellek, S. (2020). Digital leadership: A framework for successful leadership in the digital age. *Journal of Leadership Studies*, 14(4), 55–62.
- Instefjord, E. J., & Munthe, E. (2020). Preparing pre-service teachers to integrate technology: An analysis of the emphasis on digital competence in teacher education curricula. *European Journal of Teacher Education*, 43(1), 70–86. <https://doi.org/10.1080/02619768.2019.1694663>
- Jones, L. M., & Mitchell, K. J. (2019). Defining and measuring youth digital citizenship. *New Media & Society*, 21(9), 2063–2079. <https://doi.org/10.1177/1461444819876229>
- Karakose, T., Yirci, R., & Papadakis, S. (2021). Exploring the interrelationship between digital leadership and school effectiveness. *Education and Information Technologies*, 26(6), 1–20.
- Kroker, C. (2018). Leading digital transformation in schools: Opportunities and risks for school leaders. *Educational Management Administration & Leadership*, 46(3), 1–16.
- Livingstone, S., Stoilova, M., & Kelly, A. (2018). The class: Living and learning in the digital age. *New Media & Society*, 20(3), 1–19. <https://doi.org/10.1177/1461444816685938>
- Mahadir, N. A., Hussin, S., & Zaini, N. (2021). Digital citizenship skills among undergraduate students in Malaysia. *International Journal of Academic Research in Business and Social Sciences*, 11(6), 1235–1246.
- Martin, F., Gezer, T., & Wang, C. (2020). Educators' perceptions of digital citizenship in K–12 education. *Educational Technology Research and Development*, 68, 2159–2179.
- Nguyen, T., Barton, R., & Nguyen, H. (2020). Digital leadership in schools: A systematic literature review. *Education and Information Technologies*, 25(6), 5419–5446. <https://doi.org/10.1007/s10639-020-10255-2>
- O'Dwyer, L. M., Russell, M., Bebell, D., & Tucker-Seeley, K. (2018). Examining the relationship between principal leadership and teachers' technology integration. *Computers & Education*, 120, 30–42. <https://doi.org/10.1016/j.compedu.2018.01.010>
- Palaz, T., Koc, T., & Ozdemir, M. (2022). A bibliometric analysis of digital citizenship studies in education research. *Sustainability*, 14(8), 4562.
- Parviainen, P., Tihinen, M., Kääriäinen, J., & Teppola, S. (2017). Tackling the digitalization challenge: How to benefit from digitalization in practice. *International Journal of Information Systems and Project Management*, 5(1), 63–77.
- Petko, D., Prasse, D., & Cantieni, A. (2018). The interplay of school readiness and teacher readiness for educational technology integration. *Computers in Human Behavior*, 58, 229–239.

- <https://doi.org/10.1016/j.chb.2015.02.021>
- Rahim, M., & Zare, M. (2021). Digital citizenship and its impact on educational development: A review study. *International Journal of Instructional Technology and Educational Studies*, 2(1), 15–22.
- Redecker, C. (2020). The European framework for the digital competence of educators: DigCompEdu. *European Journal of Education*, 55(1), 1–12. <https://doi.org/10.1111/ejed.12389>
- Ribble, M. (2015). *Digital citizenship in schools: Nine elements all students should know* (3rd ed.). International Society for Technology in Education.
- Rivamonte, J. P., & Santos, J. M. (2025). Digital pedagogy: An analysis of the digital competency level of teachers and learners in selected Philippine public schools. *INTI Journal*.
- Roberts, L. (2023). Facilitator teaching style and digital citizenship development among students. *Journal of Digital Learning in Teacher Education*, 39(2), 67–78.
- Rodriguez, P. (2023). Experiential digital citizenship learning through personal model teaching style. *Journal of Educational Research and Practice*, 13(1), 112–125.
- Samanbutr, N., & Sutsavade, N. (2024). Digital leadership of school administrators and effectiveness of schools. *Procedia of Multidisciplinary Research*.
- Sánchez-Cruzado, C., Meneses, E., & González-Sanmamed, M. (2021). Digital competence of teachers and students in higher education during COVID-19. *Education Sciences*, 11(8), 400.
- Santos, R. (2023). Delegator teaching style and digital citizenship development among Filipino learners. *Philippine Journal of Education*, 98(1), 55–69.
- Saraih, U. N., Aris, A. Z., Sakdan, M. F., & Amlus, M. H. (2022). Digital leadership and student engagement in technology-driven learning environments. *International Journal of Educational Management*, 36(4), 569–583.
- Scherer, R., Siddiq, F., & Tondeur, J. (2021). The technology acceptance model in educational technology research: A meta-analysis. *Computers & Education*, 128, 13–35. <https://doi.org/10.1016/j.compedu.2018.09.009>
- SEAMEO. (2021). *Digital Kids Asia Pacific (DKAP): Digital citizenship among students in Southeast Asia*. Southeast Asian Ministers of Education Organization.
- Sheninger, E. (2014). *Digital leadership: Changing paradigms for changing times*. Corwin Press.
- Sheninger, E. (2022). *Disruptive thinking in our classrooms*. Corwin Press.
- Shi, Y., Zhang, L., & Wang, H. (2023). Digital citizenship research from 2010–2020: A systematic review. *Educational Technology Research and Development*, 71(2), 765–789.
- Suson, R. L. (2019). Appropriating digital citizenship in the context of basic education. *IOER International Multidisciplinary Research Journal*.
- Taherdoost, H. (2018). A review of technology acceptance and adoption models and theories. *Procedia Manufacturing*, 22, 960–967. <https://doi.org/10.1016/j.promfg.2018.03.137>
- Tanucan, J. C. M., Negrado, C. V., & Malaga, G. N. (2022). Digital leadership of school heads and job satisfaction of teachers in the Philippines during the pandemic. *International Journal of Learning, Teaching and Educational Research*, 21(3).
- Thompson, J. (2023). Structured digital citizenship instruction in formal authority teaching environments. *Computers in the Schools*, 40(1), 24–39.
- Trust, T. (2018). 2018 K–12 educators’ use of social media for professional learning. *Journal of Digital Learning in Teacher Education*, 34(4), 206–220. <https://doi.org/10.1080/21532974.2018.1492368>
- Van Dijk, J. (2020). *The digital divide*. Polity Press.
- Yusof, M. R., Zainuddin, Z., & Hamdan, A. (2019). Branding strategies in digital leadership for educational institutions. *International Journal of Educational Management*, 33(5), 1021–1035.

International Journal of Research Studies in Education

Consortia Academia: A partner of Network of Professional Researchers and Educators (NPRE)
Barangay Concepcion, Malabon City, Metro Manila, Philippines

Editor

ijr.edu@gmail.com / ijr.edu@consortiacademia.org

Open Access

<http://consortiacademia.org/ijrse/>

ISSN: 2243-7703



Consortia Academia