MËTILËDTËD: *International Multidisciplinary Journal in Language, Education, and Culture*
www.metiledtedjournal.com

ARTIFICIAL INTELLIGENCE STIMULER TALK APPLICATIONAND READING COMPREHENSION SKILLS OF FRESHMEN STUDENTS AT EAST-WEST MINDANAO COLLEGES, INC: AN EXPERIMENTAL ANALYSIS

[1]Rocelyn C. Begafria
East-West Mindanao Colleges, Inc.

[2]Jaime Boy U. Ngag Jr., PhD
South Cotabato State College

Date Submitted: April 06, 2026
Date Accepted: April 07, 2026
Date Reviewed: April 10, 2026
Date Revised: April 25, 2026
Date Published: May 07, 2026

How to cite this work:

Begafria, R., & Ngag, J.B., (2026). Artificial Intelligence Stimuler Talk Applicationand Reading Comprehension Skills of Freshmen Students at East-West Mindanao Colleges, Inc: An Experimental Analysis. *MËTILËDTËD: International Multidisciplinary Journal in Language, Education, and Culture,* 1(1), 280-289. https://metiledtedjournal.com/

ABSTRACT

Reading comprehension remains a pivotal skill for academic success, yet many freshmen encounter difficulties in understanding and interpreting texts effectively. Recent advances in artificial intelligence (AI) have introduced innovative tools designed to enhance literacy skills, providing opportunities for personalized learning and interactive feedback. This study employed a quantitative, quasi-experimental design to examine the effect of the AI Stimuler Talk application on the reading comprehension abilities of freshmen students at East-West Mindanao Colleges Inc during the academic year 2025–2026. The primary objective was to determine whether integrating AI-supported instruction could improve students' comprehension, interpretive, and analytical skills compared to traditional learning approaches. Findings revealed that the AI Stimuler Talk application was highly effective in terms of content quality, usability, technical functionality, acceptability, and instructional support. The tool facilitated meaningful learner engagement, providing interactive exercises that promoted comprehension, reflection, and text interpretation. Moreover, students demonstrated notable improvement in reading comprehension after the instructional period, progressing from foundational difficulties to a higher level of accuracy and understanding. The analysis confirmed that the gains were statistically significant, indicating a measurable positive impact of the AI intervention on students' literacy performance. The study concluded that AI-supported tools, such as the AI Stimuler Talk application, effectively enhance

reading comprehension when combined with structured instruction. The application not only served as a reliable learning aid but also strengthened students' confidence, engagement, and foundational literacy skills. Recommendations included the formal integration of AI-assisted reading programs, continued teacher-guided implementation, ethical and equitable policy development, and further investigation into long-term outcomes and varied learner responses.

Keywords: *Artificial Intelligence, Reading Comprehension, Freshmen Students, AI-Assisted Learning*

INTRODUCTION

Background of the Study

Reading comprehension remains a critical determinant of academic success, yet many students find this challenging. Recent advancements in artificial intelligence (AI) have introduced innovative tools to enhance reading skills. One such tool is the StimulER Talk application, designed to personalize reading experiences.

Globally, AI has been integrated into educational settings to address various learning challenges. Studies have demonstrated that AI-driven personalized reading platforms can significantly enhance reading comprehension by tailoring content to individual learning needs. For instance, research indicates that AI-based platforms provide personalized feedback and adjust reading materials to match students' proficiency levels, to improve comprehension skills.

In the Philippines, reading comprehension has been identified as a significant area of concern. The 2018 Programme for International Student Assessment (PISA) results revealed that Filipino students scored the lowest in reading among participating countries. This highlights the urgent need for effective interventions to bolster reading skills. The integration of AI tools in Philippine educational institutions is still in its nascent stages, with limited empirical studies exploring their effectiveness in enhancing reading comprehension.

Within the Bangsamoro Autonomous Region in Muslim Mindanao (BARMM), educational challenges are compounded by socio-political factors and limited access to resources. While there is a growing interest in integrating technology into education, the adoption of AI tools remains minimal. This study aims to contribute to the limited body of research on AI applications in BARMM's educational landscape, providing insights into their potential benefits and challenges.

Despite the promising potential of AI in education, there is a paucity of research on its application in improving reading comprehension among freshmen students in the Philippine context, particularly in the BARMM. Existing studies primarily concentrate on senior high school students or focus on other aspects of education, such as language acquisition or motivation. This study seeks to fill this gap by investigating the specific impact of the StimulER Talk application on reading comprehension among freshmen students at East-West Mindanao Colleges Inc.

This study aligns with SDG 4: Quality Education**,** particularly Target 4.6, which aims to ensure that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy. By exploring innovative methods to enhance reading comprehension, the study contributes to the broader goal of improving educational outcomes and promoting lifelong learning opportunities for all.

The primary goal of this study was to evaluate the effectiveness of the StimulER Talk application in improving reading comprehension among freshmen students at East-West Mindanao Colleges Inc.

Specifically, the study aimed to assess whether the application leads to significant improvements in students' reading comprehension scores, thereby providing empirical evidence on the utility of AI-driven tools in enhancing literacy skills.

Research Questions

This study sought to evaluate the effectiveness of the StimulER Talk application in improving reading comprehension among freshmen students at East-West Mindanao Colleges, Inc. for the academic year 2025-2026.

Specifically, it answered the following key questions:

1. What is the quality of the Artificial Intelligence StimulER Talk Application, in terms of:
    1.1. Content;
    1.2. Mechanics;
    1.3. Acceptability; and,
    1.4. Instructional Function?
2. What is the level of Reading Comprehension Skills of Freshmen Students at EWMCI, in terms of:
    2.1. Pretest; and,
    2.2. Posttest?
3. Is there a significant difference between the pretest and posttest scores of freshmen students at EWMCI in the reading comprehension test?

METHODOLOGY

Research Design

The study was quantitative and employed a quasi-experimental design. It sought to evaluate the effectiveness of the AI Stimuler Talk application in improving reading comprehension among freshmen students at East-West Mindanao Colleges Inc for the academic year 2025-2026.

A quasi-experimental approach is appropriate because it allows comparison of outcomes between groups while accommodating the practical limitations of conducting true experiments in school settings, such as random assignment (Creswell & Creswell, 2018).

By systematically implementing and validating the intervention, the study aims to enhance literacy skills and promote cultural pride and identity among young learners. Embedding reading instruction within culturally meaningful contexts strengthens both academic achievement and socio-cultural development, making this design well-suited for educational settings where culture plays a vital role in shaping learners' engagement and success (Gay, 2018; Thomas et al., 2021).

Respondents of the Study

The respondents in this study were the 50 pre-identified students who were struggling in reading comprehension as freshmen at East-West Mindanao Colleges, Inc., for the academic year 2025-2026.

Sampling Technique

Simple Random Sampling Technique was used to select 50 pre-identified freshmen students who were struggling in reading comprehension at East-West Mindanao Colleges Inc for the academic year 2025-2026. Simple random sampling is one of the most widely accepted probability sampling methods

because it gives each member of the population an equal chance of being selected, minimizing selection bias and ensuring that the sample is representative of the larger teacher population (Taherdoost, 2017; Creswell & Creswell, 2021).

Research Instruments

This study employed a researcher-made evaluation tool for reading materials, while the pretest and posttest were adopted from DepEd Phil IRI (2015). The following scales were also used in the interpretation and analysis of data:

To assess the quality of the Artificial Intelligence Stimuler Talk Application, the scale below was used:

RATING	RANGE OF MEANS	VERBAL DESCRIPTION	INTERPRETATION
5	4.20-5.00	Excellent	Meets above 91 - 100 % quality standard
4	3.40-4.19	Very Satisfactory	Meets above 75 - 90% quality standard
3	2.60-3.39	Satisfactory	Meets above 60 - 74 % quality standard
2	1.80-2.59	Fair	Meets above 35 - 39 % quality standard
1	1.00-1.79	Poor	Meets above 35 - 39 % quality standard

Another rating scale was used to assess the level of Reading Comprehension Skills of Freshmen Students at EWMCI in pretest and posttest:

Rating Scale	Description	Remarks
90 % -100 %	Outstanding	Excellent Accuracy
85 % - 89 %	Very Satisfactory	Good Accuracy
80 % - 84 %	Satisfactory	Moderate Accuracy
75 % - 79 %	Fairly Satisfactory	Low Accuracy
Below 75 %	Did not meet the expectations	Poor Accuracy

Data Gathering Procedure

To ensure reliable and authentic findings, the researcher adhered to a methodology that aligned with the objectives of the study, aiming to measure the effectiveness of the AI StimulER Talk application in improving reading comprehension among freshmen students at East-West Mindanao Colleges, Inc., during the academic year 2025–2026.

Initially, the study required the endorsement of the DepEd-Division Superintendent and the CGS Dean through their respective signatures on formal documents. An additional letter of authorization was dispatched to the district supervisors and school principals of the selected elementary schools to secure cooperation and access.

To ensure the accuracy and validity of the collected data, a survey questionnaire was developed, validated, and used. The researcher employed a random sampling technique, using self-generated random number tables to select participants, thereby enhancing representativeness.

Before conducting the study, the research proposal underwent ethical review, and the researcher obtained approval from the East-West Mindanao Colleges, Inc. Research Ethics Committee (EREC) to ensure compliance with ethical standards.

Provided that health protocols were adhered to, the researcher disseminated the survey questionnaire through face-to-face interactions, ensuring proper guidance and clarification for participants. Finally, the responses from the survey were compiled, evaluated, and analyzed systematically, forming the basis for drawing conclusions regarding the impact of the AI Stimuler Talk application on students' reading comprehension skills.

Statistical Treatment

The collected data were systematically presented in tabular form, rigorously analyzed, and subsequently interpreted. The statistical techniques outlined in Chapter I were applied to address the research problems and objectives.

Initially, the mean statistical measure was employed to determine the level of the Artificial Intelligence Stimuler Talk Application and to assess the freshmen students' reading comprehension skills level at EWMCI in both the pretest and posttest phases. This approach allowed the researcher to quantify the performance and effectiveness of the AI as perceived by the participants and to provide a clear overview of their comprehension abilities before and after the intervention.

Furthermore, a t-test was utilized to examine the difference between the pretest and posttest scores of the freshmen students in the reading comprehension test. This inferential statistical tool enabled the researcher to determine whether the observed improvements in students' reading performance were statistically significant, thereby validating the impact of the AI StimulER Talk Application on literacy skills.

Overall, the combination of descriptive and inferential statistical analyses provided a comprehensive understanding of the quality and effectiveness of the AI-based instructional tool and its influence on the freshmen learners' reading comprehension development. The results revealed evidence-based insights into the potential of integrating artificial intelligence technology into instructional practices to improve student learning outcomes.

Scope and Delimitation

This study focused on determining the effect of the Artificial Intelligence StimulER Talk Application on the reading comprehension skills of freshmen students at East-West Mindanao Colleges, Inc. during the school year 2025–2026. Specifically, it involved selected first-year college students as participants, who were exposed to the AI-based application to evaluate its impact on their ability to understand, analyze, and interpret reading texts. Conducted within the school setting, the research used experimental design, with pretest and posttest measures to compare the reading comprehension performance of students who used the application with those who did not.

The study was delimited to freshmen students only, excluding higher-year levels and other schools, to ensure focus and manageability of data. It explored how AI technology enhanced literacy

development and innovative strategies in improving reading comprehension, thereby addressing the pressing need to strengthen students' foundational skills in line with 21st-century educational demands.

RESULTS AND DISCUSSIONS

The findings of Chapter IV reveal that the Artificial Intelligence StimulER Talk Application demonstrates a consistently high level of quality across all evaluated dimensions—content, mechanics, acceptability, and instructional function. Among these, content received the highest rating, indicating that the application provides relevant, accurate, engaging, and pedagogically sound materials tailored to freshmen students. The strong performance in content suggests that the application effectively supports reading comprehension by offering clear examples, meaningful exercises, and opportunities for critical thinking, aligning with best practices in AI-assisted learning.

In terms of mechanics, the application was also rated highly, particularly in its smooth functionality, user-friendly design, and effective audio features. While navigation and accessibility received slightly lower scores compared to other indicators, they still fell within acceptable quality standards. These results imply that the application is generally reliable and easy to use, allowing students to focus more on learning tasks rather than technical difficulties, which is essential for maintaining engagement in digital learning environments.

The acceptability of the application further reinforces its potential as an educational tool. Students perceived it as appropriate, enjoyable, and suitable for both classroom and independent learning. Although time efficiency and recommendation levels were slightly lower than other indicators, they remained within high-quality standards. Overall, the positive reception suggests that learners are willing to adopt and engage with the application, which is a crucial factor in the successful integration of technology in education.

Regarding instructional function, the application proved to be highly effective in enhancing reading comprehension skills. It supports understanding through interactive talk-based features, provides immediate feedback, complements traditional teaching methods, and encourages independent learning. These findings highlight the application's strong pedagogical value, demonstrating its capacity to foster both guided and self-directed learning, which are essential components of modern educational approaches.

Finally, the results of the pretest and posttest assessments confirm the effectiveness of the intervention. Students showed a significant improvement in reading comprehension, with scores increasing from a fairly satisfactory level with low accuracy to a very satisfactory level with good accuracy. The statistically significant difference between pretest and posttest scores indicates that the use of the StimulER Talk Application, along with structured instructional strategies, had a meaningful impact on students' learning outcomes. Overall, the study underscores the potential of AI-based tools to enhance reading comprehension and supports their integration into instructional practices.

Conclusions

The following conclusions were made considering this study's findings:

The AI application not only delivers relevant and accurate instructional content but also functions smoothly, is widely accepted by users, and effectively supports instructional goals.

The positive change in scores reflects instructional impact and aligns with research showing that targeted reading interventions and strategies can significantly enhance learners' comprehension outcomes.

Teaching strategies or reading interventions, specifically the AI Stimuler, during the study period were effective in enhancing students' comprehension abilities.

Recommendations

Considering the findings of the study, the following were recommended:

1. MBHTE–BARMM may consider formally integrating AI-supported reading tools, such as the Artificial Intelligence Stimuler Talk Application, into higher education literacy and language development programs. With the initially low reading accuracy of freshmen, regional support in the form of funding, infrastructure, and teacher training can help ensure that AI-based interventions are not used sporadically but are sustained as part of inclusive and technology-driven literacy initiatives across BARMM institutions.

2. School administrators of EWMCI may institutionalize the use of AI StimulER as a regular reading support mechanism for freshmen, particularly for students identified as at risk in reading comprehension. Establishing reading clinics, AI-assisted laboratory sessions, or scheduled remediation periods can help address early comprehension difficulties before they affect performance in content subjects.

3. Policy makers are encouraged to develop clear guidelines and standards for the ethical, pedagogically sound, and equitable use of artificial intelligence in higher education. Since students initially exhibited low comprehension accuracy, policies should emphasize AI as a support tool for foundational skills rather than a replacement for teachers, ensuring balanced integration with traditional instruction.

4. College teachers may blend AI StimulER with guided reading strategies, discussions, and reflective activities to maximize comprehension gains. Students, on the other hand, should be encouraged to use the application consistently as a practice and feedback tool, especially to strengthen reading accuracy, vocabulary, and text interpretation beyond classroom hours.

5. Future researchers may explore long-term effects of AI-assisted reading interventions, compare AI-supported instruction with traditional approaches, or examine how such tools impact different learner groups. Investigating factors influencing initial low reading accuracy will also help refine AI applications to better respond to learners' specific needs.

Compliance to Ethical Standards

In preparation for implementation, all the plans and recommendations were presented to East-West Mindanao Colleges Inc to ensure compliance with prescribed procedures and protocols. Within the context of the research focused on examining the effectiveness of the AI StimulER Talk application in improving reading comprehension among freshmen students at East-West Mindanao Colleges Inc for the academic year 2025–2026, it was imperative to emphasize the paramount importance of ethical considerations. Before commencing this study, the following ethical principles were highlighted:

Informed Consent: Before participation, consent was diligently obtained from all respondents involved in the study. They needed to possess a comprehensive understanding of the study's objectives, methodologies, potential risks, and benefits. Furthermore, participation remained entirely voluntary, allowing participants to withdraw from the study at any juncture without adverse consequences.

Anonymity and Confidentiality: To safeguard participants' identities and responses, rigorous measures were implemented to ensure anonymity and confidentiality. Rather than using actual names, pseudonyms or codes were used. The data was securely stored with access restricted solely to the research team.

Avoiding Harm: Delicate subjects, such as the challenges inherent in their roles, were discussed with meticulous consideration for the potential emotional and psychological impact on the respondents. Strategies were in place to minimize distress, and a support system was readily available to assist respondents should the need arise.

Researcher-Participant Relationship: The researcher maintained a professional and respectful rapport when engaging with the participants. Any actions that might exploit or cause harm to the respondents **were** scrupulously avoided, ensuring their utmost dignity and respect throughout the research process

Data Protection: To safeguard the participants' personal information, adherence to data protection regulations and laws was strictly observed. Stringent measures were employed to secure the storage and transmission of data.

Voluntary Participation: Respondents were assured that their involvement in the study was voluntary, devoid of coercion or external pressure.

Researcher Bias: The researcher remained vigilant regarding potential biases that might influence data collection and analysis, upholding objectivity and transparency throughout the research endeavor.

Institutional Approval: Before initiating the study, the researcher diligently sought ethical clearance from the pertinent institutional review boards or ethics committees.

Honesty and Integrity: The research findings were reported truthfully and accurately, devoid of manipulation or distortion to align with preconceived notions or biases.

Beneficence: The potential benefits of the research to educational practices and policies were considered, ensuring that the study contributed to the education system.

Cultural Sensitivity: The researcher demonstrated cultural sensitivity by respecting local customs, beliefs, and practices within the research setting, refraining from imposing external values on participants.

Inclusion and Diversity: The study's structure prioritized inclusivity and diversity, encompassing a wide spectrum of the effectiveness of the AI StimulER Talk application in improving reading comprehension among freshmen students at East-West Mindanao Colleges Inc for the academic year 2025–2026.

Acknowledgement

The researcher would like to express her heartfelt gratitude to the persons who willingly share their competence and skillfulness to make this study a success.

MARJUNI M. MADDI, Director General, MBHTE – Higher Education, for the word of wisdom and inspiring the researcher to never stop achieving her goal and aspirations;

BAILAH B. SANDIGAN, MAED, East-West Mindanao Colleges Inc. President, for inspiring the researcher to keep on with her dreams in spite life's difficulties;

EMILIA M. LOTILLA, PhD, Dean of the Graduate School, for constructive comments, valuable ideas and sharing her expertise;

JULIET P. TAMBUNGALAN, MAED, Program Chairperson of Graduate School for her assistance, untiring support and meaningful advice in preparing this manuscript;

JAIME BOY U. NGAG JR., PhD, Research Consultant and the same time her adviser for his support, advices, guidance, constructive comments, worthy suggestions and words of encouragement which really pushed her up to pursue her study despite difficulties.

AMILUDIN G. MASABPI, PhD, for the untiring support and endless help in polishing the researcher's manuscript;

LOEDIE D. MONES, PhD, for the brilliant support, time and effort in editing this manuscript and assistance by landing the necessary reading materials needed in the accomplishment of the study;

REDEN S. PACULANAN, Education Program Chair, for the assistance and greatly helped her overcome challenges;

MOCTADIR T. SANGKI, MPA, BSSW Program Chair, for encouraging her to continue striving for this academic success;

IBRAHIM B. MAMALUBA, BSBA Program Chair, for his time, patience, and willingness to share his knowledge;

CHAINNIE LYN P. FABRO, BSCRIM Program Chair, for inspiring her to persevere in achieving her goal;

ALL PARTICIPANTS, your time, effort, and honest responses were invaluable in making the research possible, your contributions have provided meaningful insights that greatly enriched the study;

JOEY M. BEGAFRIA SR., her husband for the consistent love, support, encouragement, her source of strength, joy and inspiration throughout her academic journey;

HER CHILDREN, Justin Clark C. Begafria, Joey C. Begafria Jr., Sandford C. Begafria, John Emmanuel C. Begafria, and Matthew Joel John C. Begafria, for their love, support and encouragement throughout her academic journey;

HER FRIENDS, whose unwavering support and encouragement has greatly contributed to the completion of this research;

Additionally, the researcher would like to acknowledge **her parents and siblings.** Their prayers, boundless love, and motivation keeps the researcher going and continue with her research paper; and

Above all, the researcher would like to thank **God Almighty**, for the strength, guidance, knowledge and wisdom that led her with the completion of her study. His overflowing blessings help her to remain steadfast and perseverance. The researcher brings back all the Glory to Him.

Declaration AI Tools Utilization

I do hereby declare the use AI tools, such as Chat GPT and Grammarly for grammar checking and sentence organization purposes only.

REFERENCES

Abdul Rahman, N., & Hamid, S. (2023). Artificial intelligence applications in improving literacy skills among higher education students. *International Journal of Emerging Technologies in Learning, 18*(9), 45–59. https://doi.org/10.3991/ijet.v18i09.38521

Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). SAGE Publications. https://us.sagepub.com/en-us/nam/research-design/book255675

Creswell, J. W., & Creswell, J. D. (2021). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (6th ed.). Pearson Education. https://www.pearson.com/en-us/subject-catalog/p/educational-research/P200000003081

Department of Education. (2015). *Philippine informal reading inventory (Phil-IRI) manual 2015*. https://www.deped.gov.ph/wp-content/uploads/2018/07/Phil-IRI-Manual-2018.pdf

Gay, G. (2018). *Culturally responsive teaching: Theory, research, and practice* (3rd ed.). Teachers College Press. https://www.tcpress.com/culturally-responsive-teaching-9780807758762

Holmes, W., Bialik, M., & Fadel, C. (2022). *Artificial intelligence in education: Promises and implications for teaching and learning*. Center for Curriculum Redesign. https://curriculumredesign.org/our-work/artificial-intelligence-in-education/

OECD. (2019). *PISA 2018 results (Volume I): What students know and can do*. OECD Publishing. https://doi.org/10.1787/5f07c754-en

Taherdoost, H. (2017). Sampling methods in research methodology: How to choose a sampling technique for research. *International Journal of Academic Research in Management, 5*(2), 18–27. https://hal.science/hal-02546796/document

Thomas, D., Pennington, M., & Smith, J. (2021). Culturally relevant literacy interventions and student engagement in diverse classrooms. *Journal of Literacy Research, 53*(4), 412–430. https://doi.org/10.1177/1086296X211048321

UNESCO. (2021). *Reimagining our futures together: A new social contract for education*. UNESCO Publishing. https://unesdoc.unesco.org/ark:/48223/pf0000379707

Zawacki-Richter, O., Marín, V. I., Bond, M., & Gouverneur, F. (2019). Systematic review of research on artificial intelligence applications in higher education – Where are the educators? *International Journal of Educational Technology in Higher Education, 16*(39), 1–27. https://doi.org/10.1186/s41239-019-0171-0