

Using AI-Assisted Learning to Improve Grade 10 Students' Research Writing Skills

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Abstract- *This study aimed to determine the effectiveness of AI-Assisted Learning in improving the research writing skills of Grade 10 students in a public secondary school in Ozamiz City during the school year 2025–2026. The study employed a classroom-based action research design using a single-group pretest–posttest approach. The respondents consisted of thirty-three (33) Grade 10 students selected through purposive sampling. Data were gathered using a researcher-designed Research Writing Assessment Tool consisting of 30 items that measured students' ability to identify technical terms, formulate technical and operational definitions, classify operational definitions, apply correct grammar, and compose research-based paragraphs. English teachers and curriculum specialists validated the instrument, and reliability testing yielded a Cronbach's alpha of 0.70 or higher. Data were analyzed using frequency counts, percentages, means, standard deviations, and paired t-tests through JAMOVI. Findings revealed that the students' research writing skills improved from satisfactory before the implementation of the AI-assisted learning strategy to very satisfactory after the intervention. Results further showed that most students achieved Outstanding and Very Satisfactory performance levels after implementing the strategy. Statistical analysis revealed a highly significant difference in students' research writing skills before and after implementing AI-assisted Learning. The study concluded that AI-assisted Learning is an effective instructional strategy in improving Grade 10 students' research writing skills, particularly in grammar, coherence, organization of ideas, and overall academic writing performance.*

Keywords: *AI-assisted learning, research writing skills, Grade 10 students, academic writing, grammar, coherence, technology-integrated instruction*

I. INTRODUCTION

Context and Rationale

Research writing is an essential academic skill that helps students communicate ideas clearly, organize information logically, and express critical thinking

effectively. In secondary education, research writing plays an important role in developing learners' academic competence and preparing them for higher levels of education. Through research writing, students learn to analyze information, present evidence-based ideas, and follow proper academic conventions (Aporbo, 2022). It also strengthens learners' problem-solving abilities, creativity, and confidence in expressing their thoughts in written form. Moreover, mastery of research writing equips students with lifelong learning skills that are valuable both inside and outside the classroom (Patricio, 2022).

Despite the importance of research writing, many Grade 10 students continue to struggle to produce coherent, academically acceptable written outputs. Students often struggle to identify technical terms, formulate technical and operational definitions, expand word meanings, apply correct grammar, and organize ideas into meaningful, research-based paragraphs. These challenges often result in weak writing performance, reduced confidence, and low motivation to complete research-related tasks (Dilensahu & Dedo, 2022). Studies also show that learners who struggle with writing often experience anxiety and disengagement during extended academic writing tasks, which negatively affects their academic achievement and critical thinking development (Zulfa et al., 2023).

Recent developments in educational technology highlight the growing integration of Artificial Intelligence (AI) in classroom instruction, particularly in writing education. AI-assisted learning tools such as ChatGPT, Grammarly, QuillBot, and Google Scholar have become increasingly relevant in helping students improve grammar, vocabulary, sentence construction, coherence, and organization of

ideas (Song & Song, 2023). These tools provide immediate feedback and guided support, allowing learners to revise drafts, clarify concepts, and strengthen their written outputs more efficiently (Adams & Chuah, 2022). Research also indicates that AI integration promotes student engagement, reduces writing anxiety, and enhances learners' confidence in completing writing tasks (Alkamel & Alwagieh, 2024).

Although numerous international studies have explored the effectiveness of AI-supported writing instruction, classroom-based research remains limited in the Philippine secondary school context, particularly among Grade 10 learners. Existing local studies continue to report weaknesses among Filipino students in grammar usage, vocabulary precision, organization of ideas, and definition-making skills (Aporbo, 2022). Moreover, many students still lack confidence and motivation in writing research outputs, making it difficult for them to produce organized and academically acceptable work (Alordiah, 2023). While AI tools are increasingly accessible, their use in research writing instruction remains underexplored in Philippine classrooms, especially regarding their effectiveness in improving students' technical term recognition, operational definition writing, grammar application, and research paragraph composition (Esplugas, 2023).

According to Miles (2017), a research gap exists when a specific population, context, or educational outcome has not been adequately examined in previous studies. In this study, classroom-based research on Filipino Grade 10 students and the effectiveness of AI-assisted Learning in improving research writing competence remains limited. Most existing studies focus on higher education learners or general writing performance, leaving limited understanding of how AI-assisted Learning can support junior high school students in developing technical writing skills and research-based writing outputs. Addressing this gap is important because Grade 10 students are at a critical stage of developing academic writing competencies required in senior high school and higher education.

This study aims to determine the effectiveness of AI-Assisted Learning in improving the research writing skills of Grade 10 students. Specifically, it examines how AI-supported instructional strategies can enhance students' ability to identify technical terms, formulate technical and operational definitions, apply correct grammar, organize coherent ideas, and compose research-based paragraphs on social issues. This study's findings are expected to provide English teachers with practical, evidence-based instructional strategies that meaningfully integrate technology into writing instruction. Furthermore, the study aims to promote students' independent Learning, digital literacy, critical thinking, and overall academic writing performance through structured AI-assisted learning activities (Qazi et al., 2025).

Strategy

The intervention used in this study is AI-Assisted Learning, which was designed to address the identified challenges in Grade 10 students' research writing skills. Specifically, the intervention focuses on improving students' ability to identify technical terms, construct technical and operational definitions, distinguish measured and experimental operational definitions, apply correct grammar, and compose organized, research-based paragraphs. AI-assisted Learning is appropriate for this study because it provides immediate feedback, scaffolds the writing process, encourages self-regulated Learning, and supports independent revision while remaining accessible and practical in the classroom (Chen & Gong, 2025).

The intervention integrates several AI-assisted tools to support students during writing activities. ChatGPT is utilized for conceptual clarification, idea generation, and guided explanation of research concepts. Grammarly helps students identify grammatical errors and improve sentence structure, while QuillBot supports paraphrasing, vocabulary enhancement, and sentence refinement. In addition, Google Scholar is incorporated to help students find credible academic sources and references, allowing them to practice responsible, evidence-based writing (Raheem et al., 2023). Through these tools, students are guided to revise and improve their outputs systematically and independently.

The intervention is implemented over four weeks, with each session focusing on a specific component of research writing aligned with the Grade 10 English competencies. During the first week, students are introduced to technical terms commonly used in research writing. The teacher models strategies for identifying and understanding technical terms, while guiding students to use AI tools and Google Scholar to explore meanings and examples from credible sources. In the second week, the lessons focus on technical and operational definitions, including distinguishing between measured and experimental operational definitions. Students draft definitions using AI-assisted guidance and revise their outputs based on immediate feedback from both the AI tools and teacher facilitation.

In the third week, students engage in activities that build word expansion, grammar, and sentence construction. AI-generated suggestions are integrated into the learning activities to help students strengthen clarity, coherence, and grammatical accuracy in their writing. Students also utilize Google Scholar to gather supporting information and credible references that improve the quality and reliability of their outputs. During the fourth week, learners compose short research-based paragraphs on relevant social issues, applying the skills they have developed throughout the intervention. AI tools support brainstorming, drafting, editing, and revising written outputs while encouraging students to become more reflective and independent writers.

Each session follows a structured process that includes teacher orientation, guided practice, AI-assisted writing activities, independent learning tasks, and feedback sessions. The teacher demonstrates the proper and ethical use of AI tools to ensure that students use technology responsibly and effectively. Post-writing activities and exercises are conducted after each session to monitor students' progress and reinforce Learning. At the end of the intervention period, a comprehensive posttest is administered to evaluate improvements in students' research writing skills, particularly in technical term usage, definition-making, grammar application, organization of ideas, and paragraph composition.

Research supports the effectiveness of AI-assisted Learning in improving students' writing performance when combined with teacher guidance and scaffolded instruction. Studies indicate that AI-supported writing interventions enhance coherence, organization, grammar accuracy, and overall writing quality while reducing students' anxiety toward academic writing tasks (Raheem et al., 2023). Furthermore, AI-assisted Learning promotes self-regulated Learning, active engagement, and digital literacy by allowing students to receive immediate feedback and revise their outputs independently (Alangari, 2025). Integrating Google Scholar also encourages students to use credible academic sources and practice proper citation in writing activities. Through the systematic implementation of AI-assisted Learning, this study expects students to demonstrate measurable improvement in their research writing competencies, preparing them for more advanced academic writing tasks and technology-integrated learning environments.

Statement of the Problem

This study aimed to determine the effect of AI-Assisted Learning on improving the research writing skills of Grade 10 students in a public secondary school in Ozamiz City during the school year 2025–2026. Specifically, it sought to answer the following questions:

1. What is the level of students' research writing skills before the implementation of the AI-Assisted Learning strategy?
2. What is the level of students' research writing skills after the implementation of the AI-Assisted Learning strategy?
3. Is there a significant difference between the students' research writing skills before and after the implementation of the AI-Assisted Learning strategy?

Null Hypotheses

H01: There is no significant difference between the students' research writing skills before and after the implementation of the AI-Assisted Learning strategy.

II. RESEARCH METHODOLOGY

Research Design

This study employed a classroom-based action research approach using a single-group pretest–posttest design. A pretest–posttest design evaluates a strategy by measuring students' skills before and after its implementation (Amalia et al., 2024). This design was deemed appropriate as it allowed the researcher to determine the effect of AI-Assisted Learning on Grade 10 students' research writing skills by comparing their performance before and after the intervention. Specifically, it enabled the assessment of changes in students' ability to distinguish technical terms, formulate clear definitions, apply correct grammar, and compose research-based paragraphs following structured AI-assisted writing activities (Rastri et al., 2023).

Research Setting

The study was conducted at a public secondary school in Ozamiz City, Misamis Occidental. The school followed the K–12 Basic Education Program and had classrooms equipped with internet-enabled devices, which allowed students to access AI tools such as ChatGPT, Grammarly, and QuillBot during writing tasks. The intervention was implemented over four weeks during the 2025–2026 school year, and all activities were integrated into regular English classes.

Respondents of the Study

The study participants were one Grade 10 section consisting of thirty-five (35) students enrolled in a public secondary school in Ozamiz City, Misamis Occidental, Philippines, during the school year 2025–2026. The group was selected through purposive sampling based on their enrollment and willingness to participate in AI-assisted writing activities. The class represented a range of academic abilities and genders, providing a realistic classroom setting for the intervention. Before the study, participants were informed of the purpose and procedures, and their parents or guardians provided informed consent.

Research Instrument

This study utilized the following instrument for data gathering:

A. Research Writing Skills of Grade 10 Students (Appendix A): A researcher-designed Research Writing Assessment Tool consisting of 30 items was

used to measure the research writing skills of the students before and after the implementation of the AI-Assisted Learning strategy. The assessment was aligned with the Grade 10 English competencies and focused on identifying technical terms, formulating technical and operational definitions, classifying operational definitions as measured or experimental, word-expansion exercises, and research-based paragraph writing.

To ensure validity, English teachers and curriculum specialists reviewed the assessment tool for clarity, relevance, and accuracy. A pilot test was conducted to determine its appropriateness for Grade 10 learners. Reliability was measured using Cronbach's alpha, and a value of 0.70 or higher indicated that the instrument was consistent and suitable for measuring students' research writing performance.

Score Range	Interpretation
27–30	Outstanding
24–26	Very Satisfactory
21–23	Satisfactory
18–20	Fairly Satisfactory
1–17	Did Not Meet Expectations

B. Lesson Plans (Appendix B). The lesson plans guided the implementation of the AI-Assisted Learning strategy, integrating tools such as ChatGPT, Grammarly, QuillBot, and Google Scholar. Each session included teacher modeling, guided practice, AI-assisted tasks, feedback, and reflection. The lessons progressed from identifying technical terms and understanding operational definitions to distinguishing measured and experimental types, and finally to composing research-based paragraphs. Students used AI tools for idea generation, grammar checking, and paraphrasing, while Google Scholar was used to find credible sources and practice citation. The lesson plans ensured consistent practice, scaffolded Learning, and alignment with the Grade 10 English competencies. Education experts validated these materials to ensure clarity, relevance, and appropriateness.

Data Collection

Prior to data collection, the researcher secured formal approval to conduct the study by submitting request

letters to the appropriate authorities, including the Dean of the College, the Schools Division Superintendent, and the School Principal of the selected secondary school in Ozamiz City. After approval, the researchers obtained additional consent from the ELC Coordinator and the cooperating teacher. All procedures were clearly explained to ensure transparency and adherence to ethical standards. Informed consent forms were distributed to the parents or guardians, and assent was obtained from the student participants to ensure voluntary participation.

The data collection was conducted over four weeks. A pretest was administered before the AI-assisted learning sessions to determine students' baseline research writing skills. During the intervention, students participated in structured AI-assisted writing activities that included guided instruction, demonstration of proper AI tool usage, and independent writing tasks.

Short post-writing tasks were given after each session to monitor students' progress. All outputs, including drafts and exercises, were collected and coded to maintain confidentiality. At the end of the intervention, a posttest was administered to measure improvements in students' research writing skills, particularly in technical term recognition, definition-making, grammar, organization, and paragraph composition.

Ethical Considerations

Before conducting the study, the researcher carefully established ethical considerations to prioritize the well-being, rights, and privacy of all participants. Approval was sought from the Misamis University Research Ethics Committee (MUREC) to ensure compliance with institutional and ethical research standards. Additionally, the researcher ensured that all ethical standards were followed to protect respondents' well-being. The researcher sought approval to conduct the study from the School Principal, the Grade Level Head, and the class Adviser, obtaining each authority's consent before any data collection. These approvals confirmed that the study complies with institutional and research guidelines. The researchers implemented informed

consent procedures for all participants. Parents or guardians of the selected students provided formal consent, and the students themselves will give assent, indicating their voluntary participation. Participants were fully informed of the study's objectives, procedures, potential benefits, and possible risks, and they will have the option to withdraw at any time without negative consequences.

Confidentiality and anonymity were strictly maintained. All collected data will exclude personally identifiable information, and participants will be assigned coded identifiers. Both digital and physical data will be securely stored, with digital files encrypted and physical copies kept in a locked cabinet accessible only to the researcher. These measures will comply with Republic Act No. 10173 (Data Privacy Act of 2012), ensuring participants' privacy, dignity, and security. By adhering to these ethical considerations, the researcher will safeguard participant welfare while maintaining the integrity and credibility of the study on students' ethical and effective AI integration in research writing.

Data Analysis

This study utilized the following statistical methods for data analysis using JAMOWI software:

Mean and standard deviation will be used to measure the students' total scores on the AI-Integration Performance Checklist (Instrument B) as an indicator of ethical and effective AI use in research writing.

A paired t-test will be conducted to determine significant differences in students' research writing skills before and after the implementation of AI-assisted Learning.

Dissemination Plan

The findings of this study were shared with school administrators, English teachers, and Grade 10 students through reports, group discussions, and visual summaries to clearly demonstrate the impact of AI-Assisted Learning on students' research writing skills. Ethical considerations, including consent and assent, were observed when presenting results to pupils and parents. The results were disseminated to the university community and other educators

through seminars, presentations, and publications to provide practical insights and recommendations for implementing CPA-based teaching strategies in early mathematics classrooms.

Utilization Plan

The study results were disseminated through Poster Presentations and Publications. A poster summarizing the key findings, conclusions, and recommendations will be prepared and displayed during academic or research dissemination events, allowing educators, school stakeholders, and other researchers to understand the study's outcomes and apply its insights easily. Additionally, the study will be prepared for publication in an academic journal or institutional research repository, ensuring that its contributions reach a wider audience and support further research on enhancing students' research writing skills, the ethical and effective use of AI tools, and overall academic performance through AI-assisted learning strategies.

COST ESTIMATES (Grade 10)

The estimated budget in the conduct of this study is broken down below from the personal money of the proponent. The proponent has a personal laptop and printer.

Materials	Amount
1 ream A4 US bond paper	Php 180.00
1 set 664 ink	Php 1,179.00
2 sliding folders	Php 15.00 x 2 (Php 30.00)
Tokens (ballpen)	Php 1, 000.00
Snacks	Php 1, 500.00
Total	Php 3, 889.00

III. RESULTS AND DISCUSSIONS

Level of Students' Research Writing Skills Before the Implementation of the AI-Assisted Learning Strategy

Table 1 presents students' research writing skills before implementing the AI-assisted learning strategy. Overall, the students' research writing skills

were at a satisfactory level ($M = 21.54$, $SD = 0.88$). This finding indicates that students possessed basic knowledge and skills in research writing; however, their competencies were still developing and needed further improvement in organization, grammar, coherence, and academic writing conventions.

Among the performance levels, the highest proportion of students fell under the Fairly Satisfactory category ($n = 10$, 30.3%, $M = 24.6$, $SD = 0.74$). Those followed this in the Very Satisfactory level ($n = 8$, 24.2%, $M = 19.2$, $SD = 0.92$). The Satisfactory and Did Not Meet Expectations categories had the same percentage ($n = 6$, 18.2%), with means of $M = 21$ ($SD = 0.82$) and $M = 27$ ($SD = 0.00$), respectively. Meanwhile, the fewest students belonged to the Outstanding category ($n = 3$, 9.1%, $M = 15.2$, $SD = 1.94$).

The findings indicate that most Grade 10 students demonstrated average to below-average research writing skills before implementing the AI-assisted learning strategy. The large proportion of students in the Fairly Satisfactory category suggests that many students may have struggled with organizing ideas, developing coherent discussions, and applying proper research writing conventions. Only a small number of students reached the Outstanding level, implying that few learners possessed advanced research writing competencies before the intervention. This pattern highlights the need for instructional support and innovative teaching approaches to help students strengthen their writing abilities and confidence in conducting research tasks.

Several studies support these findings by highlighting the challenges students encounter in research writing. According to John Swales, students often struggle with academic writing conventions and organization due to limited exposure to formal research writing tasks. Similarly, Ken Hyland explained that learners often struggle to express ideas coherently and use appropriate academic language in research writing. Moreover, Lev Vygotsky emphasized that students perform better when guided through scaffolded learning experiences and collaborative support. In addition, Jerome Bruner highlighted the importance of instructional assistance in helping learners

gradually develop higher-order thinking and writing skills.

These results suggest the need for instructional improvement among teachers and school administrators. Teachers may integrate AI-assisted learning tools to provide students with immediate feedback, grammar support, and writing guidance during research activities. School heads may also

organize seminars and training workshops focused on technology-integrated writing instruction. Additionally, activities such as collaborative research writing tasks, peer-review sessions, guided outlining exercises, and AI-supported editing workshops may be implemented to help students improve their research writing performance.

Table 1 Level of Students' Research Writing Skills Before the Implementation of the AI-Assisted Learning Strategy

Performance	Frequency	Percentage	M	SD
Outstanding	3	9.1	15.2	1.94
Very Satisfactory	8	24.2	19.2	0.92
Satisfactory	6	18.2	21.7	0.82
Fairly Satisfactory	10	30.3	24.6	0.74
Did Not Meet Expectations	6	18.2	27.0	0.00
Overall Performance	33	100.00	21.54	0.88

Note: 27-30 (Outstanding); 24-26 (Very Satisfactory); 21-23 (Satisfactory); 18-20 (Fairly Satisfactory); 1-17 (Did Not Meet Expectations).

Level of Students' Research Writing Skills After the Implementation of the AI-Assisted Learning Strategy
Table 2 presents students' research writing skills after implementing the AI-assisted learning strategy. Overall, the students' research writing skills improved to a very satisfactory level ($M = 24.87$, $SD = 0.88$). This finding indicates that integrating AI-assisted Learning contributed positively to students' research writing competencies and helped learners produce higher-quality academic outputs.

Among the performance levels, the highest proportion of students belonged to the Outstanding category ($n = 17$, 51.5%, $M = 28.1$, $SD = 1.14$). Those followed this in the Very Satisfactory category ($n = 14$, 42.4%, $M = 25.0$, $SD = 0.78$), while only a small number of students remained in the Satisfactory category ($n = 2$, 6.1%, $M = 21.5$, $SD = 0.71$). Notably, no students were classified under the Fairly Satisfactory and Did Not Meet Expectations categories after the intervention.

The findings reveal that the AI-assisted learning strategy significantly improved the students' research

writing skills. The increase in students who achieved Outstanding and Very Satisfactory performance levels suggests that AI tools may have helped students improve their grammar, coherence, organization of ideas, and overall writing quality. Furthermore, the absence of students in the lower performance categories indicates that the intervention effectively addressed students' previous difficulties in research writing. These findings demonstrate that technology-based instructional strategies can create more engaging and supportive learning environments for learners.

Several studies support the effectiveness of technology-assisted instruction in improving writing skills. Richard Mayer stated that technology-enhanced learning environments improve student engagement and understanding by combining interactive and guided instruction. Likewise, Stephen Graham emphasized that writing interventions with immediate feedback significantly improve students' writing performance. According to John Hattie, feedback is among the most influential factors affecting student achievement and learning outcomes. Furthermore, Seymour Papert highlighted that technology integration promotes active Learning and allows students to construct knowledge more effectively.

These results imply that teachers and school administrators may continuously integrate AI-assisted learning strategies into research writing instruction. Teachers are encouraged to utilize AI tools for drafting, editing, and providing formative feedback to students. School administrators may also

provide training programs and technological resources to support teachers in implementing AI-assisted instruction effectively. Moreover, activities such as digital writing workshops, collaborative research projects, and guided AI-assisted editing sessions may help sustain and further improve students' research writing skills.

Table 2 Level of Students' Research Writing Skills After the Implementation of the AI-Assisted Learning Strategy

Performance	Frequency	Percentage	M	SD
Outstanding	17	51.5	28.1	1.14
Very Satisfactory	14	42.4	25.0	0.78
Satisfactory	2	6.1	21.5	0.71
Overall Performance	33	100.00	24.87	0.88

Note: 27-30 (Outstanding); 24-26 (Very Satisfactory); 21-23 (Satisfactory); 18-20 (Fairly Satisfactory); 1-17 (Did Not Meet Expectations).

Significant Difference Between the Students' Research Writing Skills Before and After the Implementation of the AI-Assisted Learning Strategy

Table 3 presents the significant difference between the students' research writing skills before and after the implementation of the AI-assisted learning strategy. The results show a highly significant difference in the students' research writing skills, as indicated by the computed t-value and p-value ($t = 8.54$, $p = 0.001$). This led to the rejection of the null hypothesis (H_{01}). The students' mean score increased from before implementation ($M = 20.9$, $SD = 3.9$) to after implementation ($M = 26.4$, $SD = 2.18$), indicating a substantial improvement in research writing performance.

The significant result suggests that the AI-assisted learning strategy had a strong positive effect on the students' research writing skills. The notable increase in mean scores implies that, with AI tools, students became more capable of organizing ideas, constructing coherent discussions, applying correct grammar, and following proper research-writing conventions. Furthermore, the lower standard deviation after the intervention indicates more consistent student performance, suggesting that the strategy helped minimize learning gaps among

learners. These findings support the idea that technology-enhanced instructional approaches can improve academic writing by providing immediate feedback, guided assistance, and personalized learning opportunities.

Several related studies on technology integration in education support these findings. Lev Vygotsky emphasized that guided Learning and instructional support enhance students' cognitive development and skill acquisition. Similarly, John Hattie identified feedback as one of the strongest influences on student achievement, particularly in writing instruction. According to Richard Mayer, technology-assisted Learning promotes deeper understanding and engagement by supporting interactive learning experiences. Moreover, Stephen Graham found that structured writing interventions and continuous feedback significantly improve learners' writing competencies and academic performance.

Teachers and school administrators may consider adopting AI-assisted learning strategies as a regular instructional approach in teaching research writing. Teachers are encouraged to integrate AI-based applications that can support students in drafting, revising, and editing research outputs. School heads may organize professional development programs and workshops on the effective use of AI tools in classroom instruction. Additionally, schools may implement activities such as collaborative research writing exercises, AI-assisted peer editing, digital literacy training, and technology-integrated writing

projects to sustain and further improve students' research writing performance.

Table 3 Significant Difference Between the Students' Research Writing Skills Before and After the Implementation of the AI-Assisted Learning Strategy

Performance	M	SD	T-value	P-value	Decision
Before the Implementation of the AI-Assisted Learning Strategy	20.9	3.9	8.54***	0.001	Reject H_{01}
After the Implementation of the AI-Assisted Learning Strategy	26.4	2.18			

Note: *** $p < 0.01$ (Very Highly Significant); ** $p < 0.01$ (Highly Significant); $p < 0.05$ (Significant).

IV. SUMMARY, FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

Summary

This study aimed to determine the effect of AI-Assisted Learning on improving the research writing skills of Grade 10 students in a public secondary school in Ozamiz City during the school year 2025–2026. Specifically, the study sought to determine students' research writing skills before and after the implementation of the AI-Assisted Learning strategy and to assess whether there was a significant difference in their research writing skills before and after the intervention. The study utilized a quantitative research design using a single-group pretest-posttest approach. Data were gathered through a researcher-made Research Writing Assessment Tool and were analyzed using frequency count, percentage, mean, standard deviation, and paired t-test.

Findings

This study yielded the following findings:

1. The level of students' research writing skills before the implementation of the AI-Assisted Learning strategy was satisfactory.
2. The level of students' research writing skills after the implementation of the AI-Assisted Learning strategy improved to a very satisfactory level.
3. There was a very highly significant difference between the students' research writing skills before and after the implementation of the AI-Assisted Learning strategy.

Conclusions

Based on the findings of the study, the following are the conclusions:

1. Grade 10 students demonstrate developing research writing skills before the implementation of the AI-Assisted Learning strategy.
2. The implementation of the AI-Assisted Learning strategy improves the research writing skills of Grade 10 students.
3. AI-Assisted Learning creates a significant positive effect on students' grammar, coherence, organization of ideas, and overall research writing performance.

Recommendations

Based on the findings and conclusions of the study, it is recommended that:

1. English teachers integrate AI-assisted learning activities such as guided drafting, grammar checking, and AI-supported editing exercises to improve students' research writing skills.
2. School administrators conduct seminars, workshops, and training programs on the effective and ethical use of AI tools in research writing instruction.
3. Students participate in collaborative writing activities, peer-review sessions, and AI-assisted revision tasks to strengthen grammar, coherence, and organization of ideas.
4. Schools provide accessible technological resources and internet-supported learning environments to support the implementation of AI-assisted learning strategies.
5. Future researchers conduct similar studies using larger groups of respondents, different

academic subjects, or other AI-assisted learning applications to further validate the effectiveness of AI integration in education.

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