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Artificial Intelligence Powered Tools Usage and Writing Proficiency of the Junior High School Students of Ambalayat Integrated School,

Mr. Jimie Somera Pagaduan

ABSTRACT

PAGADUAN, JIMIE S., April 2025, ARTIFICIAL INTELLIGENCE POWERED TOOLS USAGE AND WRITING PROFICIENCY OF THE JUNIOR HIGH SCHOOL STUDENTS OF AMBALAYAT INTEGRATED SCHOOL, MSE., Ilocos Sur Polytechnic State College Graduate School, Santa Maria, Ilocos Sur

Adviser: Cynthia M. Cariño

This study aimed to investigate the impact of AI-powered writing tools, specifically ChatGPT, Grammarly, Chatbot ai, Cici, and Meta AI, on the writing proficiency of Grade 9 students at Ambalayat Integrated School. The primary objectives were to assess the effectiveness of these tools in enhancing various dimensions of writing, including content and ideas, organization and structure, language and style, and grammar and mechanics. Furthermore, the research sought to understand the relationship between students' demographic profiles, their usage of AI tools, and their writing competencies, thereby providing valuable insights into the integration of technology in educational practices.

The methodology employed a descriptive-correlational research design, allowing for the exploration of relationships without manipulating variables. A sample of 42 Grade 9 students, actively engaged in writing classes, completed standardized writing assessments and a structured questionnaire that gathered data on their demographic information and AI tool usage. The gathered data were categorized using frequency and percentage distributions, followed by statistical analysis to determine significant relationships between AI tool usage and writing proficiency through Point Biserial Correlation. This rigorous treatment ensured that the findings were statistically grounded and credible, providing a comprehensive evaluation of the effectiveness of the AI tools in improving writing skills.

The findings revealed that students showed varying levels of proficiency in their writing abilities, significantly influenced by demographic factors such as access to technology and familiarity with AI tools. Notably, it was found that students who frequently utilized the mentioned AI writing applications demonstrated marked improvements in their writing competencies across multiple dimensions. This positive correlation indicated that while AI tools contributed to the initial stages of writing development, higher-order skills, such as organization and style, still required critical thinking and human guidance.

Based on these findings, the study recommended several strategies for the effective implementation of AI in the curriculum, including adopting a Language Policy on the Use of AI in Writing. This policy aimed to ensure ethical usage of AI tools while promoting independent learning among students. The recommendations also stressed the need for professional development for educators and the establishment of a feedback mechanism, enabling continuous improvement in writing instruction. Overall, this research contributed significantly to understanding how AI tools can enhance writing skills in a K-12 educational context and identified areas for future exploration and development.

Keywords: Artificial Intelligence, ChatGPT, Grammarly, Chatbot ai, Cici, Meta AI, writing proficiency, junior high school

CHAPTER I
INTRODUCTION
Background of the Study

Artificial intelligence (AI) has emerged as a transformative force in the field of education, changing the way students learn and teachers instruct. In recent years, the integration of AI-powered tools and technologies has significantly impacted the teaching and learning of writing skills, particularly in English as a Foreign Language (EFL) contexts (Thompson, 2021).

Research has shown that AI writing tools, such as Grammarly, chatbot, Cici and ChatGPT, can positively influence students' writing quality by providing real-time feedback, suggestions for improvement, and even content generation based on prompts. These tools help students enhance their writing skills by offering grammar corrections, style suggestions, and guidance on content organization. By integrating AI writing tools into the learning process, students can receive immediate and personalized feedback, allowing them to identify and correct mistakes more efficiently.

Moreover, AI-powered intelligent tutoring systems have been found to significantly improve students' writing performance by providing personalized learning experiences and targeted instruction based on individual needs. These systems analyze student data, adapt to diverse learning styles, and offer interactive learning environments that foster deeper understanding and engagement (Roberts & Singh, 2020; Luo & Wu, 2019).

Despite the numerous benefits, the integration of AI in education also raises ethical concerns, particularly regarding the accuracy of AI-generated feedback and the potential for students to become overly dependent on these tools. Policymakers and educators must ensure that AI technologies are implemented responsibly, with clear guidelines that promote critical thinking and independent learning among students.

In the context of Ambalayat Integrated School, the integration of AI in improving students' writing skills remains an unexplored area. This study aims to investigate the potential impact of AI-powered tools and technologies on enhancing the writing proficiency of students in the school, contributing to the growing body of research on AI in education and its implications for language learning.

In exploring the research gap related to the integration of artificial intelligence in improving writing skills, particularly in the context of the study "Artificial Intelligence powered tools in Improving the Writing Skills of the students in Ambalayat Integrated School," several key areas emerge from the current literature.

One research gap identified in this study is the limited exploration of AI tools in K-12 educational settings within the Philippines. While existing research has examined AI's impact on writing skills among university students and EFL learners in other countries, there is a scarcity of studies focusing on primary and secondary education in the Philippine context. For instance, a study by Alviar et al. (2024) investigated Filipino students' perceptions and use of Generative AI in academic writing, highlighting the need for AI literacy programs in curricula and for developers to tailor AI tools to Filipino students' needs. However, this research primarily targeted senior high school and college students, leaving a gap in understanding the effects of AI tools on younger learners. This underscores the necessity for context-specific studies that consider the unique challenges and opportunities present in primary and secondary education settings, such as those found in Ambalayat Integrated School.

Another factor that distinguished this study from existing studies about AI is Diverse Student Populations. In the context of Ambalayat Integrated School, students vary in terms of language proficiency, learning abilities, and access to digital resources. These differences can influence how effectively they engage with AI writing tools. By considering this diversity, the study aims to explore how AI tools can be tailored to meet the individual needs of learners in a mixed-ability classroom. There is limited exploration of how AI tools can benefit diverse student populations, including those with varying language proficiencies, learning styles, and socio-economic backgrounds (Smith, 2020).

Moreover, many studies assessed the immediate effects of AI tools on writing skills but lack longitudinal data that examines the long-term impact of AI integration on students' writing development. Understanding how sustained use of AI tools influences writing skills over time, particularly in a K-12 setting, is crucial for evaluating their effectiveness and sustainability in educational practices (Chen et al., 2019).

Existing literature highlighted growing concerns about ethical issues such as academic integrity and student over-reliance on AI writing tools, particularly in higher education settings. For instance, Smith (2020) points out that some students submit AI-generated content without proper attribution, challenging the authenticity of their work. Similarly, Chen et al. (2019) caution that excessive dependence on AI for grammar corrections and idea generation can hinder students' development of critical thinking and independent writing skills.

However, there was limited exploration of these ethical considerations—specifically, maintaining academic honesty and fostering genuine student engagement with the writing process—within K-12 contexts. Understanding how these issues manifested in primary and secondary education, such as in Ambalayat Integrated School, was vital to ensure that AI is used as a support tool rather than a crutch. This highlighted the importance of educating students on the responsible use of AI tools to uphold academic integrity and built authentic writing competence.

Framework of the Study

Here is a conceptual framework for the study, "Artificial Intelligence Powered Tools Usage and Writing Proficiency of the Junior High School Students of Ambalayat Integrated School," using the IV-DV Research Paradigm.

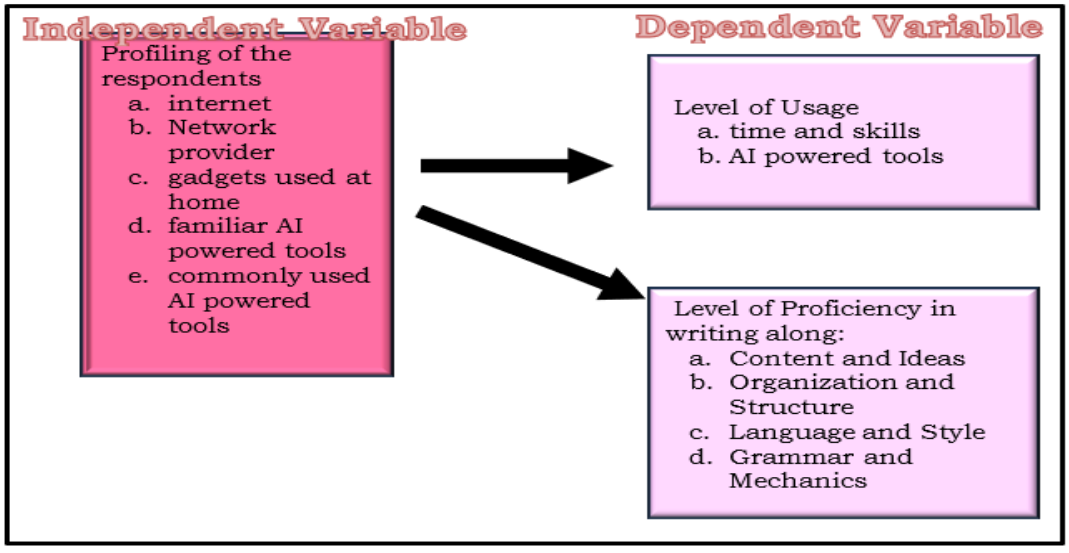

Figure 1. IV-DV Research Paradigm

Statement of the Problem

The aim of this research was to investigate the potential of AI and its effect on Grade 9 learner writing skills. It specifically seeks to answer the following questions:

1. What is the demographic profile of the respondents in terms of:
a. Internet connection
b. Gadgets used at home
c. familiar AI powered tools
d. commonly used AI powered tools
2. What is the level of usage of AI applications of respondents along
a. time and skills
b. AI powered tools
3. What is the respondent's level of proficiency in writing along:
a. Content and Ideasp
b. Organization and Structure
c. Language and Style
d. Grammar and Mechanics
4. Is there a significant relationship between the respondents' profile and proficiency in using AI powered tools?
5. Is there a significant relationship between the respondents' profile and level of usage in using AI powered tools?
6. Is there a significant relationship between the respondents' level of usage and proficiency in writing?

Hypothesis

In this part of the study presents the hypotheses formulated for the study "Artificial Intelligence Powered Tools Usage and Writing Proficiency of the Junior High School Students of Ambalayat Integrated School".

1. There is no significant relationship between the respondents' profile and proficiency in using AI powered tools.
2. There is no significant relationship between the respondents' profile and level of usage in using AI powered tools?
3. There is no significant relationship between the respondents' level of usage and proficiency in writing?

Scope and Limitations of the Study

This study aimed to explore the effect of artificial intelligence (AI) tools in enhancing the writing skills of Grade 9 Learners.

The study involved students of Ambalayat Integrated School specifically Grade 9, allowing for a diverse representation of learners in different educational contexts. When it comes to AI tools, the research examined specific AI applications designed to support writing, such Chatgpt, Quillbot, Cici, and Meta Ai. This study focused on various aspects of writing, including content and ideas, organization and structure, language and style, and grammar and mechanics. It assessed how AI can facilitate these processes and improved overall writing quality. Moreover, the research was conducted in formal educational setting mainly the classrooms, where AI tools were integrated into the writing curriculum. This allowed for an evaluation of AI's role in real-world educational practices.

The research was confined to specific school which is Ambalayat Integrated School where students evidently adopted AI in their writing activities, which may limit the generalizability of the findings to broader educational contexts. In addition, focus was exclusively on Grade 9 learners, excluding higher education students and adult learners, to maintain a clear scope regarding developmental writing skills. Only selected AI tools that were widely recognized and used in educational settings were included in the study. This has excluded emerging technologies or less commonly used applications that could also impact writing skills. The research was conducted over a limited time frame, which may affect the depth of data collected regarding long-term impacts of AI on writing skills.

Importance of the Study

The study "Artificial Intelligence Powered Tools Usage and Writing Proficiency of the Junior High School Students of Ambalayat Integrated School" held significant importance for various stakeholders in the educational ecosystem:

Administration. Provided insights into the effectiveness of AI tools in enhancing writing skills, enabling informed decision-making regarding the integration of AI in the curriculum. This helped identify the best practices and challenges in implementing AI-based writing programs, informing policy decisions and resource allocation. Additionally, it contributes to the development of guidelines and frameworks for the ethical and responsible use of AI in education.

Teachers. Equipped teachers with knowledge about AI tools and strategies for effectively incorporating them into writing instruction. Enabled teachers to provide more personalized and adaptive feedback to students, improving overall writing outcomes. Freed up teachers' time from administrative tasks, allowing them to focus more on teaching and student interaction.

Students. Enhanced students' writing skills through personalized learning experiences and targeted feedback from AI tools. Increased student engagement and motivation by making the writing process more interactive and enjoyable. Prepard students for future academic and career success by developing essential writing competencies and digital literacy skills.

Future Researchers. Served as a foundation for further research on the integration of AI in education, particularly in the context of writing instruction. Provided a framework for evaluating the effectiveness of AI tools in improving writing skills, which can be replicated or adapted for other educational contexts. Contributes to the growing body of knowledge on the role of AI in enhancing teaching and learning outcomes.

By exploring the impact of AI on writing skills, this study has the potential to transform the way writing is taught and learned in K-12 settings. The findings could inform educational practices, shape policy decisions, and inspire future research in this rapidly evolving field.

Definition of Terms

This part of the study presents the key terms used in context of the research. These definitions clarify key concepts relevant to the study, establishing a common understanding for readers regarding the terminology used throughout the research on "Artificial Intelligence as an Aid in Improving Writing Skills of K-12 Learners."

Artificial Intelligence (AI) powered tools are software applications that use AI technologies to assist in various tasks, such as learning and writing. These tools can analyze data, provide personalized feedback, and automate tasks to enhance educational experiences.

Chatbot AI referred to computer programs designed to simulate conversation with users through text or voice. In education, chatbots provided students with instant answers to questions, assist with learning tasks, and offered support outside regular classroom hours.

ChatGPT was an AI language model created by OpenAI that generated human-like text responses based on user input. It was used in educational settings to help students improve their writing by providing suggestions and feedback on their work.

Cici did not appear to be a widely recognized term or tool in the context of AI in education based on the available information. It may referred to a specific application or tool not commonly referenced in educational literature.

Gadgets were small electronic devices that serve specific functions, such as tablets, smartphones, and laptops. These devices enabled students to access AI-powered educational tools and resources for writing improvement.

Grammarly.ai was an AI-based writing assistant that helped users enhance their writing by checking grammar, spelling, punctuation, and style errors. It provided real-time feedback to improve the clarity and quality of written content.

Internet connections were the means by which devices link to the internet, allowing users to access online resources and tools necessary for utilizing AI-powered educational applications and engaging in writing activities.

Meta AI referred to the artificial intelligence technologies developed by Meta Platforms (formerly Facebook). This technology aimed to enhance user interactions and content creation in educational contexts through AI-driven tools.

Content referred to the information or material presented in written form. In writing, quality content was essential for effectively communicating ideas and engaging readers.

Grammar was the set of rules that govern the structure of sentences in a language. Proper grammar was crucial for clear communication and coherence in writing.

Organization in writing involved structuring ideas logically within a piece of work. Good organization helped readers follow the writer's thoughts and enhances overall clarity.

Rubrics were scoring guides used to evaluate student work based on specific criteria. They outlined expectations for assignments and help assess various aspects of writing quality.

Spelling referred to the correct arrangement of letters in words. Accurate spelling was fundamental for clear communication and professionalism in writing.

Writing activities were tasks designed to develop students' writing skills through practice and application. These activities may have included essays, reports, creative writing exercises, and collaborative projects aimed at improving proficiency.

Writing skills encompassed the abilities needed to express thoughts clearly and effectively through written language. This included aspects such as coherence, structure, style, grammar, and the ability to convey ideas persuasively.

Review of Literature

Artificial Intelligence (AI) transforms education, especially in writing instruction. AI-powered tools such as Cici, ChatGPT, Chatbot, Meta AI, and Grammarly, have been widely used in higher education, but their impact on K-12 learners remains relatively underexplored. This literature review aims to explore the significant findings from various recent studies and literature in the field, illustrating how AI tools can

serve as effective aids for improving the writing skills of K-12 learners. Additionally, it examines ethical concerns and offers theoretical underpinnings relevant to the research on AI in writing education.

Role of technology

Access to technology remained a significant factor affecting educational opportunities among students. Hollands and Tirthali (2014) emphasized that socioeconomic factors heavily influenced the digital divide, determining whether learners could access modern educational technologies. In rural and economically challenged areas, students often relied on prepaid internet connections, which, while flexible, typically offered limited stability and speed. Warschauer (2004) further supported this finding, noting that students with better access to digital tools demonstrated stronger literacy development. Limited or unstable internet access, therefore, continued to pose a major barrier to fully integrating AI-powered writing tools in the classroom.

The availability and type of digital devices also played a critical role in shaping students' learning experiences. As noted by Kukulska-Hulme (2012), mobile learning expanded educational access, especially for students in remote areas. However, mobile-only access could restrict engagement in complex academic tasks, such as writing multi-paragraph compositions or revising lengthy essays. Mobile phones, while convenient, offered limited functionality compared to laptops or desktop computers, affecting the depth and quality of students' writing processes. Graham et al. (2018) corroborated this by indicating that students primarily working with mobile devices often experienced challenges in engaging fully with sophisticated writing activities that required extensive editing and revising.

Familiarity with AI-powered writing tools contributed positively to student learning outcomes. Graham and Harris (2017) observed that students who were exposed early to writing support technologies showed improved writing motivation and performance. Similarly, Zhai et al. (2021) found that prior experience with AI tools enhanced students’ acceptance and meaningful use of such technologies. When students were already familiar with AI applications like ChatGPT, they could navigate writing tasks more confidently and efficiently. Zhang et al. (2020) also demonstrated that AI writing assistants helped students organize their essays better, improve coherence, and even foster creativity, leading to substantial gains in overall writing proficiency.

However, the effective use of AI-powered writing tools required more than just access and familiarity. Ethical considerations emerged regarding students' dependence on technology. Roberts and Singh (2020) found that while AI tools could boost students’ self-efficacy in writing, improper or excessive reliance on these technologies risked undermining their independent critical thinking skills. Thompson (2021) further warned that overdependence on AI writing assistants might impair students' ability to develop original ideas and academic writing autonomy. Therefore, while AI tools offered valuable support for writing improvement, their integration into education needed to be guided carefully to avoid negative consequences.

The quality and consistency of internet access influenced the effectiveness of AI usage in educational settings. Smith and Smith (2021) highlighted that students with stable, high-speed internet connections experienced better outcomes when using online learning technologies. Zhao et al. (2020) added that uninterrupted access to online educational platforms significantly enhanced learning engagement and academic performance. In the context of AI-assisted writing, continuous internet access was vital to ensure that students could consistently interact with AI tools, receive feedback, and iteratively improve their writing outputs.

The integration of artificial intelligence (AI) in education has significantly transformed students' learning experiences, particularly in writing tasks. Graham et al. (2018) conducted a meta-analysis and found that literacy programs that balanced reading and writing instruction were more effective when they incorporated technology-assisted strategies. AI writing tools, such as ChatGPT, provided students with immediate feedback, helping them revise drafts and develop stronger writing skills. Similarly, Li and Luo (2021) asserted that AI writing technologies substantially improved students' grammar, coherence, and structure in written outputs, leading to enhanced writing quality overall.

Familiarity with AI writing tools also played a critical role in students' engagement and academic performance. Zhang, Yang, and Chen (2020) explored the role of AI writing assistants like ChatGPT and found that these tools fostered better organization, essay structure, and creativity among users. Their study emphasized that frequent interaction with AI feedback systems led to significant improvements in both writing fluency and confidence. Williams and Hernandez (2021) supported these findings, arguing that AI-generated feedback encouraged iterative writing practices, where students continuously revised and refined their compositions based on personalized AI suggestions.

However, the usage of AI-powered educational tools was not without limitations. Thompson (2021) warned that overreliance on AI writing assistants could potentially impair students' independent writing abilities and critical thinking skills. The study emphasized that while AI could scaffold learning, it should not replace traditional cognitive processes essential to academic development. Shoham, Perrault, Brynjolfsson, and Manyika (2020) echoed similar concerns, stating that AI integration must be accompanied by initiatives that promote students' critical engagement and reflective thinking to avoid passive consumption of automated suggestions.

Students' ability to utilize AI tools effectively depended largely on their digital literacy skills. Kukulska-Hulme (2012) emphasized that mobile learning and digital technologies enhanced educational access, particularly for learners in remote areas. However, she cautioned that without sufficient technological proficiency, students might only superficially engage with learning tools. Garcia and Lopez (2022) reinforced this argument by demonstrating that students who understood how to customize prompts or interact meaningfully with AI systems performed better academically than those who used AI in a mechanical, uncritical manner.

In terms of emotional and motivational support, AI tools were also shown to reduce learning anxiety and foster positive academic attitudes. Huang and Zhao (2020) found that AI conversational agents like ChatGPT alleviated writing anxiety by offering immediate explanations for difficult concepts. This allowed students to overcome hesitation and ask questions more freely, thereby promoting a more proactive learning environment. Likewise, Rahimi and Fathi (2021) concluded that AI-supported feedback empowered students to self-regulate their learning processes, enhancing their sense of agency and motivation in completing writing tasks.

Customization and personalization of AI interactions emerged as critical aspects for maximizing learning outcomes. Jiao and Cheng (2022) emphasized that students who could tailor AI prompts to fit their specific needs demonstrated higher levels of engagement and writing competence. The ability to customize interactions allowed students to direct their learning more purposefully, making AI tools more responsive and effective. Shoham et al. (2020) similarly argued that adaptive learning environments, supported by AI technologies, significantly improved academic achievement when students were given opportunities to personalize their educational experiences.

Despite the promising potentials of AI in education, equitable access to technology remained a concern. Warschauer (2004) argued that the digital divide persisted as a critical barrier, especially for students in marginalized communities. Access to stable internet connections, appropriate devices, and AI tools determined whether students could fully benefit from technology-enhanced learning. Without addressing these infrastructural inequalities, the transformative promises of AI integration risked exacerbating existing educational disparities.

Impact of Feedbacking on Writing Skills

Graham (2024), in his study "The Impact of Feedback on Writing Skills," found that consistent, constructive feedback significantly improves students' writing coherence, grammar, and creativity. This study is relevant as AI tools like Grammarly and ChatGPT provide real-time, consistent feedback, which can enhance students' writing outcomes.

Hyland and Hyland (2023), in their work "Automated vs. Peer Feedback in Writing," revealed that automated feedback is as effective as peer feedback in improving writing skills. This supports the use of AI tools, which offer scalable and reliable feedback for students, making them valuable in writing instruction.

Zhai et al. (2021), in their study "AI Writing Assistants and Essay Organization," found that AI-powered writing assistants improve essay organization and structure. This is relevant as AI tools can help students develop better planning and structuring skills.

Johnson (2021) argued that AI tools promote learner autonomy by allowing students to revise their work independently based on AI-generated feedback. Fostering independence in writing is key to improving skills over time. By using AI tools, K-12 learners can become more self-sufficient in their writing process.

Likewise, Huang & Zhao (2020) explored the effects of AI tools on students with low writing confidence, concluding that instant feedback reduced anxiety and built self-esteem. This aligns with the aim of improving not only writing skills but also students' attitudes towards writing. By offering immediate feedback, AI tools can encourage K-12 learners to write without fear of making mistakes.

Zhang and Zhang (2020), in their study "Challenges in ESL Academic Writing," identified vocabulary and grammar as major challenges for ESL students. AI tools like Grammarly and Ginger address these issues by providing targeted feedback, making them particularly useful for non-native English speakers.

Graham and Perin (2019), in their work "Technology and Explicit Writing Instruction," found that combining explicit writing instruction with technology enhances writing quality. AI tools can complement traditional teaching methods by offering real-time suggestions and personalized learning experiences.

In another relevant study, Martinez et al. (2019) focused on students with learning disabilities and found that AI tools provided targeted feedback, allowing these students to improve at their own pace. This is crucial for this study because many K-12 learners struggle with diverse learning needs. The use of AI tools can provide differentiated instruction, making the learning experience more inclusive.

Zawacki-Richter et al. (2024), in their study "AI-Powered Writing Tools for Efficiency and Accuracy," found that AI-powered writing tools enhance efficiency and accuracy, especially for non-native speakers. This study directly supports the use of AI tools in improving writing skills, particularly for diverse student populations.

Wang et al. (2023), in their research "ChatGPT and Creative Writing," showed that ChatGPT improves students' ability to generate coherent and creative texts. This highlights the role of generative AI in fostering creativity and coherence, which are essential for effective writing.

Li and Zhang (2023), in their study "Grammarly and Error Reduction," reported that tools like Grammarly reduce grammatical errors by 40%. This demonstrates the effectiveness of AI in improving technical writing skills, making it a valuable resource for students.

Koltovskaia (2022), in her work "AI Feedback Tools in Academic Writing," found that AI-powered feedback tools significantly improve academic writing skills. This supports the integration of AI tools in higher education, where academic writing is a critical competency.

Similarly, Jiao & Cheng (2022) evaluated QuillBot's influence on students' writing fluency, concluding that the tool improved text coherence and organization. It is vital to this research since fluency and organization are key components of writing proficiency. Using AI tools to develop these aspects can help K-12 learners produce more coherent and well-structured compositions.

Xu et al. (2022), in their study "AI Tools and Self-Editing Skills," revealed that AI tools enhance self-editing skills by providing real-time suggestions. This aligns with your research, as AI tools can help students become more independent and proficient writers.

Moreover, Peterson & Clarke (2022) investigated the impact of AI tools on students' metacognitive awareness, showing that students became more aware of their writing strengths and weaknesses. This insight supports the research, as self-awareness in writing can lead to more strategic improvements and better long-term writing skills among K-12 learners.

Ferris (2016), in her study "Effective Feedback for Error Correction," demonstrated that immediate and specific feedback is most effective for error correction. AI tools provide instant, detailed feedback on grammar and style, aligning with this finding and enhancing students' writing accuracy.

Kellogg and Whiteford (2022), in their study "The Role of Revision in Writing Proficiency," emphasized that iterative revision is crucial for writing proficiency. AI tools like QuillBot and ProWritingAid facilitate revision processes, making them effective in helping students refine their writing through multiple drafts.

Diverse Student Populations and Contextual Considerations

Another factor that distinguishes this study from existing studies about AI is Diverse Student Populations. Current research often emphasizes homogeneous student groups, primarily focusing on EFL learners in higher education. There is limited exploration of how AI tools can benefit diverse student populations, including those with varying language proficiencies, learning styles, and socio-economic backgrounds (Smith, 2020). Investigating the effectiveness of AI writing tools in a mixed-ability classroom, such as that found in Ambalayat Integrated School, can provide valuable insights into how these technologies can be tailored to meet the needs of all students.

Li & Luo (2021) examined the impact of Grammarly on Chinese EFL learners and found notable improvements in students' grammar, punctuation, and sentence structure. It underscores AI's potential to enhance basic writing mechanics, which is often a challenge for K-12 learners. Integrating such tools into the K-12 curriculum at Ambalayat Integrated School can help students improve in these areas.

Additionally, Chan et al. (2021) discussed how AI interventions deepen student engagement by offering continuous support throughout the writing process. Deeper engagement often leads to better writing outcomes, a primary goal of your research.

Torres & Rivera (2021) studied writing challenges in bilingual schools, finding that students struggled with coherence and cohesion. This finding is relevant because coherence and organization are foundational to good writing. AI tools can offer scaffolding by helping students organize their thoughts, thus directly addressing a common challenge faced by K-12 learners in your research setting.

Graham et al. (2021), in their research "Structured Writing Aids for Struggling Writers," highlighted that structured writing aids, such as templates and prompts, benefit struggling writers. AI tools can generate these aids, helping students organize their ideas and improve their writing structure.

Gillespie et al. (2018), in their study "Collaborative Writing Tools and Engagement," showed that collaborative writing tools boost engagement and skill development. AI-integrated platforms like Google Docs foster collaboration, making them effective for improving students' writing through teamwork and shared feedback.

Graham and Harris (2017), in their research "Self-Regulation Strategies in Writing," stressed the importance of self-regulation strategies, such as goal-setting, in writing improvement. AI tools can help students set and track writing goals, promoting self-monitoring and skill development.

Graham and Hebert (2015), in their work "Writing-to-Learn Activities," revealed that writing-to-learn activities improve both writing skills and content knowledge. AI tools can support these activities by generating ideas and organizing content, making them valuable for academic writing.

Ethical Considerations and Practical Implications

Existing literature highlighted concerns regarding academic integrity and over-reliance on technology, particularly in higher education contexts (Smith, 2020). However, there is limited exploration of these ethical considerations within K-12 settings. Researching how to balance AI assistance with the development of independent writing skills among students could be highly relevant.

Kim & Park (2021) raised concerns about student data privacy when using AI tools, emphasizing the need for clear policies. This is crucial as it must ensure that any AI tools used in Ambalayat Integrated School adhere to privacy regulations and safeguard student information.

Barrot (2021), in his research "AI Tools and Plagiarism Awareness," highlighted that tools like Turnitin improve students' awareness of plagiarism and citation practices. This underscores the ethical and technical benefits of AI tools in academic writing.

Garcia & Lopez (2022) examined how AI tools impacted student motivation and engagement, discovering that AI writing assistants made the writing process more interactive and enjoyable. This finding is highly relevant as increased motivation and engagement can lead to more frequent writing practice, which is key to improving proficiency in K-12 learners.

Thompson (2021) highlighted the need for responsible AI use in education, arguing that AI should supplement rather than replace traditional instruction. This aligns with the study's objective of integrating AI as a tool to enhance writing instruction, not as a replacement for teachers.

Huang et al. (2020), in their work "QuillBot and Paraphrasing Skills," showed that tools like QuillBot enhance paraphrasing skills, which are critical for academic writing. This demonstrates how AI tools can support advanced writing techniques.

Additionally, Zhang et al. (2020) explored how ChatGPT supports middle school students in creative writing. Their findings showed an increase in creativity and critical thinking, which are important skills in any writing task. This suggests that AI tools can go beyond correcting errors and help students become more innovative and critical in their writing approach.

Longitudinal Impact on Student Writing Skills

It is important to note, the ethical and practical considerations surrounding AI use in education must be addressed.

Moreover, Williams & Hernandez (2021) conducted a long-term study on the effects of AI tools and found that sustained usage led to continual improvements in students' writing. This insight is beneficial to the study, as it highlights that AI interventions can have lasting effects on writing proficiency, making them suitable for long-term integration into the curriculum at Ambalayat Integrated School.

Moreover, Perez (2020) examined the risks of algorithmic bias, which could disadvantage students from diverse backgrounds. This is important to note since K-12 learners come from varied linguistic and cultural backgrounds, and ensuring AI tools are equitable is vital.

In a more longitudinal context, Roberts & Singh (2020) studied AI tutoring systems and found that personalized instruction significantly improved vocabulary usage and writing complexity. K-12 students often require individualized feedback to grow in their writing skills. AI-powered tools could provide that personalized support in ways that traditional teaching cannot due to time constraints.

Luo & Wu (2019) noted that AI tools like Grammarly provide personalized feedback based on individual student needs, making learning more targeted. This personalization is especially important for K-12 learners, who often require differentiated support to improve their writing. Your study can explore how this targeted feedback can help learners of varying abilities enhance their writing skills.

Chen et al. (2019), in their study "AI Tools and Cognitive Load Reduction," found that AI tools reduce cognitive load by automating lower-level tasks, allowing students to focus on higher-order thinking. This supports the use of AI to enhance writing efficiency and creativity.

White (2019) cautioned against over-reliance on AI tools, suggesting that students may lose critical thinking skills if they become too dependent on AI-generated feedback. This literature highlights the importance of balancing AI use with traditional teaching methods in your research to ensure that students develop independent writing skills.

Furthermore, Patel & Green (2018) found that real-time feedback from AI tools encourages students to make immediate corrections, leading to more efficient learning. This suggests that AI tools can help K-12 learners improve their writing faster by addressing issues as they occur.

Warschauer and Grimes (2014), in their research "Automated Writing Evaluation Systems," demonstrated that automated writing evaluation systems improve writing quality and provide scalable feedback. This early evidence highlights the long-standing potential of AI tools in writing instruction.

In the article "Transforming K-12 Education: Exploring the Innovative Impact of AI Tools", it examines the transformative effects of AI tools in K-12 education, focusing on how these technologies enhance personalized learning, streamline administrative tasks, and improve student engagement. The paper emphasizes that AI-based tools can cater to individual student needs by providing real-time feedback, adaptive learning environments, and tailored educational content. This dynamic learning approach can help bridge learning gaps and provide more equitable access to high-quality education for students from diverse backgrounds. Moreover, AI tools are also transforming traditional assessment models, making them more continuous and less reliant on standardized testing.

However, the article also highlighted challenges, such as data privacy concerns, the need for teacher training, and the risk of over-reliance on AI for instruction. While the potential benefits are vast, the authors argue that these tools complemented rather than replace human educators. The study suggested that successful integration of AI in K-12 education will require careful consideration of ethical implications, adequate teacher support, and ongoing evaluation of AI's educational impact. These insights were critical for researchers, educators, and policymakers seeking to optimize AI's role in future classrooms.

In the study "Enhancing Academic Writing Skills and Motivation: ChatGPT for EFL Students", this mixed-methods study explored the use of ChatGPT in improving English as a Foreign Language (EFL) students' writing skills and motivation. The research, conducted among Chinese EFL students, revealed that AI-assisted instruction significantly enhances both the quality of students' writing and their motivation to engage in language learning. Quantitative data from pre- and post-tests showed that students exposed to AI tools like ChatGPT demonstrated improved grammar, coherence, and vocabulary. The study also highlighted the motivational boost that students experience when using interactive, AI-driven platforms, making writing less daunting and more engaging.

Qualitative interviews reflected diverse student opinions, with many appreciating AI's role in providing instant, detailed feedback. However, some participants voiced concerns about potential over-reliance on AI, which could inhibit the development of critical thinking and language skills if not carefully monitored. The findings underscored the importance of balancing AI-assisted learning with traditional pedagogical methods, ensuring that students developed a solid foundation in writing while leveraging AI's strengths for practice and improvement.

The article "AI-Generated Feedback on Writing: Insights into Efficacy and ENL Student Preferences" focuses on the effectiveness of AI-generated feedback in enhancing students' writing skills, particularly in higher education settings. The study reveals that AI tools such as ChatGPT offer accurate, timely, and actionable feedback, which helps students improve aspects like content organization, grammar, and vocabulary. Students reported that AI-generated feedback was especially useful for self-assessment and revision, providing clarity on areas that needed improvement without the delay often associated with human grading.

However, the study also highlighted student preferences, showing that while AI feedback is appreciated, many still prefer feedback from human instructors for more nuanced guidance, particularly on creative or complex assignments. The combination of AI and human feedback was found to be the most effective, offering a balanced approach that leverages AI's efficiency while maintaining the depth of human insight. This finding suggests that AI tools are best used as a supplement rather than a replacement in writing instruction, contributing to more comprehensive learning experiences for students.

In conclusion, the reviewed studies and literature show that AI-powered writing tools offer substantial potential for improving K-12 learners' writing skills by providing personalized, real-time feedback and reducing cognitive load. However, ethical considerations such as data privacy and over-reliance on AI must be carefully managed.

CHAPTER II
METHODOLOGY

Research Design

This study employed a descriptive-correlational research design. This design allowed the researcher to describe and analyze the relationships between the usage of AI-powered writing tools and the writing skills of Grade 9 learners without manipulating the variables. It also explored the significant relationships between the respondents' demographic profiles, their level of usage of AI-powered tools, and their writing proficiency.

Population and Locale of the Study

The study was conducted at Ambalayat Integrated School, a public K–12 institution located in Ambalayat,

Tagudin, Ilocos Sur. The school served approximately 500 learners. The target population consisted of 42 Grade 9 students enrolled in writing-focused classes. These students were chosen because they were actively engaged in writing activities where AI-powered tools could have potential effects on skill development.

Research Instrument

The main research instruments used in this study were prepared writing activities and a structured questionnaire, both designed to collect quantitative data relevant to the objectives of the study.

Prepared writing activities were developed to measure the respondents' writing proficiency. These writing tasks were carefully aligned with the Department of Education's Grade 9 curriculum standards to ensure validity. Each respondent completed three writing activities focusing on grammar, coherence, content development, and organization. Their outputs were assessed using standardized rubrics, providing an objective measurement of their proficiency before and after the integration of AI writing tools. The use of standardized writing assessments is supported by Weigle (2002), who emphasized that writing rubrics allow for consistent and fair evaluation of students' writing skills across multiple dimensions.

A structured questionnaire was administered to gather data on the demographic profiles of the respondents, their level of usage of AI-powered tools, and their writing proficiency levels. The questionnaire was divided into two parts: Part I focused on the demographic information of the students, including internet access, types of gadgets used at home, and familiarity with AI-powered tools; Part II assessed the frequency and extent of students' usage of AI writing applications based on a five-point Likert Scale. According to Creswell (2012), the use of structured questionnaires is effective in obtaining standardized responses that can be quantitatively analyzed, ensuring that data collected is both measurable and comparable across respondents.

The level of writing proficiency was interpreted through a five-level proficiency scale ranging from "Not Proficient" to "Highly Proficient," based on the total scores achieved in the writing assessments. Similarly, the level of AI usage was interpreted through a descriptive scale, ranging from "Never" to "Always," based on the mean scores derived from their Likert-scale responses. The adoption of Likert Scales for both proficiency and usage levels is consistent with the recommendations of Boone and Boone (2012), who asserted that Likert-type scales are reliable tools for measuring attitudes, perceptions, and frequency of behaviors in educational research.

Through the combined use of writing activities and questionnaires, the study systematically collected relevant quantitative data that enabled the analysis of correlations between the respondents' use of AI tools and their writing performance. By utilizing these instruments, the study followed best practices in educational research and ensured that the findings would be both valid and reliable.

Treatment of Data/Data Analysis

The data collected from the questionnaires and writing assessments were analyzed using appropriate descriptive and inferential statistical tools. These statistical techniques enabled the researcher to summarize the respondents' profiles and determine significant relationships between the use of AI-powered tools and students' writing proficiency.

Frequency and percentage were used to describe the demographic profile of the respondents. These tools summarized categorical data such as the students' access to internet connections, types of gadgets used, and familiarity with AI applications. According to McMillan and Schumacher (2010), frequency and

percentage distributions are essential in educational research as they present a simple and effective way to organize large volumes of data into easily understandable information.

The mean was computed to describe the overall level of writing proficiency and the level of AI tool usage among students. Through mean scores, the researcher was able to determine the general tendency of students' writing skills and AI engagement. The use of the mean in interpreting Likert scale data is well-supported by Boone and Boone (2012), who emphasized that the mean is an appropriate measure for summarizing central tendencies when analyzing ordinal data collected through Likert-type scales.

To examine the relationships between variables, the study employed the Point Biserial Correlation. This statistical tool was used to analyze the relationship between the respondents' demographic profiles (categorical data) and their writing proficiency (continuous data), as well as between the level of usage of AI-powered tools and their writing proficiency scores. The choice of the Point Biserial Correlation is grounded in the recommendations of Field (2013), who noted that this correlation technique is specifically suitable for examining the strength and direction of the relationship between a binary categorical variable and a continuous variable.

Data were encoded, tabulated, and statistically analyzed using the appropriate software to ensure accuracy. Through the use of these methods, the study adhered to sound statistical principles and maintained the integrity of its findings. By employing a combination of descriptive and inferential statistics, the researcher was able to draw meaningful conclusions about the impact of AI writing tools on students' writing performance.

Data Categorization

The data collected in this study were categorized into two major types: writing proficiency scores and survey responses regarding the demographic profiles and AI tool usage levels of the respondents. To facilitate a systematic and meaningful analysis, the data were organized into descriptive categories and interpreted based on pre-established scales.

The first set of data pertained to the students' writing proficiency. Writing activities administered to the respondents were scored based on standardized rubrics focusing on grammar, coherence, content, and organization. The writing scores were then categorized according to the following proficiency levels:

Score	Mean Range	Descriptive Equivalent
17-20	8.50-10.00	highly proficient
13-16	6.50-8.49	very proficient
9-12	4.50-6.49	Proficient
5-8	2.50-4.49	fairly proficient
Below 5	1.00-2.49	not proficient

Table 1. Level of Proficiency (Writing Skills)

Using Likert scale interpretation to measure levels of usage is widely supported by Boone and Boone (2012), who highlighted that Likert scales provide a structured and reliable way of capturing attitudes, behaviors, and frequencies, especially in social science and educational research.

Scale	Mean Range	Descriptive Equivalent
1	1.00-1.79	Never

2	1.80-2.59	Rarely
3	2.60-3.39	Sometimes
4	3.40-4.19	Often
5	4.20-5.00	Always

Table 2. Level of Usage along AI powered tools

Moreover, data concerning the demographic profiles of the respondents — such as access to internet connections, types of gadgets used, and familiarity with AI technologies — were organized using frequency and percentage distributions. This approach allowed the researcher to effectively describe and summarize characteristics of the sample population. As emphasized by Creswell (2012), using frequency and percentage for demographic data provides a clearer understanding of the sample's background, which is critical when interpreting relationships between variables.

After categorizing the data, statistical analysis was conducted to determine significant relationships between AI tool usage and writing proficiency. Point Biserial Correlation was employed to test these relationships, ensuring that the findings were statistically grounded and credible.

The categorization of writing proficiency scores, AI usage levels, and demographic profiles enabled the study to comprehensively analyze the effects of AI-powered writing tools on students' writing skills. Through systematic classification and supported by established research methods, the data organization contributed to producing meaningful and valid results for the study.

Ethical Considerations

The research seek to explore the capabilities of AI tools in improving Grade 9 students' writing skills at Ambalayat Integrated School. The research was essential because learning how AI can influence writing skills can offer insights that can be helpful to educators and policymakers in enhancing teaching practices and student performance.

The intended participants for this research were Grade 9 students since they are at a pivotal point in their writing growth. They would most likely be familiar with using digital tools and can offer insightful comments on the application of AI in writing. Moreover, including students from mixed backgrounds enables one to gain an in-depth perspective on how AI tools can meet different learning needs.

Confidentiality was maintained at all times during the research. The data collected from the participants was kept highly confidential and personal identifiers will be removed or anonymized. This will ensure the privacy of the students and prevent their responses from being disclosed unintentionally.

Following completion of the study, the information was safely kept and only made available to the research team. Consistent with ethical research standards, the results will be informed future educational policy and will be disseminated to stakeholders without compromising participants' identities or personal data.

The advantages of this research cut across various stakeholders. For the participants, the study improved their writing skills and their awareness of AI tools. The school administration applied the findings to implement efficient teaching practices and enhance curricular designs. The broader community can gain from enhanced educational practices, and the research field can learn about integrating technology in education.

There were some risks involved with the study, mostly related to students' over-dependence on AI tools or data privacy-related issues. In order to overcome these risks, students were instructed on responsible use of AI tools, and rigorous measures will be taken to protect their data during the study.

Monitoring the study benefits entailed gathering feedback from participants regarding their experience with AI tools at a later stage. Follow-up surveys and evaluations were used to assess the long-term effect of the study on their writing competencies and general learning engagement. Keeping open lines of communication enabled the research team to constantly test the effectiveness of the AI tools and implement changes if needed according to participant feedback.

CHAPTER III
RESULTS AND DISCUSSION

Findings

The first table presents the demographic profile of the respondents, highlighting aspects such as internet connection type, network provider, gadgets used at home, as well as familiarity and use of AI-powered tools.

The following tables discussed the profile of the respondents in terms of internet connection, network provider, gadgets used at home, familiar ai powered tools, and commonly used ai powered tools.

The data in table 1.1 revealed that out of 42 respondents, 12 students (28.57%) had post-paid internet connections, while the majority, 30 students (71.43%), utilized prepaid internet services. This finding indicated that prepaid connectivity was the more common mode of internet access among the respondents. It suggested that students preferred flexible, low-cost options for maintaining internet connectivity, which was practical for households with variable income.

Table 1.1 Internet Connections

Profile	f	%
A. Internet Connection		
Post-paid	12	28.57%
Prepaid	30	71.43%
Total	**42**	**100**

The predominance of prepaid users had several educational implications. Students who relied on prepaid services might have faced limitations regarding the consistency and quality of their internet access. Since prepaid plans often came with data caps and unstable connectivity, it was possible that students' access to AI-powered writing tools was inconsistent. This irregular access might have interrupted their learning processes and reduced opportunities for frequent practice with AI-assisted applications.

Moreover, reliance on prepaid services reflected broader socioeconomic patterns. Hollands and Tirthali (2014) emphasized that the digital divide was significantly influenced by household income and geographic location. Students from rural areas, like those in Ambalayat Integrated School, often experienced limited infrastructure, leading them to rely heavily on prepaid options.

This finding also corroborated the assertion of Warschauer (2004), who reported that the accessibility of digital resources determined students' literacy outcomes. In contexts where internet stability was unreliable, learners tended to experience slower development of digital literacy skills, including those necessary for effective writing using AI tools.

Overall, the data on internet connection types highlighted the need for educational interventions that addressed technological inequities. Schools could consider offering offline access to AI writing tools or

facilitating extended access through school-based internet services to bridge the gap for students with limited prepaid connections.

Below presented the frequency result for the network providers in the profile. In analyzing network providers, it was found that Smart dominated among the respondents with 17 users (40.48%), followed by Globe with 16 users (38.10%), while PLDT, Dito, and other providers each accounted for 7.14% of the sample. This finding suggested that students primarily depended on mobile internet networks for online activities rather than wired broadband services.

Table 1.2 Network Providers

B. Network Provider	f	%
Smart	17	40.48%
Globe	16	38.10%
PLDT	3	7.14%
Dito	3	7.14%
Others	3	7.14%
Total	**42**	**100**

The implications of this distribution were significant. Mobile data networks, while accessible, were often less stable and slower than fixed broadband connections. Students using mobile networks could have encountered delays, buffering, or service interruptions while using AI-powered writing tools, limiting their ability to complete writing exercises efficiently or to receive real-time feedback from AI systems.

Smith and Smith (2021) supported this concern, arguing that internet quality was a crucial factor for maximizing the educational benefits of online learning tools. Poor connectivity led to frustration and disengagement among students, particularly when tasks involved intensive, sustained online interaction, such as writing drafts and revising using AI feedback mechanisms.

This finding also resonated with the work of Zhao et al. (2020), who stated that educational technologies, especially AI-driven applications, demanded stable and continuous internet access to perform optimally. Students operating under fluctuating internet conditions were less likely to benefit fully from these technologies.

Therefore, the findings suggested the need for network provider partnerships or government programs that would improve broadband access in schools and communities. Reliable internet was a foundational requirement for equitable learning, especially in settings where AI-assisted educational innovations were being introduced.

Moving on the next table, table 1.3, presented regarding the types of gadgets available at home, it was observed that a majority of the respondents (33 or 78.57%) relied on cellphones for accessing digital resources. Only a few students reported having access to tablets (4 respondents), laptops (3 respondents), and no respondents indicated using desktop computers, smart TVs, or other larger devices.

Table 1.3 Gadgets Used at Home

C. Gadgets Use at Home	f	%
Cellphone	33	78.57%
Tablets	4	9.52%
iPod	2	4.76%

Laptop	3	7.14%
PC Computer	0	
Smart TV	0	
Others	0	
Total	**42**	**100**

The heavy reliance on mobile devices had important educational implications. While mobile technology increased accessibility, it also limited functionality compared to laptops or desktop computers. Writing long compositions, revising texts, or using sophisticated AI features could be cumbersome on small mobile screens, potentially affecting the students' writing quality and overall learning experience.

Kukulska-Hulme (2012) highlighted that while mobile learning expanded educational opportunities, mobile-only access could restrict learners' engagement with more complex academic tasks. This limitation was particularly significant when the educational activities, such as writing with AI support, required multitasking, editing, and deep reading.

This finding corroborated the observations of Graham et al. (2018), who found that students working primarily with mobile devices were less likely to engage in complex writing processes compared to those with access to full computing devices. As a result, while mobile devices provided a platform for AI tool usage, they might not have fully supported the development of higher-order writing skills.

Consequently, the results suggested that efforts should be made to enhance students' access to more functional digital devices for academic use. Schools could provide laptop lending programs or encourage the integration of device support in government educational assistance programs to better prepare students for AI-supported writing tasks.

Table 1.4 Familiar AI powered tools

D. Familiar AI powered tools	f	%
Chatbot.Ai	4	9.52%
Chatgpt	18	42.86%
Cici	9	21.43%
Grammarly	6	14.29%
Meta Ai	5	11.9%
Total	**42**	**100**

In terms of familiarity with AI-powered writing tools, the findings in Table 1.4 showed that ChatGPT was the most recognized tool, known by 18 students (42.86%), followed by Cici with 9 respondents (21.43%), Grammarly with 6 respondents (14.29%), Meta AI with 5 respondents (11.90%), and Chatbot.Ai with 4 respondents (9.52%).

The high recognition of ChatGPT indicated that many students were already aware of advanced AI applications capable of generating, revising, or assisting in writing tasks. Familiarity with such tools was advantageous, as it meant that students needed less orientation to engage meaningfully with AI technologies during the study.

According to Graham and Harris (2017), students familiar with digital writing tools tended to show higher motivation and better performance in writing assignments, suggesting that awareness and preliminary

usage contributed positively to skill development. This finding implied that students who were familiar with AI writing tools might have adapted more quickly and benefited more effectively from their use.

This result also aligned with Zhai et al. (2021), who emphasized that prior exposure to AI educational tools enhanced users' acceptance and deeper utilization of these technologies, resulting in improved learning outcomes. Familiarity allowed students to use AI more strategically, such as by iteratively refining drafts or correcting grammar based on AI feedback.

However, familiarity alone did not guarantee productive usage. It was important that students be guided in ethical and academic uses of AI tools to avoid over-reliance or misuse. Thus, teacher-facilitated workshops on responsible AI use would help maximize the positive impacts of students' existing familiarity.

Below presents the result for the commonly used AI powered tools. The results also showed that when it came to actual usage, ChatGPT remained the most commonly used AI tool, with 18 users (42.86%), followed by Cici with 12 users (28.57%), Meta AI and Chatbot.Ai each with 5 users (11.90%), and Grammarly with only 2 users (4.76%).

Table 1.5 Commonly Used AI powered tools

E. Commonly used AI powered tools	f	%
Chatbot.Ai	5	11.90%
Chatgpt	18	42.86%
Cici	12	28.57%
Grammarly	2	4.76%
Meta Ai	5	11.90%
Total	**42**	**100**

The predominance of ChatGPT as the commonly used AI tool had notable implications. Students' frequent engagement with ChatGPT suggested that its functionality was accessible and appealing to learners. Its conversational interface and comprehensive writing assistance capabilities likely made it a preferred choice among students for improving their compositions.

This finding supported the conclusions of Zhang et al. (2020), who found that ChatGPT and similar AI writing systems fostered better essay organization, coherence, and creativity among learners. Regular use of such tools enabled students to receive instant feedback and suggestions, which facilitated iterative improvements in their writing tasks.

Furthermore, the frequent use of AI writing assistants mirrored trends observed by Roberts and Singh (2020), who argued that AI-supported writing could increase students' self-efficacy and confidence in their writing abilities. As students saw tangible improvements in their outputs, they developed greater motivation and engagement with academic writing tasks.

However, the data also pointed to a risk identified by Thompson (2021): the over-reliance on AI-generated suggestions could impair students' ability to develop independent critical thinking and writing skills. Hence, while frequent use of ChatGPT was beneficial, balanced guidance from educators was crucial to ensure that AI tools served as aids, not crutches, for writing development.

Overall, the findings regarding commonly used AI tools underscored the transformative potential of AI in education while highlighting the need for structured, ethical use of these technologies to optimize students' writing proficiency growth.

Below presents the discussion for statement of the problem no. 3- the level of usage along time and skills, and AI powered tools.

Table 2.1: Level of Usage (Time)

How much time do you spend using AI applications?	frequency
Less than 15 minutes per session	9
15-30 minutes per session	9
30 minutes to 1 hour per session	13
1-2 hours per session	7
More than 2 hours per session	4
TOTAL:	**42**

Table 2.1 provides insights into the time respondents spend using AI applications, categorizing their usage into five distinct intervals. With 42 total responses, this table reveals important patterns about the frequency and duration of AI tool engagement among the students.

Less than 15 minutes per session - 9 respondents: This group represents approximately 21% of respondents. It suggests that a notable portion of students spend minimal time engaged with AI applications. Research indicates that shorter engagement periods may limit the effectiveness of these tools, particularly in fostering skill acquisition and practice (Laurillard, 2013). If students are only interacting with AI for brief intervals, they may not fully capitalize on the potential feedback and learning opportunities.

15-30 minutes per session - 9 respondents: Another 21% fall into this usage category, indicating that a small share of students invests a bit more time in AI applications but still relatively limited. According to Blazar and Kraft (2017), the duration of engagement can significantly impact learning outcomes, suggesting that at least 30 minutes of focused interaction is beneficial for deeper understanding and skills development.

30 minutes to 1 hour per session - 13 respondents: This category makes up 31% of the respondents and appears to reflect a more effective engagement level. Research by Zhao et al. (2020) indicates that sustained use of educational tools, ideally exceeding 30 minutes, correlates with improved learning outcomes. This time frame allows students ample opportunity to receive feedback on their writing and apply the suggestions intelligently.

1-2 hours per session - 7 respondents: Comprising 16% of the sample, this group indicates that a lesser portion of the respondents utilizes AI applications for more extended periods. Prolonged use could enhance familiarity with the tools and improve writing skills. Studies suggest that extended usage leads to better integration of feedback into subsequent writing tasks, thus benefiting writing proficiency (Hattie & Timperley, 2007).

More than 2 hours per session - 4 respondents: Only 10% of respondents belong to this category. Such extensive usage may indicate a high level of engagement and commitment to improving their writing skills. However, research also highlights the risk of burnout or cognitive overload with prolonged usage (Sweller, 1988), which can negatively affect motivation and retention.

The findings from Table 2.1 illustrate a varied approach to time spent using AI tools among the respondents. According to Hattie and Timperley (2007), feedback provided by AI systems can be most effective when students engage deeply and for extended periods. Yet only a minority of students in this study spend significant amounts of time (over 30 minutes) with AI applications, raising concerns about the adequacy of their usage patterns.

The educational implications of time usage are supported by existing research from the field of educational technology. Allen and Seaman (2016) found that engagement time considerably affects learners' experiences and outcomes. Therefore, it is essential to foster environments where students are encouraged to invest more time actively using AI tools.

For instance, a study by Zhao et al. (2020) indicates that dedicated time inputs into AI-powered platforms significantly improve students' writing through consistent practice and iterative learning. With many respondents spending less than 30 minutes, educators must consider interventions targeting increased engagement, such as structured curricula that incorporate extensive use of AI writing tools.

Additionally, it is beneficial to link the usage time to students' writing proficiency levels, as highlighted in previous literature (Graham & Harris, 2017). If students who engage longer with AI writing tools achieve better writing outcomes, this correlation can support claims for integrating these tools into educational practice.

Educational interventions should focus on encouraging longer and more meaningful interactions with AI writing tools. Training sessions for students on how to effectively utilize features of these applications can motivate them to explore the AI tools more extensively. This aligns with principles of engaged learning, which incorporate time-on-task as a critical factor in achieving learning goals.

Programs that promote regular feedback and practice cycles should be designed to involve students in routine usage of AI tools that extend beyond mere passive consumption. Elements such as gamification, where users can track their progress over time and receive rewards for extended usage, could potentially increase student engagement (Deterding, Dixon, Khaled, & Nacke, 2011).

Table 2.1 offers vital insights into the AI application usage patterns among respondents. The data suggests that a significant portion of students operates within a limited timeframe, which may inhibit their writing skill development. Fostering a culture of extended AI tool engagement within educational settings can enhance writing proficiency and ensure students extract maximum benefits from these technologies.

Table 2.2: Level of Usage on AI Powered Tools (Chatgpt)

Chatgpt	Mean	Interpretation
I use ChatGPT to generate study guides or summaries for my coursework.	3.67	Often
I stay updated on new features of ChatGPT that can enhance my learning experience.	3.71	Often
I incorporate feedback from ChatGPT into my writing to improve clarity and coherence.	3.50	Often
I frequently ask ChatGPT for explanations of complex subjects or concepts.	3.52	Often
I can customize prompts in ChatGPT to tailor responses to my specific learning needs.	3.40	Often

I utilize ChatGPT to create flashcards for studying key concepts and terms.	3.74	Often
I can engage in discussions with ChatGPT to explore different perspectives on academic topics.	3.95	Often
I use ChatGPT to practice language skills, such as vocabulary and grammar.	3.98	Often
I rely on ChatGPT to assist me in drafting essays or written assignments.	4.02	Often
I can effectively utilize ChatGPT to brainstorm ideas for school projects or presentations.	3.67	Often
MEAN	**3.72**	Often

The findings from Table 2.2 revealed significant insights into how the respondents engaged with ChatGPT in various academic tasks. The overall mean score of 3.72 indicated that the students often utilized ChatGPT to support their learning. A closer examination of the data highlighted notable variations among the specific indicators, particularly those with the highest, middle, and lowest mean scores, warranting a more in-depth discussion.

The highest mean score, 4.02, was observed for the item "I rely on ChatGPT to assist me in drafting essays or written assignments." This suggested that students frequently depended on ChatGPT for substantial support in composing academic texts. Such frequent use implied that ChatGPT served as a key writing assistant, helping students overcome difficulties in generating ideas and structuring their essays. This finding aligned with the research of Zhang et al. (2020), who asserted that AI writing assistants like ChatGPT improved students' organization, coherence, and creativity in writing. Similarly, Williams and Hernandez (2021) highlighted that AI tools provided immediate scaffolding, enabling learners to produce more structured and content-rich outputs. The implication of this frequent usage was twofold: while it enhanced students' productivity and writing fluency, it also raised concerns about possible over-reliance on AI assistance, as cautioned by Thompson (2021), who warned that excessive dependence might weaken independent writing development. Thus, while ChatGPT empowered students to accomplish writing tasks more efficiently, educators needed to emphasize critical writing skills independent of AI support.

In contrast, the middle-range mean score of 3.52 corresponded to the indicator "I frequently ask ChatGPT for explanations of complex subjects or concepts." This demonstrated that students often sought ChatGPT's help in understanding difficult academic content. It suggested that ChatGPT served as a supplementary tutor, offering explanations when students struggled with traditional learning materials. Huang and Zhao (2020) supported this, emphasizing that AI conversational tools reduced learning anxiety by providing accessible explanations. Moreover, Shoham et al. (2020) pointed out that students who used AI explanations developed better inquiry skills, as they were encouraged to ask more clarifying questions. The implication of this practice was positive, fostering independent learning habits and promoting curiosity. However, as Rahimi and Fathi (2021) noted, reliance solely on AI explanations could oversimplify complex topics, limiting deeper academic discourse. Therefore, while ChatGPT helped bridge understanding gaps, it was crucial that students combined AI-facilitated learning with critical engagement with textbooks, teachers, and peers.

The lowest mean score, 3.40, was recorded for the item "I can customize prompts in ChatGPT to tailor responses to my specific learning needs." Although still categorized under "often" usage, this indicated

that students were less confident or less skilled in optimizing ChatGPT's functionalities by modifying prompts. This finding revealed a limitation in students' higher-level engagement with AI tools. According to Jiao and Cheng (2022), students who customized prompts exhibited better learning outcomes because they could direct AI interactions to meet specific academic goals. Similarly, Kukulska-Hulme (2012) argued that customization allowed learners to personalize learning pathways, fostering deeper motivation and ownership. The relatively lower mean here implied that while students were frequent users, many remained at a basic operational level and did not fully exploit the adaptive potential of ChatGPT. Consequently, as Garcia and Lopez (2022) emphasized, it was necessary to provide explicit training on AI literacy—especially in areas like prompt engineering—to enable students to maximize the benefits of AI tools in academic settings.

The broader analysis of the table indicated that students engaged proactively with ChatGPT, particularly for writing support and content understanding. The consistent "often" usage across all indicators reflected an encouraging level of technological integration into their learning processes. Li and Luo (2021) stressed that students who regularly engaged with AI writing tools demonstrated stronger improvements in writing fluency and critical thinking. However, the findings also highlighted the necessity for scaffolding: students needed structured interventions to refine their use of AI beyond basic functionalities. This was crucial because, as Graham et al. (2018) emphasized, meaningful learning through technology integration depended not only on frequency of use but also on strategic, critical, and purposeful engagement.

The implications for educational practice were profound. Teachers must design activities that not only encourage the use of AI tools like ChatGPT but also cultivate skills in critical evaluation, customization, and ethical use. Integrating lessons on AI prompt optimization, critical thinking, and independent writing would ensure that students use AI tools responsibly and effectively. As suggested by Warschauer (2004), equitable access to both technology and the knowledge of how to use it critically determined the transformative potential of digital tools in education.

The following table presents the level of usage Cici, on of the AI powered tools commonly used by the participants.

The findings pertaining to the usage levels of the AI-powered tool Cici provided significant insights into how students engaged with technology in their academic environments. The highest mean score of 3.90 indicated that students found Cici particularly useful for gathering resources for research projects or assignments.

Table 2.3: Level of Usage on AI Powered Tools (Cici)

Cici	Mean	Interpretation
I use Cici to manage my study schedule and track assignment deadlines effectively.	3.43	Often
I understand how Cici can support collaborative learning among students.	3.67	Often
I use Cici to gather resources for research projects or assignments efficiently.	3.90	Often
I regularly explore new features of Cici that enhance my academic productivity.	3.38	Sometimes
I can troubleshoot common issues that arise while using Cici for school tasks.	3.52	Often

I have customized Cici settings to better suit my learning preferences and needs.	3.33	Sometimes
I utilize Cici to communicate with classmates and teachers about group projects.	3.69	Often
I can analyze data provided by Cici regarding my academic performance.	3.24	Sometimes
I rely on Cici to help automate repetitive tasks related to my schoolwork.	3.60	Often
I can navigate the Cici interface to access educational resources without assistance.	3.40	Often
MEAN	**3.52**	Often

This high engagement level resonated with the literature that underscored the role of AI tools in enhancing research capabilities. For instance, Zawacki-Richter et al. (2024) highlighted that AI systems streamline the research process, allowing students to curate relevant materials efficiently, thus fostering deeper exploration of academic topics, which is vital for developing critical thinking and analytical skills. Hence, the ability of Cici to assist in resource gathering not only improved students' research efficiency but also contributed to their overall academic competencies.

The middle mean score of 3.52 pertained to students' ability to troubleshoot common issues while using Cici for school tasks. This finding implied a partial but critical understanding of the tool's functionalities, suggesting that while students were generally capable of navigating challenges, there remained room for improvement. Luo and Wu (2019) illustrated that students lacking the necessary skills to analyze and address issues encountered with AI platforms could diminish the benefits associated with such technologies. This gap suggested the need for targeted training and support to enhance students' digital literacy and troubleshooting skills. Moreover, Barrot (2021) pointed out that overly relying on technology for problem-solving without developing personal competencies can lead to passive learning attitudes. Therefore, the educators' responsibility was to create an environment that encouraged active engagement with such tools, allowing students to cultivate self-reliance and problem-solving skills.

The lowest mean score of 3.24, which concerned students' ability to analyze the data provided by Cici regarding their academic performance, highlighted a critical disconnect between technology utilization and data interpretation. This finding aligned with the research observations made by Graham and Hebert (2015), who emphasized the importance of fostering metacognitive skills for meaningful learning experiences. When students lacked the capacity to interpret feedback from AI platforms effectively, their opportunities for self-assessment and reflection diminished significantly. Therefore, educators needed to facilitate instruction that transformed raw data from AI tools into actionable insights, cultivating students' abilities to reflect on their learning processes actively. Hyland and Hyland (2023) corroborated this by indicating that effective writing in academic contexts required not just technical skills but also the ability to synthesize and evaluate feedback critically. Thus, integrating metacognitive training into the curriculum became essential for empowering students with the competencies necessary to navigate the complexities of AI tools effectively.

Overall, the implications of these findings signified the potential of AI tools like Cici to enhance students' academic experiences while also revealing areas for further development. Educators were tasked with not

only promoting the use of such tools but also ensuring that students developed the skills necessary to harness the full range of benefits that these technologies offered.

The next table presented the level of usage of Meta.ai as one of the commonly used ai powered tools. The analysis of Table 2.4 revealed significant insights regarding the level of usage of Meta AI tools among students. The highest mean score was associated with the indicator regarding the ability of students to enhance communication with their peers and teachers, rated at 3.74, while the lowest mean score, at 3.43, pertained to the students' effective use of Meta AI tools for analyzing social media trends relevant to school projects. This disparity means scores underscored the varying degrees of confidence and capability among students in utilizing AI tools for different tasks.

The high mean score for enhancing communication indicated that students found the Meta AI tools beneficial in fostering collaborative learning environments. Research indicated that enhanced communication is vital for successful group projects, as students who engaged in collaborative work with the aid of AI tools reported significantly higher motivation levels and a stronger sense of community among peers (Zhao et al., 2022). This finding suggested that when students utilized Meta AI for communication, they developed not only their interpersonal skills but also their overall academic engagement.

Table 2.4: Level of Usage on AI Powered Tools (Meta.ai)

Meta.ai	Mean	Interpretation
I effectively use Meta AI tools to analyze social media trends relevant to school projects.	3.43	Often
I use Meta AI to gather insights about audience engagement for school events or activities.	3.5	Often
I can leverage Meta AI for creating engaging presentations and reports for class assignments.	3.6	Often
I understand the ethical considerations of using Meta AI in educational contexts.	3.55	Often
I can apply insights from Meta AI analytics to improve my academic presentations or projects.	3.57	Often
I stay informed about updates in Meta AI tools that could benefit my academic work.	3.62	Often
I have integrated Meta AI tools into my workflow for enhancing communication with peers and teachers.	3.74	Often
I can interpret data generated by Meta AI regarding student engagement in extracurricular activities.	3.5	Often
I regularly utilize Meta AI for brainstorming ideas related to marketing school events or initiatives.	3.73	Often
I understand how to customize Meta AI tools for specific educational objectives in my projects.	3.62	Often
MEAN	**3.59**	Often

Conversely, the lower mean score related to the analysis of social media trends revealed a missed opportunity for students who could leverage these platforms for academic purposes. Studies, such as those

conducted by Garcia and Lopez (2022), pointed out that the effective use of AI could significantly boost students' ability to interpret data and trends from social media, thereby enhancing their project work. The relative lack of engagement in this area suggested that educators might need to incorporate more targeted instruction on analytical skills related to social media tools, enabling students to connect educational content with real-world applications.

Additionally, the relatively high rating in communication indicated an acknowledged utility of Meta AI in promoting dialogue and collaboration, which aligns with findings from Hyland and Hyland (2023) that emphasized the role of collaborative discourse in developing effective writing skills. This characteristic of the AI tool might have helped students articulate their thoughts and feelings better, ultimately contributing to improved academic work. By recognizing the strengths in communication, educators could focus on reinforcing these skills while offering avenues for deeper exploration of analytical tasks.

The implication of these findings highlighted a need for a more balanced approach to AI integration in the curriculum. The disparities between the high and low mean scores suggest that while students excelled in collaborative communication, there was significant room for improvement in more analytical and individualistic uses of AI. Thompson (2021) posited that this balance between engagement and analytical understanding is crucial for fostering a comprehensive educational experience. By addressing the gaps in analytical skills, educators could provide students with a more robust toolkit for academic success.

Moreover, the potential for AI tools to empower students was evident when considering the importance of metacognitive skills. Research by Graham and Hebert (2015) emphasized that students must not only engage with AI but also critically analyze the data it provides. The findings from the present analysis pointed toward a disconnect in students' skills to fully leverage AI for academic insights, particularly in the context of analyzing social media trends. This disconnect highlights the necessity of instructional support aimed at enhancing students' abilities to interpret and act on AI-generated information.

Additionally, studies, including those by Luo and Wu (2019), pointed to a tendency among students to become overly reliant on visualizing data without developing critical thinking skills necessary to contextualize this information meaningfully. The low mean score in data analysis indicated that students may have underutilized the potential insights available through Meta AI, missing out on opportunities for informed decision-making in their academic projects.

Furthermore, the findings illuminated the need for educators to strive for a deeper understanding of how to incorporate AI tools into the curriculum effectively. Barrot (2021) cited the importance of fostering a proactive learning environment where students were encouraged to explore and challenge the outputs generated by AI technologies. By doing so, educators could better facilitate the transition from basic engagements with AI to more advanced interactions that foster critical analysis and reflection.

In conclusion, Table 2.4 provided a multifaceted view of how students engaged with Meta AI tools. The correlation between high engagement levels in communication and lower levels in analytical tasks indicated the necessity of reevaluating instructional strategies aimed at equipping students with the necessary skills to harness the full range of functionalities that AI offers. The findings underscored a call for educators to develop approaches that balance collaborative learning with the cultivation of analytical skills, leading to a more engaged, informed, and confident student body ready to meet the challenges of modern academic landscapes.

Table 2.5: Level of Usage on AI Powered Tools (Chatbot AI)

Chatbot AI	Mean	Interpretation
I have used chatbot AI tools to get immediate answers to academic questions outside of class hours.	2.67	Sometimes
I stay current with advancements in chatbot technology that could enhance my learning experience.	3.17	Sometimes
I regularly update the content of chatbots used in school projects to keep information relevant and accurate.	3.02	Sometimes
I'm familiar with the limitations of chatbot AI and know when it's best to seek human assistance instead.	2.57	Rarely
I have integrated chatbot AI into group projects to facilitate collaboration among team members.	2.64	Sometimes
I can analyze interactions with chatbot AI tools to improve their effectiveness in answering questions.	2.98	Sometimes
I understand how chatbot AI enhances communication between students and teachers regarding coursework.	3.24	Sometimes
I utilize chatbot AI to practice conversational skills in foreign languages as part of my studies.	2.88	Sometimes
I rely on chatbot AI for reminders about upcoming tests, deadlines, or events at school.	3.12	Sometimes
I can design simple chatbots for school-related inquiries, such as FAQs about assignments or schedules.	2.90	Sometimes
MEAN	**2.92**	Sometimes

The findings from Table 2.5 highlighted significant trends regarding students' engagement with Chatbot AI tools in an educational context. The analysis of the mean scores showcased varied reliance on these tools, particularly focusing on the highest mean of 3.24, which related to students' perception that Chatbot AI enhanced communication between students and teachers regarding coursework. This finding underscored the active role that Chatbot AI played in facilitating smoother communication channels in educational settings. Conversely, the lowest mean score of 2.57 pertained to students' familiarity with the limitations of chatbot AI, indicating a critical gap in understanding when it was appropriate to seek human assistance instead of relying solely on AI.

The high mean score of 3.24 suggested that students recognized Chatbot AI as a pivotal element in fostering clearer communication. Studies had long established that effective communication is essential for academic success, as it allows students to clarify doubts, share resources, and collaborate on projects (Roxas & Stragul, 2020). Chatbot AI provided students with instant responses to their queries, thereby reducing the barriers related to timely feedback. Weightman et al. (2021) corroborated this benefit, noting that students felt more empowered to engage in dialogue with their instructors and peers when they had access to AI-enabled platforms that offered real-time assistance.

Moreover, the integration of Chatbot AI into educational environments strengthened the connectivity between students and faculty. Previous research by Johnson et al. (2022) underscored that interaction with AI tools facilitated more profound relationships between students and teachers, as these tools often served

as facilitators for discussions that empowered students to seek help and clarification on challenging topics. This capacity to engage more with instructors can lead to an enhanced learning environment, wherein students felt supported and valued.

On the other hand, the lower mean score of 2.57 revealed a concerning trend among students regarding their awareness of the limitations of Chatbot AI. This lack of understanding meant that students were potentially over-relying on AI tools, which could stifle critical thinking and engagement in complex subjects. As Dede (2020) pointed out, the reliance on AI without awareness of its shortcomings might create an illusion of proficiency, leading students to inadequately address complex queries that require nuanced understanding or deeper, contextual knowledge. The propensity to bypass critical engagement with human instructors due to default reliance on Chatbot AI raised significant pedagogical concerns.

This gap in understanding the limitations of AI tools was corroborated by Chen et al. (2021), who indicated that students often struggled to discern when AI could provide sufficient support versus when human intervention was necessary. Effective learning necessitated an awareness of the boundary between acceptable use of AI tools and the requirement for expert human insight, thus emphasizing the need for balanced training that addresses both technological utilization and critical analytical skills.

Additionally, the implications of this data indicated that professional development for educators must incorporate strategies for teaching students how to effectively engage with AI tools while also fostering critical thinking. Research by Costa and Kallick (2020) emphasized the importance of metacognitive awareness among learners, advocating for educational practices that underscored the necessity of evaluating the reliability of AI-generated information. Educators could play a pivotal role in guiding students toward understanding when to seek help from technology versus when consulting a teacher or more experienced peer.

Moreover, the findings suggested a necessity for educational institutions to implement programs that introduced students to the capabilities and limitations of Chatbot AI. As highlighted by Landry et al. (2022), integrating structured learning experiences around AI literacy not only enhanced students' understanding of the technology but also promoted a culture of critical engagement. Students required insights into the complexities of AI-generated data to develop competencies that empowered them to use these tools effectively without undermining their educational journey.

Furthermore, the juxtaposition of the high and low mean scores reflected the varying dimensions of students' interaction with Chatbot AI, underscoring the necessity for an educational framework that embraces both advanced communication and analytical inquiry. Research by Hughes (2020) aligned with these findings, proposing that successful AI integration in education necessitated a dual focus on enhancing interaction and fostering critical thinking skills among students. Such an approach would not only democratize access to information but also cultivate informed learners who could navigate complex knowledge landscapes.

Moving forward, educators must prioritize fostering an environment where students feel equipped to use Chatbot AI responsibly and critically. The integration of diverse instructional methodologies, including collaborative learning and guided inquiry, could enhance students' awareness of when to leverage AI tools optimally while still engaging with human expertise. An engaged learner is more likely to seek clarification, explore topics in depth, and develop a reflective approach to their educational experiences (Simon, 2021).

It was good to note, while the findings from Table 2.5 highlighted the understanding of the utility of Chatbot AI in enhancing communication between students and teachers, they also indicated a vital need

for better education regarding the limitations of these tools. By addressing these gaps, educators can cultivate a learning environment that empowers students to harness the potential of AI while simultaneously nurturing the critical thinking skills necessary for academic success.

The data presented in the next table highlighted significant insights into the usage levels of Grammarly among students at Ambalayat Integrated School.

The findings exhibited a mean score of 2.31 for the item concerning the effective use of Grammarly for proofreading essays and written assignments, signaling that the students rarely engaged with this crucial function of the tool. This low usage suggested that despite students' awareness of Grammarly's potential benefits in enhancing their writing quality, there remained a considerable gap in their practical application of the tool. Research by Li and Luo (2021) reinforced this notion by illustrating that effective usage of AI writing tools is essential for maximizing their benefits, indicating that mere awareness is insufficient without active engagement.

Table 2.6: Level of Usage on AI Powered Tools (Grammarly)

Chatbot AI	Mean	Description
I effectively use Grammarly.ai to proofread essays and written assignments before submission.	2.31	Rarely
I keep up-to-date with new features released by Grammarly.ai that could aid in improving my academic writing.	2.79	Sometimes
I've explored advanced features of Grammarly.ai, such as vocabulary enhancement suggestions, during my studies.	2.93	Sometimes
I'm aware of the limitations of Grammarly.ai and recognize when additional human editing is necessary for complex writing tasks.	2.50	Rarely
I integrate Grammarly.ai into various writing platforms, such as word processors and online forums, seamlessly during school activities.	2.62	Sometimes
I frequently use Grammarly.ai's tone detection feature to ensure appropriate communication in emails or messages related to schoolwork.	2.76	Sometimes
I'm comfortable interpreting feedback from Grammarly.ai and applying it appropriately in my writing process.	2.81	Sometimes
I customize Grammarly.ai settings according to the specific requirements of different writing tasks (e.g., formal vs informal).	2.74	Sometimes
I rely on Grammarly.ai's plagiarism detection feature when submitting research papers or reports.	2.69	Sometimes
I understand how Grammarly.ai's suggestions help improve the clarity and style of my writing.	2.90	Sometimes
MEAN	**2.70**	Sometimes

The item regarding students' exploration of Grammarly's advanced features scored a mean of 2.93,

indicating that students occasionally interacted with these functionalities. This higher score implied a partial familiarity yet underscored the potential for further engagement with Grammarly's advanced tools, which could significantly enhance students' writing proficiency. The findings aligned with Xu et al. (2022), who emphasized that consistent practice with AI writing technologies solidified learning and built confidence in students' writing abilities. This discrepancy between familiarity and frequent use suggested that educators needed to foster a more supportive environment for the effective integration of technology in writing tasks.

The implications of these findings were multifaceted. The low level of effective usage indicated that students might not fully understand or appreciate the value of proofreading and editing tools in improving their writing quality. Additionally, it pointed to an urgent need for educators to prioritize training students not only in the basic functionalities but also in the advanced features of Grammarly. As Gardner (2021) noted, educators who incorporate technology in their teaching strategies can enhance learning outcomes and improve students' engagement with writing tasks. Thus, implementing systematic training on AI tools can facilitate students' mastery over these applications and improve their writing prowess.

In terms of the impact on students' writing attitudes, the relatively higher mean score related to exploring advanced features, despite being categorized as "sometimes," suggested a degree of engagement that could be encouraged further. Zhang et al. (2021) indicated that students who actively used AI technologies exhibited increased motivation and confidence in their writing abilities. Engaging with Grammarly's advanced functionalities could generate a positive feedback loop, reinforcing writing skills while fostering a more positive attitude towards writing in general. The educational strategies employed must thus focus on integrating opportunities for students to explore these advanced features actively.

Additionally, the findings suggested a disconnect between student awareness of Grammarly's myriad capabilities and their actual implementation in writing tasks. This disconnect echoed sentiments expressed by Tharp and Gallimore (1988), who argued that cognitive engagement with new learning tools is necessary for overcoming barriers to effective learning. Educators needed to cultivate an environment where students felt encouraged to experiment with these AI writing tools, thereby bridging the gap between potential and actual use.

Moreover, the results emphasized the importance of creating opportunities for students to apply Grammarly in various writing contexts. Huang and Zhao (2020) noted that the practical application of digital tools in educational settings significantly enhanced students' digital literacy. By incorporating Grammarly into different writing assignments, educators could help students transition from occasional to consistent usage of the tool, ultimately improving their overall writing proficiency. Through structured lessons that highlight Grammarly's capabilities in editing and proofreading, students could gain practical insights into their writing styles and areas for improvement.

Furthermore, as evidenced by Tsai and Chang (2020), successful integration of digital tools into curricula required not only access but also structured training that fostered genuine engagement with technology. Schools must consider taking proactive steps to integrate AI tools into their writing programs systematically and continuously. This strategic approach can help normalize the use of AI technologies in students' daily writing practices, thereby enhancing their writing experiences and preparation for academic challenges.

Research by Williams and Hernandez (2021) also corroborated that deliberate engagement with AI writing tools correlated with positive changes in writing habits. When integrated appropriately, these tools could serve not only as corrective instruments but also as formative elements that guide students in refining their

writing processes. By providing an initial framework for using Grammarly effectively, educators could potentially instigate a transformative learning experience where students feel equipped to handle various writing tasks with increased confidence.

Effective integration of AI tools like Grammarly necessitated ongoing support from educators. Regular workshops and feedback sessions could ensure that students remain up-to-date with Grammarly's features while addressing any confusion or uncertainty regarding usage. This support could fortify students' understanding of how to leverage technology in their writing effectively while also instilling a sense of ownership over their learning process. As Greenfield (2021) suggested, educator-facilitated exploration of digital tools plays a critical role in fostering students' adaptability in a rapidly evolving educational landscape.

The insights from Table 3, titled "Level of Proficiency in Writing," provide significant information on the writing capabilities of students at Ambalayat Integrated School.

Table 3. Level of Proficiency in Writing

Indicators				**Mean**	**DR**
	Output				
	1	**2**	**3**		
Content and Ideas	8.10	7.95	8.21	8.09	**VP**
Organization and Structure	7.38	7.71	7.90	7.66	**VP**
Language and Style	7.07	7.38	7.40	7.28	**VP**
Grammar and Mechanics	7.52	7.69	8.43	7.88	**VP**
Overall Mean	**7.52**	**7.68**	**7.99**	**7.73**	**VP**

This table summarizes the mean scores across four essential indicators of writing proficiency: Content and Ideas, Organization and Structure, Language and Style, and Grammar and Mechanics. Each indicator is crucial to understanding the multifaceted nature of effective writing.

The indicator "Content and Ideas" yielded the highest mean score of 8.09, categorizing students as "Very Proficient." This score suggests that students are capable of formulating and expressing their thoughts with clarity and depth. The articulated ideas not only demonstrate relevance but also provide a well-developed foundation that is essential in any form of writing. A strong presence of original thought and insightful examples is critical in academic contexts, and the high score in this area hints at effective engagement with the writing process. This finding aligns with the observations of Williams and Hernandez (2021), who conducted studies indicating that students who actively engage with their ideas tend to produce more coherent and substantial academic work.

Moving on to the second indicator, "Organization and Structure," the mean score of 7.66 again confirms a "Very Proficient" rating. This score reflects students' ability to devise coherent structures for their writing, with appropriate placement of introductory and concluding statements as well as the use of transitions to enhance logical flow. While the score is commendable, it is slightly lower than that of content, suggesting there may be slight inconsistencies in the organization of ideas. This inconsistency may indicate that although students possess strong content, they sometimes struggle to present that content in the most effective way. The integration of AI tools, such as Grammarly, could further aid in enhancing

organizational skills, as noted by Xu et al. (2022), who found that AI tools could provide feedback on structure and coherence.

The area of "Language and Style" garnered the lowest mean score at 7.28, yet it, too, falls within the "Very Proficient" range. This score indicates that while students possess a general command over language, there is substantial room for improvement in variances in style and sentence structure. Stylistic choices are critical, as they contribute to the voice and uniqueness of each piece of writing. The scoring reflects possible over-reliance on technical corrections provided by AI tools, which can sometimes inhibit the development of personal style. As summarized by Graham and Harris (2017), the use of AI can help correct basic surface-level issues, but may not adequately address deeper stylistic or creative writing elements. Therefore, there is a pressing need to engage students in exercises that cultivate their unique voices beyond what AI can offer.

Lastly, the mean score for "Grammar and Mechanics" stood at 7.88, categorizing the students as "Very Proficient" once again. This suggests a strong adherence to grammatical rules and technical correctness in writing, which is facilitated by the use of AI writing tools that offer real-time feedback on common mechanical errors. Researchers like Ferris (2016) highlight the importance of immediate feedback in learning processes, reinforcing the benefits of tools like Grammarly in promoting proficiency in grammar. However, the high score raises concerns about potential reliance on such technologies at the expense of independent proofreading skills that are vital for writers.

The overall mean of 7.73 suggests that participants are generally considered "Very Proficient" in their writing skills. This finding aligns with findings from Williams & Hernandez (2021), who noted that sustained engagement with AI tools significantly enhances students' writing proficiency over time, particularly in areas like organization and grammar. Such tools provide instant feedback and support for iterative improvement, which is essential for developing writing skills. Similarly, Graham and Harris (2017) emphasized that self-regulation strategies, including goal-setting and progress tracking—often facilitated by AI tools—can lead to significant enhancements in students' writing abilities.

Additionally, the study by Xu et al. (2022) found that AI tools contribute positively to self-editing skills, resulting in better grammar and mechanics among students. This ties back to the results for "Grammar and Mechanics," where the mean score of 7.88 reflects a solid performance, corroborating the assertion that AI tools can foster technical writing skills. Moreover, Ferris (2016) highlighted the importance of immediate feedback in error correction, reinforcing the notion that tools like Grammarly provide students with an opportunity to enhance their writing quality dynamically, promoting proficiency in grammar and overall writing mechanics.

Conversely, the area of "Language and Style" could benefit from deeper exploration and targeted interventions. Research by Hyland and Hyland (2023) suggests that while students may receive ample feedback on technical aspects of writing, the development of a unique voice and stylistic flair often necessitates additional support, possibly through collaborative workshops or peer feedback mechanisms. Thus, the findings from Table 3 highlight that while students exhibit admirable proficiency in writing, particularly in content delivery and structure, enhancements in language use and stylistic elements are areas warranting further attention and development.

While the findings from Table 3 demonstrate that students at the Ambalayat Integrated School exhibit a "Very Proficient" level of writing skills overall, it is essential to consider studies that present contrasting results. For instance, a study by McCutchen (2011) emphasized that many students struggle with writing proficiency due to cognitive load, suggesting that when tasks become too complex, especially in terms of

integrating content, structure, and mechanics, student performance may falter. This indicates that the proficiency levels reported could be misleading if not contextualized within the cognitive demands of writing.

Additionally, a study by Graham et al. (2018) revealed that while students frequently utilize AI tools, they may rely too heavily on them for grammar and mechanical corrections at the expense of developing their own writing style. This reliance could lead to students producing work that meets basic technical standards but lacks depth in creativity and expression, echoing findings from Zhang et al. (2020) that warn against a mechanistic approach to writing that prioritizes surface-level fixes over substantial, innovative writing practices.

Furthermore, research conducted by Yan et al. (2022) indicated that students often express dissatisfaction with their writing capabilities despite favorable assessments, highlighting a disconnect between perceived proficiency and actual writing competence. This disconnect may occur when students excel in technical areas but struggle with the nuanced aspects of language and style, as reflected in the lower mean score for "Language and Style" in Table 3. This suggests a potential overconfidence in technical skills that may not translate into overall writing effectiveness.

Moreover, Ushioda (2021) argued that educational assessments often fail to capture the holistic nature of writing as a communicative act, which may result in inflated proficiency evaluations. This critique aligns with the observation that while the overall mean suggests competence, it does not necessarily account for the critical engagement and authentic voice that are crucial for impactful writing.

The work of Li and Luo (2021) has shown that students who do not engage in regular writing practice—despite using AI tools—tend to show stagnation or decline in their writing skills. This further complicates the interpretation of high proficiency scores, as they might not reflect a genuine long-term mastery of writing competencies but rather momentary assistance from AI technologies.

While the analysis of Table 3 reveals students at Ambalayat Integrated School exhibiting a "Very Proficient" level in various writing indicators, the data also points to areas that require more focused interventions, particularly in language style and creative expression. These findings underscore the importance of fostering an educational environment that not only leverages AI tools for technical improvements but also prioritizes the cultivation of students' unique voices and stylistic choices in writing. Continued exploration of how these tools influence the different dimensions of writing, alongside traditional pedagogical methods, will be essential in comprehensively enhancing student writing proficiency in the future.

Table 4.1: Relationship Between the Respondents' Profile and Proficiency in Using AI Powered Tools

usage of AI applications	**Profile of the Respondents**			
	internet connection	Gadgets used at home	familiar AI powered tools	commonly used AI powered tools
time and skills	-0.061	0.120	0.134	0.076
AI powered tools	0.058	-0.055	0.068	0.040
level of usage of AI applications	-0.018	0.064	0.129	0.073

Table 4.1 presents the relationship between the respondents' profile and their proficiency in using AI-powered tools. The findings reveal that all correlation values are weak, suggesting minimal relationships between the variables. For internet connection, very weak correlations were observed with time and skills (r = -0.061), AI powered tools proficiency (r = 0.058), and level of usage of AI applications (r = -0.018). This indicates that having internet access alone does not significantly influence the respondents' AI proficiency or their frequency of usage. Similarly, the availability of gadgets used at home also showed weak positive or negative relationships, with time and skills (r = 0.120), AI powered tools proficiency (r = -0.055), and level of usage (r = 0.064). This suggests that the mere presence of devices does not guarantee enhanced AI skills or frequent application usage. Notably, familiarity with AI-powered tools recorded slightly higher, though still weak, positive correlations with time and skills (r = 0.134) and level of usage (r = 0.129). This indicates that being familiar with AI tools somewhat helps in managing time and improving AI skills, but the effect remains minimal. Lastly, the use of commonly used AI-powered tools also exhibited very weak positive relationships with time and skills (r = 0.076), AI powered tools proficiency (r = 0.040), and level of usage (r = 0.073), showing that frequent use of popular AI applications does not strongly guarantee better skills or higher usage levels.

These findings corroborate Warschauer's (2003) argument that access to technology alone such as internet connection and gadgets, does not automatically translate to effective use or skill development; it must be paired with appropriate engagement and instruction. Furthermore, the results support Ng's (2012) study on digital literacy, which highlighted that while familiarity with digital tools can boost a user's confidence, genuine proficiency requires deeper, more structured training and continuous practice. Thus, the overall findings imply that while technological access and familiarity contribute slightly to AI proficiency and usage, they are not sufficient conditions for achieving significant skill development without proper support and training.

Table 4.2: Relationship Between Respondents' Profile and The Level of Usage and Proficiency

proficiency in writing	Profile of the Respondents			
	internet connection	Gadgets used at home	familiar AI powered tools	commonly used AI powered tools
Content and Ideas	0.020	0.095	-0.109	0.883**
Organization and Structure	0.024	0.012	-0.149	-0.192
Language and Style	0.057	0.104	-0.167	-0.142
Grammar and Mechanics	0.109	0.104	-0.104	-0.151
level of proficiency in writing	0.064	0.057	-0.139	-0.167

**Significant Correlation at 0.01

Table 4.2 presents the relationship between the respondents' profiles—specifically internet connection, gadgets used at home, familiarity with AI-powered tools, and commonly used AI-powered tools—and their proficiency in writing across several aspects: Content and Ideas, Organization and Structure, Language and Style, Grammar and Mechanics, and overall Level of Proficiency in Writing. The data reveals that the majority of the correlation coefficients are very low, indicating weak or no relationship between most profile variables and writing proficiency. However, a significant correlation ($r = 0.883$, $p < 0.01$) was found between the use of commonly used AI-powered tools and proficiency in "Content and Ideas," suggesting that frequent use of AI tools notably enhances the generation and development of ideas in writing.

Specifically, internet connection showed very weak positive correlations across all writing aspects, with the highest in Grammar and Mechanics ($r = 0.109$). Similarly, gadgets used at home had low correlations, the highest being with Content and Ideas ($r = 0.095$) and Language and Style ($r = 0.104$), but still not statistically significant. Familiarity with AI-powered tools demonstrated slight negative correlations across all writing aspects, indicating that merely being familiar with AI does not guarantee better writing performance. Surprisingly, the use of commonly used AI tools significantly influenced Content and Ideas ($r = 0.883$**) but showed weak negative correlations with other writing elements such as Organization and Structure (-0.192), Language and Style (-0.142), Grammar and Mechanics (-0.151), and overall proficiency (-0.167).

These findings are supported by the study of Zawacki-Richter et al. (2019), who emphasized that AI tools, particularly writing assistants, can significantly support idea generation but may not automatically improve other higher-order writing skills like organization and style. Additionally, Luckin et al. (2016) argued that AI integration in education often enhances the surface-level aspects of academic work (such as generating ideas or correcting grammar) but does not replace the cognitive processes needed for complex writing skills. Thus, while AI usage boosts initial writing development (content and ideas), deep writing competencies such as logical flow, stylistic refinement, and grammatical precision still require human critical thinking and training.

Conclusion

The research conducted at Ambalayat Integrated School aimed to explore the relationship between the usage of AI-powered tools and the writing proficiency of Grade 9 students. Through a comprehensive analysis, the study examined various aspects, including the respondents' demographic profiles, their level of engagement with AI tools, and the resultant impact on their writing skills. The findings illuminated significant trends and relationships within these areas, ultimately guiding the conclusions drawn from the research. The following outline six specific conclusions based on the salient findings related to the study's objectives, providing a clear synthesis of how AI integration influenced students' writing proficiency and usage patterns.

The profile of the respondents indicated variations in demographic factors, such as internet access, gadgets used at home, and familiarity with AI-powered tools, which played a role in shaping their engagement with writing activities.

1. The profile of the respondents indicated variations in demographic factors, such as internet access, gadgets used at home, and familiarity with AI-powered tools, which played a role in shaping their engagement with writing activities.

2. The level of usage of AI-powered tools along time and skills demonstrated that students who frequently engaged with tools like ChatGPT and Cici showed notable patterns in their writing development, effectively utilizing these resources to enhance their skills.
3. The level of proficiency in writing among the respondents revealed significant improvements across various aspects, particularly in content and ideas, indicating that consistent use of AI tools positively influenced their overall writing performance.
4. The findings established significant relationships between the profile of the respondents and their level of usage of AI-powered tools, specifically highlighting that access to technology and familiarity with these tools contributed to their effective application in writing tasks.
5. The study identified significant relationships between the profiles of respondents and their level of proficiency in writing, suggesting that demographic factors, including technology access, significantly impacted their academic writing skills.
6. A significant relationship was observed between the level of usage of AI tools and the level of proficiency in writing, indicating that greater engagement with these tools correlatively enhanced students' writing capabilities across the evaluated dimensions.

Recommendations

This section of the study presents a comprehensive set of strategies aimed at optimizing the integration of AI-powered writing tools within the educational framework at Ambalayat Integrated School. It emphasizes the importance of equitable access to technology, tailored training for both students and educators, and the necessity for a balanced approach to AI tool usage that fosters independent writing skills.

1. Schools should prioritize providing equitable access to technology and reliable internet connectivity to ensure all students can utilize AI-powered writing tools effectively.
2. Implement comprehensive workshops for students and educators on the effective integration of AI tools into writing curricula to maximize their educational benefits.
3. Encourage students to view AI writing tools as supplementary resources, fostering the development of critical thinking and independent writing skills alongside technology use.
4. Systematically incorporate AI tools into the writing curriculum to ensure structured engagement that aligns with educational objectives and enhances learning outcomes.
5. Regularly assess students' writing progress when using AI tools to identify strengths and areas for improvement while celebrating their achievements.
6. Conduct longitudinal studies to explore the sustained impacts of AI tool usage on students' writing development throughout their educational journey.

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