The Strengths and Weaknesses of Artificial Intelligence in Improving Writing Skills: A Users' Perspective

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Article Info	ABSTRACT
	The advancement of artificial intelligence (AI) technology has significantly impacted the education sector, particularly in the development of Indonesian Language writing skills. This study aims to explore how users utilize AI to enhance their Indonesian Language writing skills and to examine their feelings and experiences when using this technology. The study investigated 52 high school students from four schools in Lhokseumawe, Indonesia, who are familiar with using AI in their studies, including writing. This study explores Indonesian high school students' perception and use of AI for writing skills improvement, highlighting benefits and challenges, and the need for guided AI integration in education. A qualitative approach was employed, with data collected through non-participatory online observation, semi-structured interviews, and digital content analysis. The results of the study show that AI helps users improve their grammar, expand their vocabulary, and write more structured texts. However, several limitations were identified, including dependence on the system and a lack of guidance for independent critical thinking. These findings suggest that AI has the potential to be an effective tool for learning to write, but its use still needs to be guided by instructions so as not to reduce the active learning process.

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1. Introduction

Writing plays a crucial role in academic and professional success (Taye & Mengesha, 2024)and is essential for communication and the dissemination of knowledge. A good writer can communicate ideas effectively and clearly. Proficiency in writing is crucial for success in academic, professional, and social contexts (Sihombing & Napitupulu, 2025).The writing

process also trains critical thinking skills, formulates coherent arguments, and pays attention to correct structure and grammar (Muntazar & Hajar, 2025)

The ability to write in the Indonesian Language is one of the fundamental skills that are highly necessary in today's era of globalization and advances in information technology. The ability to write in Indonesian is essential for students, as it is needed for both academic and professional purposes. In Indonesian language instruction, particularly in writing skills, students are taught how to compose an Indonesian Language text while paying attention to grammar, spelling, style, word choice, and other aspects of writing. In academic, professional, and social contexts, good writing skills in the Indonesian Language not only reflect language proficiency but also indicate the ability to think critically, construct logical arguments, and effectively convey ideas to a global audience.

Unfortunately, writing skills often pose a challenge for many learners, especially for those who frequently encounter difficulties with grammar, vocabulary choice, sentence structure clarity, and paragraph cohesion. Many students struggle with writing because traditional teaching approaches sometimes overlook the role of reading comprehension and critical thinking (Sihombing & Napitupulu, 2025). Vocabulary and grammar were identified as the most problematic parts, along with concerns about limited time to master writing abilities (Taye & Mengesha, 2024).

Fortunately, technology is currently used to simplify tasks and meet human needs. The technology being developed, intelligent systems, are control systems that use artificial intelligence and possess human-like intelligence. Technology can make it easier for teachers and students to acquire knowledge and learn new things. Teachers can assess children more effectively and tailor lessons to provide a more personalized education for each student. Since short stories teach the Indonesian Language to students, they are considered a useful learning resource. Technology enables the use of various resources, not just books and teachers, which presents a significant opportunity for teachers to implement learning. The use of technology in the learning process has a positive impact on students.

As a product of technology, Artificial Intelligence (AI) has developed rapidly, offering a variety of applications that can be utilized in education. AI integration in education can enhance teachers' understanding and foster student interest, equipping them with future skills through co-creation with AI technologies (Hajar et al., 2025). One of the latest developments in AI is language models, which can understand and generate human text with a high degree of accuracy. Artificial intelligence is transforming the education environment and has been widely used in language teaching and learning (Zhao, 2025). AI can help with grammar checking, writing ideas, and constructive criticism, all of which can help students improve their writing. With its ability to comprehend and produce coherent and relevant text, AI can be an effective tool for correcting writing errors. In the era of the Industrial Revolution, AI technology has become an innovative solution to support language learning processes.

So far, several studies have been conducted on the application of artificial intelligence in writing teaching. Khalifa & Albadawy, (2024), for instance, conducted a systematic

review of literature and attempted to investigate certain domains where AI greatly supports academic writing. Marzuki et al., (2023) investigates the impact of AI writing tools on student writing, particularly in terms of substance and organization, as perceived by English as a Foreign Language teachers. Nguyen et al., (2024) investigate the interaction between humans and AI in academic writing, focusing on doctoral students' strategies when using a GAI-powered tool.

However, previous research has tended to focus on literary reviews, merging AI and humans, and investigating the application of AI from the standpoint of teachers. Meanwhile, research into the usage of AI from the perspective of users such as students is still scarce. This study intends to fill this gap by investigating the usefulness of artificial intelligence in instructional writing from the perspective of students. This study intends to evaluate the impact of AI on language competency, student engagement, feedback provision, and the fulfillment of diverse learners' demands through an analysis of existing literature and empirical data. The uniqueness of this study lies in its thorough examination of the specific contributions of AI in Indonesian language instruction, which provides useful insights for language educators, educational institutions, and policymakers.

2. Research Methodology

This is a qualitative descriptive study, a study that is designed to explore and present a comprehensive summary of phenomena in everyday terms, often providing rich, detailed insights into respondents' experiences, behaviors, or perceptions. This approach was selected as this study attempts to describe events or processes without imposing theoretical frameworks, making it ideal for exploratory research in fields of education and social sciences. The research design involves purposive or convenience sampling to select respondents who can provide in-depth information about the topic under investigation.

A total of 52 high school students studying at four schools in Lhokseumawe, Indonesia, were selected as respondents in this study. They were selected purposefully and had expressed their willingness to participate in this study. In the initial stage, the researcher conducted structured interviews with the respondents. All respondents had experience using AI such as Chat GPT, QuillBot, and Grammarly to assist in learning the Indonesian Language. Using purposive sampling based on experience and exposure to AI, we were able to generate rich, eloquent, and expressive data (Etikan, 2016).

The researcher conducted structured interviews via Google Forms to obtain clear and detailed qualitative insights into how AI is used in Indonesian language learning to improve writing skills. The study examines the effectiveness of AI in enhancing writing skills, its strengths and weaknesses, and the challenges and suggestions faced by students using AI. The researcher observed AI user activities on various digital platforms. This observation was non-participatory, meaning that the researcher did not participate directly in the discussion but only recorded and observed the interactions that took place. The researcher also conducted interviews with several respondents who had actively used AI. These interviews

were semi-structured, meaning that there were prepared questions, but they remained flexible depending on the direction of the conversation.

The data analysis process was conducted using a thematic analysis approach and percentage, which allowed the researcher to identify, explore, and interpret the main patterns or themes that emerged from the interview results. Through this approach, the study sought to understand the perceptions, experiences, and views of the respondents regarding the effectiveness and challenges of using AI as a tool in the process of developing Indonesian Language writing skills.

3. Result and Discussion

The data analysis results demonstrate that respondents see a variety of benefits and drawbacks of employing AI to improve writing skills. This can be described as follows:

Benefit in Finding Ideas

The majority of students stated that AI greatly helped them in finding ideas or topics when writing. As many as 88% of respondents gave positive answers, such as "yes," "yes," or "very helpful," or explicitly explained that AI made it easier for them to get inspiration and references. Some even mentioned that AI not only provides ideas but also helps expand their knowledge and stimulate creativity in the writing process. Meanwhile, only a small portion of respondents gave neutral or less positive responses. One respondent stated that AI "is not very helpful," and another mentioned that AI "sometimes helps." This suggests that while a small minority finds AI's assistance inconsistent, overall, AI is regarded as an effective tool in supporting the process of generating ideas and topics for writing.

The current findings support Granjeiro et al. (2025), who found that AI tools improve literature analysis and scientific text intelligibility, especially for researchers who may not speak English natively. The students used AI for a variety of objectives, including grammar checking, finding storylines, gaining ideas for writing topics, and receiving initial feedback (Syarifah & Fakhruddin, 2024). A study by Darwin et al. (2024) also acknowledges AI's role in academic research but highlights limitations like a lack of personalization and nuanced understanding. AI improves academic writing in six key areas: idea development, content organization, literature synthesis, data management, editing, and ethical compliance. ChatGPT has considerable potential in academic writing, but difficulties with academic integrity and AI-human balance remain (Khalifa & Albadawy, 2024).

Feeling More Confident

As many as 72% of respondents reported feeling more confident after using AI. They assessed that AI was very helpful in improving grammar, enriching vocabulary, and constructing more structured sentences. For some respondents, AI even gave them confidence in the quality of their writing, because AI was able to provide clear and professional suggestions. This made them more comfortable and confident in expressing their ideas in a foreign language. This finding supports Cummings et al. (2024), who found

that students were equally optimistic about the utility of AI writing tools, especially throughout the periods of innovation and research. AI-enabled alternatives and feedback increased EFL learners' writing skills, drive to write, enjoyment of writing, academic buoyancy, and academic success when writing (He, 2024). Students were generally satisfied with the efficiency of ChatGPT in improving their academic writing skills (Al-Sofi, 2024).

However, not all respondents showed the same level of confidence. About 16% said they only felt limited or partial confidence. They acknowledged the benefits of AI in helping with writing but still felt that their understanding of the Indonesian language needed to be improved. Answers such as "fairly confident," "not yet," or "somewhat confident" reflect a cautious attitude toward writing produced with AI assistance, indicating that technological support has not eliminated doubts or uncertainty.

Meanwhile, around 12% of respondents explicitly stated that the use of AI did not directly increase their confidence. The reasons cited vary, ranging from the grammatical inconsistencies produced by AI to the view that writing ability is a personal skill that should be developed independently. This response indicates that while AI can be an effective tool, strengthening writing skills still requires practice, understanding, and confidence built through consistent learning experiences. The finding corresponds with Cummings et al. (2024), who found that many college writers express concerns about losing their authorial voice and being interrupted by AI tools during their writing processes.

More Practical but More Dependent

The majority of respondents stated that the use of AI provides significant convenience in the writing process. As many as 76% of respondents revealed that AI makes writing easier, both in terms of finding ideas, structuring sentences, improving grammar, and speeding up the writing process. Many of them felt assisted because AI can provide quick inspiration and help organize unstructured thoughts. Phrases like "becomes easier," "helps," and "more practical" consistently appeared from respondents, reflecting a positive view of AI's role as a writing tool.

The majority of respondents stated that the use of AI makes the writing process faster and more efficient. They feel the great benefits of the convenience offered by AI, from helping to design the structure of the writing and correcting grammar to providing alternative ideas or sentences instantly. With AI, they don't need to spend a lot of time looking for references or composing sentences from scratch. AI's flexibility and speed are especially helpful because it may be used at any time and from any location, as long as there is an internet connection. This finding supports Zhao (2025), who found that AI improved students' grammar checks, vocabulary, and sentence structure refinement. Using AI, students can receive prompt and tailored feedback on their work, which can help them recognize and address errors more quickly (Marzuki et al., 2023).

However, many respondents also expressed concerns about the potential for dependency on this technology. About 19% of respondents showed an ambivalent attitude; although they felt the benefits of AI, they also began to feel dependent on it. Some respondents revealed

that they tended to rely on AI too often, especially when AI offered instant and accurate solutions. In their view, the continuous use of AI could weaken critical thinking and creativity, which should be developed independently.

Meanwhile, 5% of respondents gave more critical responses. They believe that AI could hinder the process of learning to write. AI is seen as a shortcut that could reduce the effort required to hone writing skills naturally. This response highlights the importance of using AI wisely as a tool to assist, not as a replacement for the writer's role. Thus, while AI offers significant benefits, maintaining a balance in its use remains a key factor to ensure writing skills are not overshadowed by reliance on technology.

Challenges in Using AI for Writing

In terms of obstacles to using AI for writing, most respondents reported a fairly smooth experience. As many as 61% of respondents stated that they did not experience any significant obstacles in using AI. They felt that AI was easy to access and use without significant technical difficulties. Some only mentioned minor disruptions, such as unstable internet connections, which were more technical than directly related to the AI's functionality itself. This reflects that, overall, AI is already user-friendly and reliable in supporting the writing process.

However, approximately 39% of respondents admitted to having faced some challenges when using AI. One of the most common challenges was the AI's lack of contextual understanding. Some respondents noted that the suggestions or writing results from AI sometimes did not align with the ideas they wanted to convey or felt less personalized. AI sometimes provides irrelevant or superficial answers when faced with complex topics or those requiring specific nuances. To address this, many users suggest providing more specific instructions or prompts, as well as manual revisions to ensure the content aligns with expectations.

When using AI for writing, the most common challenge faced by users is the mismatch between the language style of the AI-generated output and the writer's style. Respondents stated that AI often produces writing that feels stiff or too generic or does not reflect the writer's personality. This requires users to revise the text to align it with the desired style, purpose, and context. According to them, this editing process is crucial to ensure the final output remains personal and natural, even with technological assistance.

Although AI offers many conveniences, some respondents still emphasize the importance of accuracy in its use. AI can indeed simplify the writing process, but the final result still needs to be reviewed to ensure it aligns with the context and the writer's style. When used appropriately, AI is considered an effective tool for saving time, increasing productivity, and simplifying the process of learning to write, especially in the Indonesian language. These challenges indicate that while AI is very helpful, users still need to rely on their judgment and creativity to refine the final results.

This finding corresponds with Granjeiro et al. (2025), who found that AI drawbacks include technical flaws, over-standardization of writing style, and ethical problems about authorship and accountability. AI's limitations include its inability to identify and apply goals to compose written work, which is a fundamental component of an effective writing process (Beck & Levine, 2024). Using AI lowered the time spent on drafting the review article but required more intensive fact-checking (Kacena et al., 2024).

The other respondents also complained about the limitations of the free version's features, as well as the need for manual adjustments to make the writing results more relevant and natural. Technical challenges such as limited premium access, unstable internet connections, or usage limits were also experienced by 27% of respondents, who then addressed this by trying alternative AI tools or adjusting their usage times. Meanwhile, 16% of respondents reported facing obstacles due to a lack of understanding of AI technology itself. They found it difficult to maximize AI features because they were unfamiliar with them or did not know how to ask questions effectively. Facing this problem, they try to learn gradually and ask AI to explain things more simply. On the other hand, 14% of respondents stated they did not encounter significant challenges, indicating that with proper understanding and use, AI can be a highly effective and low-barrier writing tool.

Overall, despite some technical obstacles and contextual limitations, AI is still considered an effective and practical tool. The experiences of most respondents who did not encounter issues indicate that this technology is sufficiently mature to support writing, provided it is used wisely and with an awareness of its limitations. With ongoing technological advancements, it is hoped that AI will become increasingly adaptive and responsive to individual needs and writing styles.

Suggestions for Using AI in Writing

The respondents also provided a variety of suggestions on how to use AI effectively to improve Indonesian language writing skills. The majority suggested that AI should be used as a learning tool, not as a substitute for independent thinking and writing. This approach reflects the awareness that although AI can speed up the process and provide useful corrections, deep understanding and consistent practice remain the key to language learning. The finding is in line with Alanezi (2024), who suggests that the use of AI-based applications like ChatGPT requires careful consideration of ethical, reliability, accuracy, and legal challenges for effective mitigation.

Some specific suggestions include using AI to correct grammar, enrich vocabulary, and provide alternative sentences in various writing contexts. Respondents also suggest that users analyze the structure and style of writing provided by AI, especially in specific genres such as opinion pieces, reports, or narratives, to understand advanced Indonesian language usage. The suggestion is in line with Granjeiro et al. (2025), who assert that while AI can considerably improve scientific writing, its implementation should be supported by strict human monitoring and respect for ethical principles to retain academic integrity.

Additionally, it is important to manually review AI-generated results, consider the suggestions provided, and use them as a basis for reflection and self-improvement. AI has reduced writing time but has significant inaccuracies, requiring human oversight for use in scientific review articles (Kacena et al., 2024). If students do not have sufficient foundational skills, they will be unable to judge whether the work produced by AI is accurate or at the graduate level (Zizka, 2025). Al-Sofi (2024) also suggests some strategies to improve students' writing skills, including deploying detection tools, providing training, revisiting policies, and using ChatGPT responsibly, incorporating student ideas and feedback.

Some respondents also emphasized the importance of limiting AI use to avoid dependency. AI should be used sparingly, as a tool for learning from mistakes and building confidence, not to replace critical thinking and personal creativity. By using AI wisely and proportionally, users will not only receive technical assistance in writing but also gain a deeper and more sustainable understanding of Indonesian language proficiency.

4. Conclusion

The responses from the respondents indicate that the use of AI in the writing process has a positive impact, particularly in terms of time efficiency, ease of organizing ideas, and improving grammar. Most respondents feel assisted because AI can be relied upon to generate ideas, design the structure of a text, and refine sentences quickly and practically. This makes the writing process lighter, more enjoyable, and more productive, especially when facing writer's block or time constraints.

However, users are also aware that reliance on AI can present its challenges. Some of the obstacles faced include inappropriate language style, contextual limitations, and technical barriers such as internet access or premium features. Therefore, respondents suggest that AI be used wisely as a tool, not a replacement for the thinking process. By continuing to edit manually, understanding AI suggestions, and continuing to practice independent writing skills, AI can be a highly effective learning partner for improving writing skills, especially in the Indonesian language.

This study focuses on AI usage in writing skills in Indonesia. The study has limitations, such as a small sample size and a lack of long-term observation, potential bias in self-reported data, dependence on digital access, and no comparison with traditional methods. Future research should expand the sample size and diversity, conduct longitudinal studies, use standardized assessments and interviews, compare AI-assisted learning with traditional methods, explore teacher and educator perspectives, and develop ethical and critical thinking guidelines to balance AI assistance with critical writing skill development. These recommendations aim to improve the generalizability of AI-assisted learning and provide valuable insights for educators and students.

References

Alanezi, F. (2024). Assessing the Effectiveness of ChatGPT in Delivering Mental Health Support: A Qualitative Study. Journal of Multidisciplinary Healthcare, Volume 17, 461–471. https://doi.org/10.2147/JMDH.S447368

Al-Sofi, B. B. M. A. (2024). Artificial intelligence-powered tools and academic writing: to use or not to use ChatGPT. Saudi Journal of Language Studies, 4(3), 145–161. https://doi.org/10.1108/SJLS-06-2024-0029

Beck, S. W., & Levine, S. (2024). The Next Word: A Framework for Imagining the Benefits and Harms of Generative AI as a Resource for Learning to Write. Reading Research Quarterly, 59(4), 706–715. https://doi.org/10.1002/rrq.567

Cummings, R. E., Monroe, S. M., & Watkins, M. (2024). Generative AI in first-year writing: An early analysis of affordances, limitations, and a framework for the future. Computers and Composition, 71, 102827. https://doi.org/10.1016/j.compcom.2024.102827

Darwin, Rusdin, D., Mukminatien, N., Suryati, N., Laksmi, E. D., & Marzuki. (2024). Critical thinking in the AI era: An exploration of EFL students' perceptions, benefits, and limitations. Cogent Education, 11(1). https://doi.org/10.1080/2331186X.2023.2290342

Etikan, I. (2016). Comparison of Convenience Sampling and Purposive Sampling. American Journal of Theoretical and Applied Statistics, 5(1), 1. https://doi.org/10.11648/j.ajtas.20160501.11

Granjeiro, J. M., Cury, A. A. D. B., Cury, J. A., Bueno, M., Sousa-Neto, M. D., & Estrela, C. (2025). The Future of Scientific Writing: AI Tools, Benefits, and Ethical Implications. Brazilian Dental Journal, 36. https://doi.org/10.1590/0103-644020256471

Hajar, I., Helmiyadi, H., Mawardi, M., & Muntazar, T. (2025). Exploring the Transformative Impact of Technological Advancements on English Teachers in Rural Areas. JELITA, 6(2), 531–546. https://doi.org/10.56185/jelita.v6i2.898

He, Y. (2024). The Metaphor of AI in Writing in English: A Reflection on EFL Learners' Motivation to Write, Enjoyment of Writing, Academic Buoyancy, and Academic Success in Writing. The International Review of Research in Open and Distributed Learning, 25(3), 271–286. https://doi.org/10.19173/irrodl.v25i3.7769

Kacena, M. A., Plotkin, L. I., & Fehrenbacher, J. C. (2024). The Use of Artificial Intelligence in Writing Scientific Review Articles. Current Osteoporosis Reports, 22(1), 115–121. https://doi.org/10.1007/s11914-023-00852-0

Khalifa, M., & Albadawy, M. (2024). Using artificial intelligence in academic writing and research: An essential productivity tool. Computer Methods and Programs in Biomedicine Update, 5, 100145. https://doi.org/10.1016/j.cmpbup.2024.100145

Marzuki, Widiati, U., Rusdin, D., Darwin, & Indrawati, I. (2023). The impact of AI writing tools on the content and organization of students' writing: EFL teachers' perspective. Cogent Education, 10(2). https://doi.org/10.1080/2331186X.2023.2236469

Muntazar, T. M., & Hajar, I. (2025). Training on Utilizing Technology in Writing and Publishing Poetry. Jurnal Gramaswara, 5(1), 13–21. https://doi.org/10.21776/ub.gramaswara.2024.005.01.02

Nguyen, A., Hong, Y., Dang, B., & Huang, X. (2024). Human-AI collaboration patterns in AI-assisted academic writing. Studies in Higher Education, 49(5), 847–864. https://doi.org/10.1080/03075079.2024.2323593

Sihombing, M., & Napitupulu, S. (2025). Enhancing the English Writing Skill Through Active Reading in English Teaching. Innovative: Journal Of Social Science Research, 5(1), 1428–1440.

Syarifah, E. F., & Fakhruddin, A. (2024). Exploring Students' Experience In Using Ai To Assist Their Writing. Journal of English Language Learning, 8(1), 558–564. https://doi.org/10.31949/jell.v8i1.10028

Taye, T., & Mengesha, M. (2024). Identifying and analyzing common English writing challenges among regular undergraduate students. Heliyon, 10(17), e36876. https://doi.org/10.1016/j.heliyon.2024.e36876

Zhao, D. (2025). The impact of AI-enhanced natural language processing tools on writing proficiency: an analysis of language precision, content summarization, and creative writing facilitation. Education and Information Technologies, 30(6), 8055–8086. https://doi.org/10.1007/s10639-024-13145-5

Zizka, L. (2025). "It Looks Good Enough": Recognizing the Quality of Generative AI Output in Academic Writing Tasks in Higher Education. Journal of Hospitality & Tourism Education, 1–10. https://doi.org/10.1080/10963758.2025.2496663