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Leveraging Artificial Intelligence in Writing: ELT Students' Perspectives and Experiences

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Abstract. Integrating artificial intelligence (AI) in English Language Teaching (ELT) has opened new possibilities for enhancing students' writing skills. This study investigates the effectiveness of AI in improving writing performance, alongside students' experiences and their perceptions of using such technology in the classroom. The research addresses existing gaps in understanding how AI tools contribute to developing writing skills. A mixed-method approach was used, combining surveys and interviews to collect both qualitative and quantitative data from 66 ELT students of a private university in Kudus, Indonesia. The objective of employing this research design is to provide a comprehensive understanding of how AI is transforming writing instruction by examining both student insights and performance outcomes. Quantitative data was gathered through pre-tests, post-tests, and surveys to assess students' writing proficiency and their views on AI-assisted learning. Qualitative data was collected through a questionnaire. The findings reveal that the pre-test and post-test results significantly differ (Sig = 0.00), indicating a marked improvement in writing skills. Specifically, the average pre-test score was 78.06, while the post-test score increased to 87.72, demonstrating improved learning outcomes. In addition, students perceived positively and viewed the integration of AI as advantageous, recognising its role in offering useful resources and assistance to enhance their writing skills. This study concludes that AI significantly enhances students' writing skills by providing real-time vocabulary, alternative word choices and immediate grammar corrections. The findings indicate that students using AI tools demonstrated improved lexical variety, greater grammatical accuracy and increased writing confidence. This implies that teachers can incorporate AI tools into their writing curricula to provide students with real-time feedback and personalised writing support.

Keywords: Artificial Intelligence (AI); writing; English Language Teaching (ELT) students; perspective; experiences.

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1. Introduction

Language serves as a fundamental tool for communication, enabling individuals to express their thoughts and opinions effectively. In English language acquisition, proficiency is typically developed across four key skills: listening, speaking, reading and writing. Among these, writing is often considered the most challenging due to its complexity (Pratama & Hastuti, 2024). Strong writing skills require not only idea generation and organisation but also mastery of grammar, vocabulary, word choice and punctuation. For students with limited exposure to English, writing can be particularly difficult, making the learning process both demanding and time-consuming. Traditionally, writing instruction relies on teacher feedback and revision, which are essential for skill development, but can be overwhelming in large classes with diverse student needs. Additionally, the abstract nature of writing can make it difficult to engage students, leading to frustration and a lack of motivation (Syafei, 2024).

In recent years, artificial intelligence (AI) has emerged as a transformative force across various industries, including education. In the context of English Language Teaching (ELT), AI-powered tools, such as Grammarly, Quillbot and ChatGPT have been increasingly integrated into the classroom and self-directed learning environments. These technologies assist learners by solving uncertainties, providing content suggestions, and improving writing quality (Werdiningsih et al., 2024). Beyond technical assistance, these tools also shape students' attitudes, perceptions and confidence in their writing abilities. Given AI's ability to provide instant feedback and interactive support, its role in education has been widely acknowledged (Pratama & Hastuti, 2024). In the context of writing instruction, one persistent challenge has been the limited capacity of educators to offer timely, personalised feedback to a large number of students and it can hinder learners' progress and motivation. AI tools with their facility to provide automatic feedback on grammar, structure and coherence, present the solutions to these problems. However, understanding how ELT students engage with these technologies remains crucial for maximising their effectiveness in writing instruction.

This study explores ELT students' experiences and perspectives on using AI in their writing, examining both the benefits and challenges of these tools. Employing a mixed-methods approach, the research combines qualitative interviews and quantitative data analysis to assess AI's impact on students' writing proficiency. The study aims to answer the following two research questions. First, what are ELT students' perceptions and experiences regarding the use of AI tools in their writing? Second, is there a statistically significant improvement in writing skills among students who use AI tools compared to those who do not? By addressing these questions, this research contributes to the field of ELT and provides valuable insights into the integration of AI in writing instruction. The findings aim to fill a critical gap in current educational research by providing empirical insights into how AI tools can be harnessed to enhance student's writing abilities—an area that is still underexplored amid the rapid integration of technology into a learning environment.

2. Literature Review

2.1 Writing

Writing is an important part of the learning process since it serves as both a communication tool and a way to increase understanding across disciplines. Writing activities allow students to clearly explain their thoughts and ideas, which not only improves cognitive processes but also strengthens their understanding of the subject matter. Writing encourages students to organise their thoughts, synthesise information and critically examine concepts, all of which are valuable abilities in today's information-rich environment. For example, when writing essays or research papers, students must participate in lengthy reading and thinking, which promotes a better understanding of the content.

Furthermore, writing encourages active learning; when learners write about what they have learned, they are more likely to retain information and build a personal connection with the material. Learning a language is a complicated process, particularly for students who are unable to keep up with the typical pace of the learning process and the instructional resources (Yulian et al., 2022). Integrating AI into writing instruction enhances students' learning by building on the collaborative, expressive and interactive nature of writing. Through peer review, digital tools and AI-supported platforms, students not only improve their writing skills but also engage more deeply in self-expression, identity formation and meaningful communication in a connected world.

Despite the recognised value of writing as a tool for fostering critical thinking, creativity and communication, significant challenges persist in the writing classroom. Learners enter with various levels of proficiency, and many require tailored support that traditional methods struggle to provide. These obstacles underscore the urgent need for innovative solutions that can bridge gaps in skills and support. As writing plays a pivotal role in academic and professional success, addressing these challenges is essential to helping students become confident, adaptable communicators in an ever-changing world.

2.2. Artificial Intelligence (AI)

Artificial Intelligence (AI) is a system of intelligent programmes that work with humans to complete tasks. AI-assisted online systems can generate linguistic input and output, supporting language learners' development. AI tools available on computers and mobile devices can improve writing skills (Song & Song, 2023). According to Deng and Lin (2023), AI systems are made to take in information from their surroundings and use it to inform their decisions. Complex issues like natural language processing, safety in driverless cars and medical diagnostics can be resolved by AI.

Artificial intelligence (AI) has transformed the writing landscape by providing revolutionary tools and technologies that improve the writing process in a variety of subjects, including academic research and creative expression. This AI function comes with several tools that may be used for a variety of tasks, such as content creation, editing, text composing, and fast information searches (Fitria, 2024). AI-powered writing assistants, such as Grammarly and Quillbot, use natural language processing algorithms to provide real-time feedback on grammar, style, tone and clarity, allowing writers to revise their work more efficiently. Many

studies have shown Grammarly's positive impact on students' writing performance. Utami (2023) reveals that EFL students perceived that Grammarly is effective in identifying grammatical errors, improving vocabulary and enhancing paraphrasing skills. Similarly, Erisyericoe et al. (2025) found that students valued Grammarly's feedback for improving grammar, vocabulary and mechanics. Amyatun and Kholis (2023) also state that Quillbot can enhance students' writing skills. Language learners can benefit from the use of AI-assisted online platforms, which can produce the required language input and output (Song & Song, 2023). These tools not only help discover and remove problems, but they also propose ways to improve sentence structure and vocabulary, thus increasing the overall text quality.

Furthermore, AI may help in generating content ideas, organising thoughts and even drafting full articles based on prompts, which can be very useful for overcoming writer's block or producing first drafts. However, this assistance is not without limitations or controversy. One major concern is that over-reliance on AI tools may inhibit the development of critical thinking and writing originality, as students may become passive recipients of machine-generated content rather than active creators. In addition, AI-generated text might sustain biases or inaccuracy raising questions about the authenticity and academic integrity of student work. Ongoing debate about authorship and plagiarism has been a big concern, as the boundary between student-generated and AI-generated content becomes blurred (Zawacki-Richter et al., 2019). In the modern era, the conventional teaching approaches that view the instructor as the main information provider and the student as a passive information recipient are no longer suitable. One significant source of authenticity is the smartphone. It is the ideal platform for peer teaching, peer review, and self-assessment in communication between students and teachers (Mohamed & Halim, 2023). Since AI is becoming more prevalent in the workplace, incorporating generative AI tools into the curriculum and instructing students on how to use them safely and productively will also help them get ready for a world where AI will rule the workplace (Baidoo-Anu & Ansah, 2023). In educational settings, AI technologies are being integrated into writing curricula to assist students in developing their skills; for example, tailored writing feedback powered by AI can respond to individual learning needs, allowing students to proceed at an increased pace. However, the rise of AI in writing poses major problems about authorship, originality and the ethical implications of relying on technology to facilitate creative processes. Critics believe that over-reliance on AI tools could reduce a writer's particular voice and critical thinking skills, resulting in homogenised writing devoid of personal insight.

Concerns about data privacy and the potential misuse of AI-generated material underline the importance of responsibly implementing these technologies. Despite these obstacles, AI's potential benefits in writing are staggering; it can democratise access to high-quality writing assistance, enable people from varied backgrounds to express themselves more effectively and expedite processes for professionals across industries. As AI evolves, authors and educators must balance exploiting advanced technologies and developing the fundamental abilities required for effective communication. Finally, AI has the potential to

boost human creativity and productivity in writing, while also sparking serious debates about the future of authorship and the role of technology in creating our stories.

2.3 The Role of Artificial Intelligence (AI) in Writing

Artificial intelligence (AI) plays an increasingly important role in writing, particularly in educational settings where it is a potent tool for improving students' writing skills. A recent study has demonstrated the effectiveness of AI-based technology in boosting academic English writing, notably in higher education. When describing the behaviour, the perspective should be thorough. Students' motivation, excitement and academic achievement rates are also raised when they have a good view of technology (Utami et al, 2023). A study conducted by Marzuki et al. (2023) revealed that AI writing tools had a positive impact on students' writing, especially by improving content quality and organisation. Numerous factors will greatly influence how successful studying scientific writing will be. These elements consist of the learner, the instructor, the model, and the assessment of the student's progress. For the learning process to be successful, the learner's attributes must match those of the model used as a source of instruction (Mulyaningsih et al., 2022). For both teachers and students, artificial intelligence (AI) has produced new teaching and learning opportunities in the fields of evaluation, tutoring, content creation, and feedback (Rahman et al., 2022). Generally speaking, everyone can see the benefits of the AI platform. Students' English essays can be corrected by schools using AI platforms, which will lessen the workload for teachers (Liu et al., 2022).

The study used a mixed-methods approach, combining quantitative and qualitative data to assess the influence of AI feedback on students' writing skills. AI-assisted feedback significantly improved students' writing skills, increasing average scores from 1204 to 1364 ($p < 0.05$). This study emphasises AI's ability to deliver tailored feedback, which traditional teaching techniques frequently lack due to restricted instructional time. It also investigates students' opinions and attitudes regarding these tools. The findings indicate that students usually accept AI technology and appreciate its efficacy in addressing common writing issues. As a result, incorporating AI into English writing teaching is a viable alternative for improving the quality and effectiveness of learning experiences.

This study calls for a larger use of AI technology in educational settings to help students enhance their writing skills, demonstrating that such innovations can play an important role in updating teaching procedures and boosting student writing competency.

2.4 Student's Experiences and Insight Use AI in Writing

Students' experiences and perspectives on the use of artificial intelligence (AI) in writing indicate a complex interplay of benefits and issues that define their academic journeys. According to research, many university students are becoming more familiar with generative AI writing tools, which have the potential to boost writing abilities and learning outcomes. A survey of Jordanian College of Education students found that while familiarity with these technologies was limited, the reported benefits were significant, particularly in areas such as creativity, efficiency and specific learning experiences (Habes et al.,

2024). Students indicated that AI tools not only help with grammar and style improvements but also promote critical thinking by encouraging them to engage more deeply with their writing.

However, concerns regarding over-reliance on AI and the consequences for originality and authorship remain. Many students are concerned about how the usage of AI may affect their capacity to develop their unique voice and critical thinking skills, resulting in a nuanced view of these technologies as both beneficial and potentially restricting. Institutions are recognising the significance of assessing students' use of AI writing tools to ensure that they are using these technologies ethically while encouraging original thought and creativity. For example, educators are increasingly adopting AI tools into their teaching practices, not just as drafting assistance, but also as starting points for talks about authorship and the writing process itself. This method enables students to see AI as a collaborator rather than a crutch, creating an environment in which they may push the limits of technology in writing. Overall, while students value the aid that AI tools give, they also urge for a balanced strategy that prioritises skill development alongside technology assistance, ensuring that they remain active participants in their learning experience.

Several previous studies are relevant to this research. The research by Wiarishintia et al. (2024) found that DeepL can effectively enhance writing skills by helping language learners with vocabulary expansion, word suggestions and grammar correction. Similarly, Losi et al., (2023) highlighted that AI and technology can empower students to produce high-quality academic writing while fostering self-awareness, self-learning and self-confidence. (Wang et al., 2024), also emphasised the positive impact of AI tools on self-directed learning and provided guided preventing over-reliance on AI, ensuring that students actively engage in meaningful learning experiences.

Pratama and Hastuti (2024) found that students believe using AI in the classroom has many benefits and would improve their writing-learning outcomes. Similarly, the research by Kim et al. (2022) highlighted the importance of teacher support in enhancing students' grammatical knowledge. Their study validated that AI-based online English-learning environments can improve learning results, especially when combined with various forms of instructor support. This support not only boosts language acquisition but also enhances emotional factors like motivation, curiosity, confidence and learner autonomy. Phan (2023) reported that students had positive opinions about AI writing tools, appreciating their ease of use, accessibility and ability to foster independence. Additionally, Mahapatra (2024) suggested that in large writing classrooms, ChatGPT can serve as an effective feedback tool. Future research could explore ChatGPT's impact on different writing genres and finer aspects of composition.

Based on the research discussed above, it can be concluded that using Artificial Intelligence (AI) in writing has a positive impact on ELT students by enhancing their motivation and improving their writing skills. While previous studies have explored AI's effect on writing skills, they did not specifically focus on ELT students. Most existing literature focuses on native English speakers or the general student population in higher education (Zawacki-Richter et al., 2019),

with less emphasis on the unique and specific pedagogical needs of second-language learners. ELT students face distinct challenges in vocabulary acquisition, grammatical accuracy and cultural nuance – areas where AI tools may interact differently compared to native speakers. This gap in research motivated the researcher to conduct a study applying the same theoretical framework but with a different method and setting, aiming to determine whether AI influences students' writing development.

3. Methods

This research employed a mixed-method design, combining quantitative and qualitative approaches to gain a more comprehensive understanding and address the limitations of isolated research methods. A mixed-method approach enables data, methods and findings to be triangulated, offering a richer perspective (Nair & Prem, 2020). This design is particularly well-suited for complex research questions, as it captures both data trends and individual experiences (Morgan, 2017). The study aimed to explore the insights and experiences of ELT students using AI for writing, involving a writing class of 69 students from a private university in Kudus, Indonesia. They were all third-semester students who enrolled in a writing class. Due to research convenience, all of them were selected as the research subjects.

Two main instruments were used in the study: a writing portfolio test and a questionnaire. The writing test objectively measured students' writing abilities, while the questionnaire captured subjective feedback on their experiences with AI tools. The students were instructed to develop a topic into a composition in 25 minutes for a weekly meeting for 16 meetings. They were advised to use several AI tools such as ChatGPT, Quillbot, Grammarly, Perplexity and DeepL to improve their draft. On the other hand, the questionnaire was an open-ended question with three items asking about students' experience in using AI, the benefits, and its weaknesses/difficulties in using it. Together, these instruments provided a balanced view of both skill development and personal perceptions, offering a nuanced understanding of AI's impact on ELT students' writing performance. To ease scoring, the researchers used a writing rubric following a rubric by Oshima and Hogue (2006), covering content, organisation, vocabulary, language use and mechanics. To check its validity, the writers consulted their senior colleague as a validator. Here is the rubric:

Table 1. Scoring Rubric of Writing (adapted from Oshima & Hogue, 2006)

ELEMENTS	COMPONENTS	SCORE
FORMAT 5 points	There is a title.	
	The title is centred.	
	The first line is indented.	
	There are margins on both sides.	
	The paragraph is doubled spaced.	
MECHANICS 5 points	There is a period, a question mark or an exclamation mark after every sentence.	
	Capital letters are used correctly.	
	The spelling is correct.	
CONTENT 20 points	The paragraph fits the assignment.	
	The paragraph is interesting to read.	

ELEMENTS	COMPONENTS	SCORE
	The paragraph shows thought and care.	
ORGANISATION 35 points	The paragraph begins with a topic sentence that has a topic and a controlling idea.	
	The paragraph contains several specific and factual supporting sentences that explain or prove the topic sentence, including at least one example. (How many?)	
	The paragraph ends with an appropriate concluding sentence.	
GRAMMAR AND SENTENCE STRUCTURE 35 points	The paragraph has correct verb tenses.	
	The paragraph has a correct use of subject-verb agreement.	
	The paragraph has a correct use of articles (a, the).	
	The paragraph has a correct use of pronoun agreement.	
	The paragraph has no choppy sentences.	
	The paragraph has no stringy sentences.	
	The paragraph has no sentence fragment.	
	The paragraph has no run-on sentences/comma splices.	

To collect qualitative data, data for this study was gathered by researchers using questionnaires. The data were students' comments about the usage of AI in the writing-learning process. It was distributed at the end of the semester after the students had the treatment. On the other hand, the quantitative data were collected through student writing competence evaluations.

To analyse the quantitative data, a t-test was used to determine whether the use of AI had a positive impact on students' writing ability by employing the SPSS version 25. The qualitative data yielded by the questionnaire was analysed by means of thematic analysis consisting of decoding, classifying themes, defining and naming themes and drawing the conclusion of the research.

4. Results

There are two research objectives formulated in this study. The first is to determine the effect of using AI on ELT students' writing skills and the second is to determine students' perceptions and experiences in using it in their writing process.

4.1 The Effect of Using AI on ELT Students' Writing Skills

To find out the effect of using AI on ELT students' writing skills, the scores of students' achievements were calculated using a paired sample t-test. The result is described in Table 2.

Table 2. The Result of Pre and Post-test

Minimum Score	Maximum Score	Mean of Pre-test	Mean of Post-test	Std. Dev.	t	df	Sig
68	88	78.0606	87.7273	6.45299	-12.170	65	.000

The table above shows that the calculated t-value is -12.170, which is less than the significance level of 0.05. This indicates that there is a significant difference between the pre-test and post-test results. It was found that $df = 65$ and $\alpha = 0.025$ (since $\alpha = 0.05/2$ for a two-tailed test) and the t-table value is 2.06866. Because the calculated t-value (12.170) is greater than the t-table value (2.06866), it can be concluded that there is a statistically significant difference between the pre-test and post-test scores.

4.2. ELT Students' Perceptions and Experiences with AI in Their Writing Process

The researcher collected data from student questionnaires, which were administered via Google Forms after the post-test. The questionnaire contained eight questions focusing on the insights and experiences of ELT students using AI in their writing. All students of the group participated in providing feedback.

The results of the questionnaire highlighted several factors influencing students' writing abilities due to the use of AI. One key factor is the students' increased interest and enthusiasm for writing when AI is involved. Students reported that AI's practical and efficient nature made the writing process more engaging, leading to greater motivation. As one student noted:

".....The benefit that I got is my writing skills were improved. I learn many things from AI. I can apply good and correct grammar. I also got many new words. Not only have my writing skills improved, but also my other skills have also improved because of learning to use AI." – MAK (ELT Student)

Other ELT students further added that from their previous experience, the features of Artificial Intelligence (AI) are helpful.

"...I can more easily understand new vocabulary and know the meaning and pronunciation easily having to open a large dictionary. I can easily correct incorrect grammar, and the use of AI makes the work faster." – TNF (ELT Student)

The responses reveal that the aspects of artificial intelligence (AI) that streamline the writing process—making it faster, simpler and more efficient—appealed to students. These answers highlight how AI tools not only support students in improving their writing but also capture their interest. It indicates that AI integration in writing fosters students' confidence in their writing performance.

The questionnaire responses also revealed a consistent theme regarding the impact of AI on writing skills. According to the students, these tools help increase their confidence in writing. One particularly notable feature mentioned by students is the "alternatives" section, which offers multiple suggestions for improvements. As one student stated:

"...I think the existence of this AI really helps me in learning, especially when I am writing and it is not correct or there are still mistakes in the grammatical structure, or the wrong vocabulary in writing and so on, with this AI it really helps me to correct it all." – HA (ELT Student)

Another student also mentioned:

"...The benefit of using AI is that sentences are well-structured and very easy to understand. Apart from that, several new vocabulary words appear so we can note and remember the words." RF (ELT Student)

The student's reflection underscores the transformative potential of AI tools in writing skill development. MS and RF emphasise two main benefits: clarity of structure and vocabulary enrichment. The well-structured sentences generated by AI serve as models of academic writing, helping learners internalise effective syntactic patterns. This scaffolding allows students to produce more coherent and polished texts, even if their linguistic competence is still developing. The 'alternative' feature of artificial intelligence (AI), which offers word or sentence choices for students to utilise when writing, can boost students' confidence. According to student reactions, this function gives them access to fresh language that can add interest and variety to their writing. Disadvantages of employing AI for writing were raised even while it increases students' enthusiasm and confidence in their ability to write. An excerpt is as follows:

"...AI can error anytime and There's a risk of reduced originality if one relies solely on AI for suggestions. And I think AI is a little bit dangerous because sometimes AI copies result in others." HMN (ELT Student)

Other students added:

"...The disadvantage of using AI is that the language is too rigid, the words are too high so it is difficult to understand, and sometimes it does not match what we expect." – OAA (ELT Student)

The responses suggest that, although artificial intelligence (AI) offers valuable features and capabilities, there are limitations that need to be considered when using it for writing. According to the students who have used AI, they feel that its constraints in language and functionality restrict their ability to use it freely. This is a crucial finding, as it represents one of the challenges hindering AI from reaching its full potential in the writing process. Despite these limitations, students who face difficulties with writing report significant benefits from using AI, as it provides them with useful support and guidance.

5. Discussion

The results of this study confirm that AI integration into the writing process has a positive impact on students' writing proficiency. Specifically, it shows that AI can enhance the learning experience, making it more engaging and effective. Previous research supports these findings, demonstrating that the use of technology in education, particularly AI, can significantly improve students' skills and motivation. For example, Al-Ansi et al. (2021) highlighted that ICT-based learning environments increase student engagement, while Prayudi et al. (2021) found that technology enhances teaching and learning by offering a variety of resources that promote more effective and enjoyable lessons. Furthermore, Malvado et al. (2022) emphasised that incorporating technology can improve language proficiency, particularly in writing.

The results of the study indicate a notable improvement in students' writing skills after using AI tools. Pre-test scores ranged from 68 to 88, with a mean of 78.06 and a standard deviation of 6.21, indicating that students' writing skills before using AI were already at a relatively good level. However, after using AI, the post-test scores ranged from 75 to 97, with a mean of 87.72 and a standard deviation of 5.60. This improvement indicates not only an overall enhancement in writing proficiency but also greater consistency in student performance. The decrease in standard deviation implies that the gap between lower and higher-performing students narrowed, which may suggest that AI tools helped to level the learning field by providing more individualised support. The statistical analysis finding confirmed that the observed differences in scores are not due to random variation, but attributable to the intervention – in this case the use of AI tools. Such a strong result supports the findings of previous research that highlights the effectiveness of AI-driven writing assistants in facilitating writing development (Rahman., 2024).

The questionnaire results further supported these findings, as most students reported preferring to learn English with the help of AI tools. They noted that AI features, such as vocabulary suggestions and grammar corrections, helped them expand their vocabulary and improve their sentence structure, making their writing more varied and contextually appropriate. This increased their confidence in writing and made the learning process more engaging. However, some challenges were also identified. Several students expressed that they were not yet fully accustomed to using AI tools and felt constrained by certain limitations, such as the number of words that could be input into the system. Despite these challenges, students acknowledged the benefits of AI and expressed a general sense of satisfaction with its features.

These findings align with previous studies that highlight the potential of AI to enhance writing skills through personalised feedback and additional support (Pratama & Hastuti, 2024). AI tools provide targeted feedback that helps students identify their strengths and weaknesses, offering a more tailored learning experience. Additionally, AI's ability to make writing instruction more accessible and dynamic can foster increased motivation among students. The integration of AI in the classroom encourages active learning and engagement, which is particularly beneficial for students with diverse learning needs. Grounded on Vygotsky's constructivist learning theory, the integration of AI supports learners in the Zone of Proximal Development by providing just-in-time assistance that bridges the gap between what they can do independently and what they can achieve with support.

The qualitative findings of this study reveal several key insights into how ELT students perceive and use artificial intelligence (AI) in their writing process. Despite the positive impacts noted by many students, there are notable challenges that affect the full utilisation of AI tools.

One of the primary themes that emerged from the student responses is the restricted freedom in using AI due to its limitations in language processing and contextual understanding. Students expressed that while AI tools can provide useful suggestions for grammar and vocabulary, they often struggle with more

complex language nuances, such as idiomatic expressions or context-specific word choices. This limitation can prevent students from fully relying on AI, especially when they seek to produce more sophisticated or contextually rich writing. As noted by previous research, the effectiveness of AI in language learning is often constrained by its inability to fully grasp the complexities of human language (Pratama & Hastuti, 2024). This insight underscores the importance of refining AI systems to better adapt to these linguistic challenges and provide more comprehensive support for learners.

Despite these limitations, the qualitative data also highlights significant benefits, particularly for students who find writing difficult. Many students reported that AI tools provided them with the structure and support they needed to improve their writing skills. The ability to receive immediate feedback on grammar, vocabulary and sentence structure enhanced their confidence and motivated them to engage more actively with the writing process. This aligns with findings from Malvado et al. (2022), who observed that technology tools, including AI, have a positive effect on students' writing proficiency by providing instant corrections and suggestions. Moreover, students mentioned that AI allowed them to experiment with new vocabulary and sentence structures, which contributed to their growing writing capabilities.

The implications of these findings are twofold. On one hand, the limitations of AI point to the need for continued development of these tools, particularly in improving their ability to understand and generate more complex language forms. AI could be further enhanced to offer more personalised feedback that adapts to individual student needs, addressing areas like creativity, coherence and style. On the other hand, the positive impact of AI on students' confidence and writing skills suggests that teachers should scaffold the use of AI tools by guiding students to analyse the AI feedback alongside them since not all students are ready to use AI independently. Educators can leverage AI to provide personalised assistance, enabling students to build their writing skills at their own pace and increasing engagement in the learning process.

6. Conclusion

This study has demonstrated that the integration of Artificial Intelligence (AI) into writing instruction offers substantial benefits in enhancing ELT students' writing skills, motivation and engagement. By analysing both student performance and perception, the study reveals that AI tools not only automate grammatical correction, but also foster iterative learning, encourage self-regulation and provide personalised, immediate feedback that traditional classroom settings often struggle to deliver. AI can be used as a supplementary tool to reinforce language skills, such as grammar, vocabulary and sentence construction, helping students improve their writing at their own pace. Additionally, AI can serve as a motivating factor by offering immediate suggestions for improvement, thus enhancing student engagement in writing tasks. While this study demonstrates the positive effects of AI on writing skills, further research is needed to explore the long-term impact of AI use on writing development and its potential for developing creativity in writing. Future studies could examine how different AI tools (e.g., grammar checkers, style editors, and content generators) influence

various aspects of writing across different proficiency levels. Additionally, exploring the integration of AI in different cultural and educational contexts would provide a broader understanding of its global applicability. Research into the potential challenges and limitations of AI in writing, such as over-reliance on technology or the accuracy of AI suggestions, would also be valuable for refining its use in ELT. As this study has limitations in the research design without a control group and a small sample, further research is needed to explore how AI can be refined to address these challenges and how it can be optimally integrated into different learning environments.

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Appendix 1

QUESTIONNAIRE

After you write your portfolio and use AI, let's have a reflection. Please respond the questions below based on what you experience.

1. What do you think about your writing skills after using AI?
2. Mention all name(s) of AI assistant(s) you have used and the language skills related to the AI.
3. What are the benefits (positive points) of using AI assistant(s) to improve your writing skills?
4. What are the weaknesses/negative points/difficulties of using AI assistant(s) to improve your writing skills?