

IMPACTS OF AI-ASSISTED WRITING TOOLS ON LEARNER'S IELTS WRITING PERFORMANCE AND PERCEPTION

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ARTICLE INFO		ABSTRACT
Received:	12/5/2026	This study aims to investigate the effectiveness of AI-assisted writing tools in improving learner's IELTS writing performance. An experimental design was employed, with 40 participants divided into two groups – an experimental and a control group. The experimental group was asked to use ChatGPT and Grammarly as assisting tools when writing, while the other one followed the conventional learning method without any support from AI applications. Data were collected through writing tests, questionnaires and interviews. The findings suggest that both groups increased their grades after the intervention, with a significant progress recorded from the experimental group. The most significant improvement was observed in vocabulary use, whereas the changes in grammar range, idea arrangement and task fulfillment were less noticeable. The results from the questionnaires and interviews indicate that the majority of the students had positive attitudes towards using AI tools, particularly in receiving immediate feedbacks and enhancing accuracy in using the target language. However, concerns related to overdependence on AI and difficulties in interpreting AI-generated feedback were also identified. Overall, the study suggests that AI tools could assist writing skills although the effectiveness was at an average level. These tools should be used together with teacher's instruction to obtain a higher results.
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ẢNH HƯỞNG CỦA CÁC CÔNG CỤ HỖ TRỢ VIẾT BẰNG TRÍ TUỆ NHÂN TẠO LÊN KẾT QUẢ VIẾT IELTS VÀ NHẬN THỨC CỦA NGƯỜI HỌC

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THÔNG TIN BÀI BÁO		TÓM TẮT
Ngày nhận bài:	12/5/2026	Nghiên cứu này nhằm tìm hiểu hiệu quả của các công cụ hỗ trợ viết bằng công nghệ AI trong việc cải thiện kỹ năng viết IELTS của người học tiếng Anh. Nghiên cứu sử dụng thiết kế thực nghiệm với 40 sinh viên, được chia thành hai nhóm: nhóm thực nghiệm và nhóm đối chứng. Nhóm thực nghiệm sử dụng các công cụ ChatGPT và Grammarly hỗ trợ trong quá trình viết, trong khi nhóm đối chứng học theo phương pháp truyền thống mà không sử dụng AI. Dữ liệu được thu thập thông qua các bài kiểm tra viết, bảng khảo sát và phỏng vấn. Kết quả cho thấy cả hai nhóm đều có sự tiến bộ sau thời gian thực nghiệm, tuy nhiên nhóm thực nghiệm đạt được mức cải thiện đáng kể. Sự tiến bộ rõ rệt nhất được ghi nhận ở sử dụng từ vựng, trong khi các yêu tố như độ đa dạng ngữ pháp, tổ chức ý tưởng và đáp ứng yêu cầu đề bài cải thiện ít hơn. Kết quả từ bảng khảo sát và phỏng vấn cho thấy phần lớn sinh viên có thái độ tích cực đối với việc sử dụng AI, đặc biệt trong việc nhận phản hồi nhanh và cải thiện độ chính xác của ngôn ngữ. Tuy nhiên, một số quan ngại liên quan đến sự phụ thuộc quá mức vào AI và khó khăn khi hiểu các phản hồi từ AI cũng được xác định qua nghiên cứu này. Nhìn chung, nghiên cứu cho thấy các công cụ AI có thể hỗ trợ việc phát triển kỹ năng viết, nhưng mức độ ảnh hưởng ở mức trung bình. Do đó, các công cụ này nên được sử dụng kết hợp với sự hướng dẫn của giáo viên để đạt hiệu quả học tập tốt hơn.
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1. Introduction

The development of artificial intelligence (AI) has impacted numerous fields these days, including education. In language learning, AI tools such as ChatGPT and Grammarly have become more popular. These tools can provide immediate feedback and error correction and assist learners in their language use skills. Therefore, they may play an important role in enhancing writing skills, which are already considered a challenge among English as a Foreign Language learners [1]. Writing in English is a complex skill because it requires learners to master grammar, vocabulary and organization at the same time. This becomes particularly difficult in tests like IELTS where candidates need to complete writing tasks in a limited time. There are several problems learners might be struggling with such as brainstorming, organizing ideas, checking grammatical errors and word choice. These situations might not always be addressed effectively and promptly as conventional classes are usually large in number and the teacher's support might be hard to reach [2].

AI-assisted writing tools might help to address these issues. They can provide feedback within seconds, help learners to identify errors and correct them as well as suggest more appropriate vocabulary and structures. Besides, they can support self-study, so learners can practice and improve their writing outside their classes [3]. However, there are some concerns regarding the use of AI tools in learning. Some researchers state that learners can become over-reliant on AI and unable to develop their critical thinking skills. Sometimes AI-generated feedback can be incorrect or inappropriate [1]. Therefore, further research on the role of AI in improving writing skills should be carried out. Not only the overall performance but the particular aspects of writing should be also examined. The learners' perceptions of using AI tools should also be investigated.

AI has become a useful tool in language learning in recent years. Many AI applications have been used to support learning English. They can offer fast response, error fixing and suggestions to improve learners' writing. These features are particularly beneficial when learners need to practice outside of the class. Previous studies [1], [3] have shown that AI can support learners in language learning in many different ways. Some AI-assisted tools can teach learners about grammatical error identification or learn new words. AI can also provide learners with immediate feedback, which might not be available in traditional classes. This contributes to the flexibility of learning and learner's autonomy. Many researchers thus believe that AI has potentials in learning and teaching languages.

AI-assisted writing tools are designed to support learners during the writing process. These tools analyse language use and provide feedback to users. Their main functions include grammar checking, vocabulary suggestion and sentence improvement. Previous research showed that [4] these tools can improve the accuracy in grammar and the cohesion of the text. However, several drawbacks have also been identified. Learners can be so dependent on AI that they are reluctant to careful thinking. This may result in reducing ability to write independently. Moreover, AI-generated feedback is not always correct or appropriate and may sometimes send out unclear or inaccurate suggestions. The use of AI, thus, should be done in caution with teachers' instructions.

Writing is usually regarded as one of the most challenging skills to English as a Foreign Language (EFL) learners, particularly in academic situations [4]. In examinations like IELTS, candidates are required to write an essay in a clear structure with an effective organization and correct grammar. They are also expected to vary their word choice and express ideas in a clear way. Many learners struggle to meet these requirements. They frequently make grammatical mistakes, use common words repeatedly and have difficulty in organizing ideas effectively [5]-[8]. AI tools can support learners in tackling the challenges by giving instructions about grammar, word choice, structures and ways to improve cohesion [9].

Previous studies have shown that AI can provide various benefits in language learning especially in writing skills. Nevertheless, several research gaps remain. There is limited research on the impacts of using AI tools in supporting students at Ha Long University. It remains unclear which aspects of writing skills can be enhanced the most through the use of AI tools. Lastly, whether or not AI tools suit their specific learning characteristics and conditions. Therefore, this

study is expected to address this gap by investigating the impacts of AI-assisted writing tools on learners' IELTS writing performance and perceptions.

This study aims to investigate the effectiveness of AI-assisted tools in improving learners' IELTS writing performance. In particular, it focuses on three main points: whether or not AI can improve writing grades, which aspects of writing skills are enhanced the most, and how learners respond to using AI in learning. The study addresses two following research questions:

- 1) To what extent can AI-assisted writing tools improve learners' IELTS writing performance?
- 2) What are learners' perceptions of using AI-assisted writing tools in writing?

2. Research method

This research adopted an experimental design to investigate the effects of AI-assisted tools on writing performance. The research sample consisted of two groups – an experimental group and a control group. The experimental group used AI tools when they practiced writing, whereas the control group continued with the traditional method [10].

The participants were 40 second-year English-major students at Ha Long University. They were recruited from two classes that the researcher was teaching over the second semester of the 2025-2026 academic year. All participants volunteered to take part in the study. Each class formed one group of participants, with 20 students in each group. IELTS academic writing has been part of their curriculum since the first year. They were supposed to have similar English proficiency at the beginning of the research.

Three data collection instruments were adopted in this study. Firstly, writing tests were used to measure the students' writing performance. These tests followed the format of the IELTS Academic Writing Task 2. The students were required to write an essay of at least 250 words in 40 minutes. Their writing papers were marked basing on 4 criteria: task response, coherence and cohesion, lexical resource, and grammatical range and accuracy [11]. The writing tests were administered twice, one at the beginning, and the other at the end of the intervention process. They were graded by two teachers independently. When two grades of the same writing test were different, the two teachers discussed and decided on one final grade. When they did not come to a single conclusion, the grade was calculated as the average of the two grades.

Secondly, a questionnaire was used to collect data on the students' feedbacks on using AI tools in writing. It included 10 statements, to which the students responded by circling the appropriate number on the 5-point Likert scale, from "completely agree" to "completely disagree". The questionnaire in this study was designed to examine the students' perceptions of AI tools on 3 aspects: the effectiveness, learning experience, and potential problems [12].

The first part of the questionnaire measured the effectiveness of AI tools perceived by the students. This part was expected to reveal what students thought about the effects of AI tools on their grammatical accuracy, word choice, essay coherence and idea organization. These correspond to the four assessment criteria in IELTS Academic Writing. By including these four items, the questionnaire helps examine the correlation between the students' perceptions and the results of their writing tests. This helps the researcher see whether or not the students' perceptions are aligned with the improvements observed through the writing tests.

In detail, in this questionnaire, four items were designed to investigate the students' perception of the effectiveness of AI tools in writing as follows.

1. AI tools help me to identify grammatical errors.
2. AI tools improve the use of language in my writing.
3. Suggestions from AI tools make my writing more coherent.
4. AI tools help me to organize ideas more effectively.

The second part looked at the students' learning experience with AI tools. Four items were designed as followed.

5. I am more confident when I use AI tools.
6. AI tools help me build an essay faster and more easily.

7. I understand feedbacks from AI tools.

8. I learn from the error correction by AI tools.

Beside measuring the results, it is also vital to investigate how the students interacted with AI when they studied. This part looked at the confidence of the students, how easily and fast they completed their writing tasks, as well as the ability to understand the feedbacks generated by AI. These factors helped the researcher know if AI tools supported learning in a meaningful way or they only made some changes on the surface of the problems. They also suggested if the students could possibly learn from AI and improve their own thinking.

Two items were designed to examine the students' perception of the potential problems caused by AI tools.

9. I am so dependent on AI tools that I hardly think by myself.

10. I prefer AI tools to teacher's instructions.

The last part aimed to investigate how much the students relied on AI tools and whether or not AI tools could replace teachers from their perspectives. This helps to gain a balanced viewpoint of AI tools, considering both the benefits and the drawbacks.

Finally, a semi-structured interview was carried out with ten of the students from the experimental group. This interview aimed to examine in details the students' experience in using AI tools in writing.

The interview questions were designed to investigate the students' experiences with AI-assisted writing tools and to increase the reliability of the data from the questionnaire [13]. While the questionnaire could give a general view of the students' perceptions, the interview looked at how the students used AI tools in writing in more details. The first question about how students used AI tools when writing aims to examine their real usage of AI. It shed light on whether the students used AI for brainstorming ideas, checking grammar, or revising their drafts. This information helps to understand the role of AI tools in practicing writing. The second and third questions focused on the benefits and difficulties when using AI tools. By asking about benefits, the researcher could learn about how AI supports learning. At the same time, asking about difficulties allowed the researcher to examine potential drawbacks. This balanced approach ensured that the findings of the study would not be over positive or vice versa. The fourth question asked whether or not the students thought AI helped to improve their writing and why. This question encouraged the students to reflect on their learning experience and give reasons for their opinions. It helped to draw a link between the students' perceptions and their actual learning performance. The fifth question explored the issue of dependence on AI tools. By including this question, the study could explore whether or not the students were aware of this problem and how it affected their learning. Finally, the sixth question compared AI-generated feedback with teacher's feedback. This question tried to examine the role of AI in relation to the teacher's role. It helped to determine whether the students considered AI as an alternative for teachers or as a supporting tool. Overall, the interview gave a comprehensive and balanced understanding of the students' experiences, which supports the discussion of the findings.

The study was carried out over a period of eight weeks. At the beginning of the research, all participants took a pre-test. They were asked to write an essay without using any AI tools. This test was used to measure their beginning writing performance.

During the intervention, the students in both groups practiced writing regularly. Each week, they were asked to write one essay. The students in the experimental group were required to use ChatGPT and Grammarly to help with their writing. They could use the AI tools to support any stage of the writing process. They took a training session in which they learn how to download, sign up, and use ChatGPT and Grammarly on their phones and their laptops. Some prompts were given to the students in order that they learn how to write effective prompts.

In contrast, those in the control group did the same writing tasks without any AI tools. After that, both groups submitted their final drafts.

At the end of the intervention, all students took a post-test. The format and conditions of the post-test were the same as the pre-test. After the post-test, the students in the experimental group completed the questionnaire. Ten of them took part in interviews to share their opinions and experiences. The scores from the pre-test and post-test were compared to examine differences within the experimental and between the two groups.

The responses from the questionnaire and interviews were also analyzed to explore the students' experience in details.

3. Findings and discussion

The results of the writing tests show that both groups improved after the intervention, but the extent was different. The experimental group increased their mean score from 5.5 to 6.0, which was half a band, while the control group only improved slightly at 0.2 point, which was not enough to be rounded to 0.5. This suggests that the use of AI tools had a positive effect on the students' writing performance (Table 1).

Table 1. Mean scores of writing tests

Group	Pre-test mean	Post-test mean	Mean gain
Experimental (n = 20)	5.5	6.0	0.5
Control (n = 20)	5.5	5.7	0.2

One possible explanation for this result is that ChatGPT and Grammarly could provide the students with immediate feedback, which helped them correct their mistakes more quickly and accurately. AI allowed students to revise their drafts several times within a short time. This may explain why the experimental group showed a greater increase.

However, the improvement in the experimental group was not very large. The mean gain was only 0.5, which suggests that AI tools might not lead to significant changes in writing performance. This may be because writing requires a mixture of elements like grammar, vocabulary, ideas and organization. This also might be explained that the length of time of the experiment was not sufficient. Further research should be lengthened so that the effects can be more obvious and more dramatic.

Another important point is that the difference between the two groups in the post-test was not very large, with 0.3. This may suggest that while AI tools were helpful, they might not be a perfect solution for improving writing skills. Other factors may also need considering to have a greater influence on the students' results.

As can be seen from Table 2, the results for each writing criterion show that the effectiveness of AI tools were not equal across all aspects of writing. The most noticeable improvement was found in lexical resource. The experimental group increased from 5.0 to 6.5, a gain of 1.5, which is higher than the control group, with 0.5. The experimental group also improved grammatical range and accuracy, Coherence and Cohesion, and Task response, with a gain of 0.5 each.

This suggests that AI tools were more effective in helping students correct and upgrade language use and might be less effective in supporting them to brainstorm, organize their ideas and enhance their grammar.

Table 2. Mean scores by criteria

Criteria	Group	Pre-test	Post-test	Gain
Grammatical range & accuracy	Experimental	5.5	6.0	0.5
	Control	5.5	5.5	0
Lexical resource	Experimental	5.0	6.5	1.5
	Control	5.0	5.5	0.5
Coherence & cohesion	Experimental	5.0	6.0	0.5
	Control	5.0	5.5	0.5
Task response	Experimental	5.5	6.0	0.5
	Control	5.5	5.5	0

Overall, these findings suggest that AI-assisted writing tools were more effective for vocabulary than for grammar, organization and idea development. This supports the idea that AI should be used as a support tool, while teachers and the students themselves still play an important role in developing their ideas and structuring the writing. A balance approach should be adopted to obtain the desired results.

The questionnaire results show that students had mostly a positive attitude toward using AI tools in writing. Most students agreed that AI tools helped them upgrade vocabulary. This supports the findings from the post-test, in which the largest improvement was seen in language use. It suggests that the students were aware of the benefits of AI tools in improving language accuracy.

Many students also agreed that AI tools helped them build a writing faster and more easily. This may be because tools like ChatGPT could provide quick suggestions, which reduced the time for writing.

However, not all responses were strongly positive. Some students were unsure whether they understood the feedbacks from AI. This indicates that although AI tools could give corrections, learners may not always fully understand the reasons. As a result, the learning effect might be limited, as students might accept changes without thinking carefully.

Another important finding is that several students agreed with the statement that they depended too much on AI tools. This concern was also raised in the interview results. This may reduce their ability to think independently.

The interview results provided a more detailed insight into the students' experiences. Many students said that AI tools were particularly helpful in correcting grammar and suggesting better words or phrases. They found that AI support made them more confident, especially when writing about unfamiliar topics.

However, some students also mentioned problems when using AI. For example, they said that AI suggestions were sometimes inappropriate for their situations. Some were even untrue in Vietnam's conditions. Some students also gave incorrect information in their writing. This supports the idea that AI feedbacks were not always reliable and should be used wisely.

When comparing AI feedbacks with teacher's feedbacks, the students had mixed opinions. Some preferred AI because it was fast and always available. Others preferred teacher's feedbacks because they were more detailed and easier to understand. This suggests that AI cannot fully replace the role of teachers in writing instruction.

Overall, the results from the questionnaire and interview show that AI tools were useful for supporting writing, especially in improving grammar and vocabulary. However, there were also concerns about over-dependence and unreliable information. These findings highlight the need to combine AI tools with teacher's guidance to achieve a better learning outcome.

4. Conclusion and recommendations

This study aimed to examine the effectiveness of AI-assisted writing tools in improving students' writing performance. The findings show that students who used AI tools achieved greater improvement in their writing scores compared to those who followed the traditional learning method. However, the level of improvement was not significant. The results also indicate that AI tools were more effective in improving grammatical accuracy and vocabulary use than in idea generation and organization.

The findings from the questionnaire and interview further support these results. Most students had positive attitudes towards AI tools, especially in terms of receiving immediate feedback and improving language accuracy. At the same time, some concerns were identified, including over-reliance on AI tools and unreliable AI-generated information. These findings suggest that while AI tools were useful, they could not fully replace teachers in teaching writing.

This study suggests that AI tools such as ChatGPT and Grammarly can be effectively combined with conventional methods in English writing classes. Teachers may encourage

students to use AI for checking grammar and upgrading vocabulary, while still supporting them in developing and organizing ideas in their writing. In this way, AI can be used to enhance learning rather than replace traditional teaching.

However, this study has several limitations. Firstly, the number of participants was relatively small, with only 40 students, and the time length of the study was limited, which might not fully reflect the effectiveness of AI-assisted tools. In addition, a statistical test was not used to compare the means of the two groups. The difference between the experimental group and the control group, therefore, might not be statistically proven. Future research is recommended to involve a larger number of participants and a longer period of time with t-tests to fully investigate the effectiveness of AI-assisted tools in writing process.

Overall, this study contributes to understanding the role of AI-assisted tools in language learning and provides practical suggestions for integrating AI into English writing lessons in a balanced and effective way.

REFERENCES

- [1] H. Pervaiz *et al.*, "The Impact of AI on Critical Thinking and Writing Skills in Higher Education," *The Critical Review of Social Sciences Studies*, vol. 3, no. 1, pp. 3165-3176, 2025, doi: 10.59075/79fkvy72.
- [2] R. M. D. Pratama and D. P. Hastuti, "The use of artificial intelligence to improve EFL students' writing skill," *English Learning Innovation*, vol. 5, no. 1, pp. 13-25, 2024, doi: 10.22219/englie.v5i1.30212.
- [3] L. A. Riza and K. Adhan, "Can Artificial Intelligence (AI) like QuillBot AI Assist Students' Writing Skills? Assisting Learning to Write Texts using AI," *ELE Reviews: English Language Education Reviews*, vol. 3, no. 2, pp. 135-154, 2023.
- [4] S. Sharmin, A. Mostaq, C. Gaus, M. Anjum, and M. Sirajum, "Teaching Writing Skills to EFL Learners: Issues and Concerns," *Journal of Language Teaching and Research*, vol. 14, no. 6, pp. 1541-1550, 2023, doi: 10.17507/jltr.1406.12.
- [5] N. B. Nahla, "Developing Learners' Academic Writing Skills in Higher Education: A Study for Educational Reform," *Language and Education*, vol. 16, no. 3, pp. 161-177, 2010.
- [6] S. R. Parupalli, "Developing Writing Skills among the EFL/ESL Learners," *Research Journal of English*, vol. 2, no. 3, pp. 52-63, 2017.
- [7] A. Behnam and H. Elmira, "Project-based Learning: Promoting EFL Learners' Writing Skills," *A Journal on Language and Language Teaching*, vol. 22, no. 1, pp. 78-85, 2019.
- [8] J. Rika, W. P. Bambang, and T. W. Arifiana, "The Strategies of Learning Writing Used by EFL Learners at a Higher Education Institution," *Ethical Lingua*, vol. 7, no. 1, pp. 64-73, 2020.
- [9] K. Munawwaroh and M. R. Fahreza, "Integrating AI Tools in English Writing Classes to Enhance Student Accuracy and Coherence," *The Journal of Academic Science*, vol. 2, no. 5, 2025, doi: 10.59613/vnnrve23.
- [10] P. D. Berger, R. E. Maurer, and G. B. Celli, *Experimental Design: With Application in Management, Engineering, and the Sciences*. Springer International Publishing, 2018.
- [11] P. Dugard and J. Todman, "Analysis of Pre-test-Post-test Control Group Designs in Educational Research," *Educational Psychology*, vol. 15, no. 2, pp. 181-198, 1995, doi: 10.1080/0144341950150207.
- [12] H. H. Aksu, "Questionnaires and Interviews in Educational Researches," *Journal of Graduate School of Social Sciences*, vol. 13, no. 1, pp. 201-212, 2009.
- [13] S. Mann, *The Research Interview: Reflective Practice and Reflexivity in Research Processes*. Palgrave Macmillan. UK, 2016.