


The Use of ChatGPT in EFL students as a Learning Assistant in their Writing Skills: A literature review

Pham Nguyen Nhat Huy^{1*}

¹ Faculty of Foreign Languages, Van Lang University, Ho Chi Minh City, Vietnam

*Corresponding author's email: Nhathuyjobcontact@gmail.com

*  <https://orcid.org/0009-0003-2591-7720>

 <https://doi.org/10.54855/ijaile.25213>

® Copyright (c) 2025 Pham Nguyen Nhat Huy

Received: 30/12/2024

Revision: 21/02/2025

Accepted: 04/03/2025

Online: 07/03/2025

ABSTRACT

Keywords: Writing Skills, ChatGPT, EFL Students

This literature review explores the use of ChatGPT as an assistant learning tool for Writing Skills in EFL students. Writing is one of the most important skills for English learners who want to be fluent in the language. Therefore, much research has been done into these aspects to determine new pedagogical benefits for the linguistic field. Guided Social Constructivism by Lev Vygotsky, the review investigates the potential of AI tools like ChatGPT as a learning-supported tool for Writing Skills in EFL students. The findings from previous studies show that ChatGPT enhances students' engagement, personalized learning experiences, and time efficiency by providing immediate feedback. However, overuse, privacy, and misinformation issues are not addressed. The review emphasizes using ChatGPT to enhance EFL students' writing skills while highlighting the significance of ethical issues and efficient implementation with appropriate instruction by experts. This review also provides valuable insight for experts, educators, and students interested in using ChatGPT in language acquisition in general and writing skills in specific.

Introduction

This part has two main components: a background of the study and its purpose. In terms of the background of the study, the author indicates the importance of English in human society and that writing is one of the most significant parts of the language. Moreover, it also includes the emergence of ChatGPT in the process of students learning writing skills. The purpose of the study is to show the main objective of this paper, which is the efficiency of ChatGPT and its advantages and disadvantages.

Background of the study

Academic writing is a significant component of how English language learners improve their language skills. They need to be good at some particular aspects, such as organization, clarity,

grammar, and vocabulary (Campbell, 2019). Being proficient in writing skills helps students get their ideas across, make their thoughts understood, and do well in school and in many professions (Yoon, 2011). According to Altinmakas and Bayyurt (2019), Grabe (2001), and Matsuda (2019), One of the most challenging aspects of learning English for speakers of other languages is writing. Many factors contribute to this, such as an inadequate background in many areas, difficulty comprehending written material, an inadequate vocabulary and poor grammar skills, an absence of critical thinking abilities, an inadequate amount of formal writing instruction, and an absence of experience with a variety of writing styles.

It is obvious that the emergence of artificial intelligence is a game-changing phenomenon that helps people in many fields. Nguyen (2023) stated that the use of artificial intelligence (AI) technologies to aid language learning has become more prevalent in recent years, marking a notable change in how languages are taught. The realization that AI can provide "interactive and personalized support" to language learners is the driving force behind this shift (Ngo, 2023). Helping students improve their writing with the use of AI-powered tools is a rapidly growing field of research (Rudolph et al., 2023). The field of artificial intelligence (AI) has garnered considerable attention across several industries, one of which is education. There are many ways that AI could be used in schooling that would be very useful (Truong, 2023). Artificial intelligence (AI) is a modern technology trend that can be used for any reason (Fitria, 2023).

According to Ngo (2024), language learning-supported platforms, networked applications, and AI-powered tools have allowed students to perform their assignments more interactively and enjoyable. Artificial intelligence (AI) progress opens up new ways to save time, which is a valuable resource. Even though AI language models have been in the works for years, it wasn't until OpenAI released ChatGPT in November 2022 that most people really understood how they could be used. According to Kacena et al. (2024), Natural language processing (NLP) is a subfield of computer science that enables computers and humans to communicate with tools like generating pre-trained transformers (GPT). A growing number of individuals in many industries use artificial intelligence (AI), and its use in the classroom is no exception. The field devoted to studying computers and programs with intelligence sufficient to reason, learn, connect, control, and discriminate between objects is known as artificial intelligence (AI) (Alafman et al., 2023). The effectiveness of Artificial Intelligence (AI) systems in facilitating language acquisition has been the subject of several global research. Evidence from this research shows that AI tools may help with vocabulary expansion, sentence construction, and overall writing proficiency (Basic et al., 2023; Huang & Tan, 2023).

The use of technology in English language classrooms is widely recognized as a way to tackle particular difficulties in language learning (Roll & Wylie, 2016; Knox, 2020). According to Yan (2023), technology and the internet are everywhere these days, so language learners can practice their skills, especially writing, whenever and wherever they want. This includes using advanced computer and mobile apps based on artificial intelligence (AI). These offer personalized and engaging tools for improving writing skills and boosting drive (Jiang, 2022; Meunier et al., 2022; Yan, 2023). With these AI-assisted writing tools, users can get automatic feedback on different parts of their writing, such as organization, coherence, grammatical structures, and lexical resources. This makes it easier to improve their writing skills (Song & Song, 2023).

Additionally, AI tools are able to help students improve their writing skills rapidly by finding and fixing grammar and vocabulary mistakes and then offering fixed-error sentences with general quality and structure writing (Zhao, 2022; Chen, 2023; Salvagno et al., 2023).

There are numerous discussions about bringing ChatGPT into education because it has many useful features for long articles, short stories, songs, and even email messages (Dergaa et al., 2023). ChatGPT is seen as an Artificial Intelligence application of OpenAI in the industrial era 4.0. ChatGPT has been considered a possible platform employed in different domains, including the educational field (Thu & Nguyen, 2024). Several research studies have examined the potential of AI to improve English language acquisition (Sun et al., 2021; Huang A. Y. et al., 2023). To be more specific, Huang X. et al. (2023) compared students' engagement and their academic achievement in an AI-tool-applied class with those in a non-AI-assisted class. The research revealed that the performance and engagement of students in AI courses outweighed the others for non-AI classes. More importantly, there are various articles exploring the advantages of applying AI language tools to improve EFL learners' writing skills (Liu et al., 2021; Seufert et al., 2021; Wu et al., 2021; Fitria, 2023; Hsiao & Chang, 2023; Yan, 2023). Meanwhile, Liu et al. (2021) indicated that EFL learners' writing skills were enhanced significantly thanks to AI language support; Yan (2023) proved that AI-assisted language learning (ChatGPT) improved EFL learners' performance in writing substantially.

Fathi and Rahimi (2022) indicated the complicated effects of AI language tools on EFL students' intrinsic motivation; however, researchers have not studied writing skills in ESL acquisition. The research gap becomes quite critical considering the numerous obstacles that EFL students confront. Due to limited practice chances, their overall writing competence declines.

Purpose of the study

This literature review aims to investigate the efficiency of ChatGPT in assisting EFL students' writing skills. This review also attempts to fill the gap concerning the efficacy of AI-assisted writing-improving tools and the impact of interactive platforms such as ChatGPT on enhancing writing skills and engagement. Moreover, this study will explore the benefits and drawbacks of students employing Chat GPT or AI-powered applications in their writing course. This paper explores current research on AI-based language learning aids to emphasize the advantages of incorporating technology into EFL classes to enhance students' writing skills.

Literature Review

This section has two main parts: the theoretical framework and related studies. The author shows Lev Vygotsky's social constructivism and the Zone of proximal development (ZPD) regarding the theoretical framework. Turning to the review of related studies, this part includes a review of previous studies mentioning the efficiency of ChatGPT in improving Writing Skills in both international and Vietnamese contexts.

Theoretical framework

Lev Vygotsky's Social Constructivism amplifies the interaction among people and social context in learning. Social Constructivism by Lev Vygotsky (1984) is the main theoretical

framework of this paper. This framework highlights that human interaction is important for students in their learning process. According to Vygotsky, the interaction between individuals and their social contexts is the main force that drives learning, especially when working in groups with more seasoned classmates. People learn social standards from their early encounters (Lev Vygotsky, 1984). Furthermore, the Zone of Proximal Development (ZPD) concept is central to Vygotsky's social constructivism. It stands for the gap between a student's current problem-solving skills and their capacity to grow by working with better classmates. Through group language study and asking for clarification, students may get closer to their Zone of proximal development (ZPD), which shows how well they can learn on their own in a given context.

In the framework of AI-assisted learning, Vygotsky's constructivist viewpoint showed the concept of self-regulation. Specifically, It is helpful for students to collaborate with AI-powered tools in writing tasks to develop self-regulation and reduce their reliance on their teacher's and parents' support. Zimmerman (2002) asserted that AI technologies play a crucial role in helping students improve their writing skills and complete writing tasks without others' help. The development of long-lasting skills requires the transformation to self-regulation, which is an essential part of the learning process.

Concepts from Vygotsky's social constructivism are aligned with personalized learning experiences which AI powers because students are able to study at their own pace and get prompt, tailored feedback on their work (Huang A. Y. et al., 2023; Huang X. et al., 2023). Theoretically, Vygotsky's "zone of proximal development" (the area between an individual's current competence and their potential for growth with suitable schooling) is valid. Through supportive and instructional coaching, students are helped to reach their Zone of proximal development (ZPD) via the AI tool, which helps them gradually improve their writing talents. Improved motivation and writing skills are two outcomes of this personalization (Fulton et al., 2021). This study helps us understand collaborative learning better by investigating how students and AI-powered virtual assistants co-working.

Reviews of related literature

AI tools in improving Writing-Skill acquisition around the world

According to Aldosari (2020), "Artificial intelligence" (AI) describes computer systems that can learn and do tasks that people previously did. In the present classroom, AI is able to eventually make decisions for students, similar to a human teacher (Akerkar, 2014). Researchers in applied linguistics assert that artificial intelligence (AI) has the capacity to transform language education and acquisition. The researchers want to enhance instructional methods and facilitate student language learning (Luckin et al., 2016; Zhang & Zou, 2020; Nazari et al., 2021; Sun et al., 2021; Xia et al., 2022). Barrot (2023) asserts that artificial intelligence-driven internet platforms may provide language learners with the necessary input and output, facilitating their linguistic advancement. These AI technologies, which can be used

on desktops, laptops, and mobile phones, really help with writing skill improvement. Opening AI's ChatGPT, an AI-assisted Chatbot, stands out among AI-powered tools. Students' writing skills can be greatly improved with ChatGPT's help in various language-learning courses (Barrot, 2023). Thanks to its extensive knowledge base, Song & Song (2023) claimed that ChatGPT could automatically produce words and grammatically accurate structures to help writers craft texts that flow smoothly and cohesively. The tool can understand human questions and provide suitable answers. Also, ChatGPT helps students of foreign languages with issues with organization, coherence, grammar, and vocabulary in their writing. It provides other recommendations for better writing skills and to fix grammatical errors.

ChatGPT has been acknowledged for its capacity to improve writing efficacy (Huang & Tan, 2023). Huang & Tan (2023) stated that the AI-driven tool enhances the generation of clear and cohesive prose by offering learners prompt feedback and alternative grammatically accurate phrases. Nonetheless, it is crucial to acknowledge certain limits while using ChatGPT for various writing assignments. Excessive dependence on text created by ChatGPT may impede language learners' writing skills. Moreover, it is vital to meticulously tackle any plagiarism concerns that may occur from using the produced content without comprehensive review and editing (Huang & Tan, 2023).

Suryana et al. (2020), Divekar et al. (2021), Liu (2021), Bašić et al. (2023), Bishop (2023), and Fitria (2023) are among the several studies that have investigated how AI-assisted language learning technologies facilitate ESL students' improvement in their language acquisition abilities.

Rahman et al. (2022) investigated how an AI-driven language learning tool facilitated EFL students in enhancing their writing skills by identifying and rectifying grammatical faults. The finding showed that EFL students' writing skills were significantly improved thanks to the use of AI-assisted language learning on their writing skills. Xiao and Zhi (2020), Lingard (2023), and Song and Song (2023) demonstrated that AI-powered tools like ChatGPT provided immediate feedback for users, which was essential for language learners, especially for their writing skills including grammar, vocabulary, and organization.

In addition, Utami and Winarni (2023) investigated the use of AI-assisted language acquisition by three Indonesian EFL seniors in high schools to improve their writing skills. The researchers used quantitative survey data and qualitative interviews. The study findings showed enhanced student involvement and performance in research writing.

Moreover, Seufert et al. (2021) examined the impact of AI-powered tutoring applications on EFL students' writing skills, comparing them to both teacher and peer feedback. The finding showed that students gradually improved their writing skills after using the AI-assisted tutoring system to give feedback on their writing works. In addition, Hwang et al. (2023) carried out research with a control group to find out the effects of an AI writing feedback tool on undergraduate EFL learners' writing skills, while the experimental group applying the AI tool

outweighed their counterparts. The results showed that EFL learners enhanced their writing tasks by using AI tools to analyze and review their works.

Next, Fitria (2021) showed that “Grammarly”, an AI-powered language learning application, notably improved EFL students’ writing skills. Specifically, the constructive comments that were provided by “Grammarly” helped students improve their writing skills. Additionally, Chang et al. (2021) investigated the impact of an AI-assisted writing feedback tool on EFL students’ writing performance. The authors conducted a quasi-experimental method in their research, and the result showed that the control group who did not use AI-driven tools to assist their writing tasks had a small improvement in their writing skills, whereas the experimental group used it to revise and enhance their writing skills had a big improvement.

Furthermore, Gayed et al. (2022) created an AI-powered tool to help EFL students improve their idea-generating problems in their writing tasks. The result showed that the AI-driven application significantly improved students' writing skills and reduced brain-storm obstacles in their writing tasks. Yan (2023) explored students' perceptions of using the AI-driven tool to enhance their academic writing skills. The result showed that the AI-driven tool markedly enhanced students' writing skills and helped them complete their writing tasks rapidly and effectively. Besides, Su et al. (2023) demonstrated that ChatGPT improved English learners' performance in argumentative writing tasks. The finding showed that it was difficult and wasted time for teachers and peers to give rapid feedback with useful and effective comments for the learners due to their use of language and structural complexities. Meanwhile, ChatGPT offered more insightful comments and suggestions on sentence structure, organization, and content of learners' writing work, which helped learners significantly enhance their argumentative writing performance. Furthermore, Ippolito et al. (2022) used "Wordcraft, " an AI-powered text editor, to make the creative writing processes of seasoned writers easier thanks to the idea-generation function of the tool. The finding showed that the AI-powered tool helped writers improve their writing creativity.

In addition, Abdullayeva and Musayeva (2023) investigated the impact of ChatGPT on EFL students' writing skills. The finding revealed that ChatGPT enhanced students' writing by providing writing prompts, immediate feedback, and recommendations. Besides, Nazari et al. (2021) conducted an actual experiment on EFL students to see how their writing performance improved after using an AI-power tool to learn a new language. The finding showed that students who learned writing skills with the support of AI-powered applications performed much better than students who learned writing skills without AI-assisted tools. Furthermore, students showed a strong interest in the efficacy and convenience of the AI-powered tool when it was their writing assistance. In another research, Liu et al. (2021) investigated the effects of AI-assisted tools on the writing skills of EFL students by using a quasi-experimental method. The finding showed that students' writing-skill performance was enhanced markedly compared to their performance in a conventional classroom where AI-driven tools were not used. Students' improved writing was attributed to the AI-assisted tool, which increased their

confidence in their ability, helped them enhance their self-regulation, and reduced their pressure in studying. Surprisingly, artificial intelligence's exposure to several English dialects and cultural quirks can help EFL students (Baskara, 2023; Farrelly & Baker, 2023).

Eventually, the literature reviews show how artificial intelligence has many different effects on education, including how ChatGPT helps students with their writing by giving them immediate feedback, how it motivates them to take charge of their own learning, how it makes them more engaged, and motivated, and how it exposes them to different accents and cultural nuances in English. Thanks to the previous studies on AI-assisted students' writing skills, the understanding of how it affects language acquisition and language education has been dramatically improved (see, for example, Suryana et al., 2020; Divekar et al., 2021; Liu, 2021; Bašić et al., 2023; Bishop, 2023; Fitria, 2023). Furthermore, the ground-breaking findings of previous studies about AI-supported tools in improving language acquisition have substantially helped many aspects of language competency including vocabulary growth, grammatical development, and overall language ability. While there is some indication that AI might enhance EFL students' academic writing abilities and drive to write, many unanswered questions remain. Among the few research studies that have examined writing skills, we find Rahman et al. (2022) and Fitria (2021). However, most of these studies have concentrated on enhancing general language competence and addressing grammatical faults, such as Liu et al. (2021) and Gayed et al. (2022). Despite their value, these studies have failed to investigate academic writing's intricacies or the many factors that affect writers' motivation. In addition, few studies have looked at the combined impacts of AI technology on academic writing motivation and competence.

ChatGPT in improving Writing-skill acquisition in Vietnam

Several researchers have attempted to employ AI programs, notably ChatGPT, to assist Vietnamese students in improving their writing skills; the reviews below summarize their efforts. In different educational institutions, these new tools are used to see if they can improve teaching methods, student involvement, language development, and general learning success. The reviews show that there is a growing need for new ways to improve writing skills in Vietnam by using AI technology.

The research conducted by Nguyen & Dieu (2024) seeks to assess the familiarity and utilization of ChatGPT as an Artificial Intelligence writing-assistant tool among third-year English Language Teaching students, exploring their perceptions regarding its adoption and offering recommendations for effective use. The research included 46 third-year English Language Teaching students at the University of Danang - University of Foreign Language Studies and used a sequential explanatory mixed-method design. Quantitative data were gathered using a questionnaire primarily based on the Technology Acceptance Model, while qualitative data were acquired via semi-structured interviews to enhance and corroborate the conclusions from the quantitative data. The result of the research showed that third-year EFL students had a positive attitude in using ChatGPT as a technological writing-learning assistant and felt it was easy to use.

Pham and Le (2024) investigated the perceptions of Vietnamese students studying in both America and Vietnam in using ChatGPT as a tool for language acquisition. To be more specific, the research polled seventy-seven Vietnamese students enrolling in educational institutions in the United States and Vietnam. The authors used "Microsoft Forms" to create the survey sent to students in both countries via their own networks. The finding showed that ChatGPT was an effective tool for students to enhance their language acquisition and improve students engagement in their learning process. The authors assumed that ChatGPT was regarded as an excellent resource for enhancing students' learning and information acquisition.

In addition, Nguyen et al. (2024) studied eight parts of writing skills: vocabulary, grammar, idea construction, organization, comprehension, writing style, and plagiarism of EFL students. Specifically, EFL students used ChatGPT to improve their writing argumentative essay performance in the course "Reading-Writing B2.2". Specifically, the authors conducted a 92-item survey to collect students' perceptions and how they used ChatGPT. The research polled one hundred students who had already finished the "Reading-Writing B2.2" course. The finding indicated that students had a favorable attitude towards using ChatGPT to enhance their skills in writing argumentative essays. However, there were students who had negative expressions when using ChatGPT in their study. Moreover, the findings also indicated that there was a notable difference in students' perspectives. This study provides valuable insights into how artificial intelligence systems, such as ChatGPT, are able to assist EFL students in enhancing their argumentative essay-writing skills.

The aforementioned studies within Vietnamese settings indicated that ChatGPT and other artificial intelligence apps are able to assist students writing skills across all educational levels. Specifically, students' engagement, individualized learning, and writing-knowledge retention were improved thanks to AI-powered tools in writing courses. However, there were some adversities in using AI-assisted tools: holistic accuracy, technology-use difficulties, and content privacy. Furthermore, further research is required to enhance the integration process and ensure that AI-driven education positively impacts writing abilities in the Vietnamese context. Both the potential benefits and drawbacks of AI need further research. There are still a lot of undiscovered territories to cover, but studies done in Vietnam and elsewhere suggest that AI might greatly improve writing quality. Very little is known about the long-term effects of AI on skills like advanced writing and memory recall. In Vietnam, standards for efficacy, technical deployment, and content privacy remain unresolved. Academic and community-based longitudinal studies are necessary to fully grasp the pros and cons of AI in writing instruction.

Discussion

The use of ChatGPT and other artificial intelligence (AI) technologies to enhance students' writing skills has been extensively studied in the field of education worldwide, including in Vietnam. Numerous studies using diverse analytical techniques have investigated the efficacy

of these AI-driven tools in improving the skills of EFL writers. This section examines the methodology of much research, focusing on their design, data gathering, and analytical techniques.

Discussing the research methodologies

A large number of researchers have looked at the impact of AI on writers' abilities using quantitative methods. In order to assess third-year English language teaching students' views on ChatGPT, Nguyen et al. (2024) used a structured questionnaire based on the Technology Acceptance Model. The authors used the quantitative method. To be more specific, a total of 46 students were polled to collect their knowledge and expertise with the AI-powered tool. The finding showed that students had a positive attitude toward using AI-assisted writing tools and had promise in technology-based classrooms in the future. In addition, Pham and Le (2024) polled 77 Vietnamese students' perspectives from different colleges with the help of ChatGPT in their language-learning process. The authors used "Microsoft Forms" to send the survey to the students to get feedback from them about their perception of using AI-supported tools in learning language. The finding showed that AI-powered tools like ChatGPT improved students' class engagement and learning performance. Nguyen et al. (2024) used qualitative data from semi-structured interviews and the quantitative method to perform their research. A qualitative method was used to provide the students' perspectives on using AI-powered tools to improve writing skills. A qualitative method was employed to explain why students use AI-powered tools in their writing tasks. To be more specific, qualitative research revealed different students' perspectives on the advantages and disadvantages of using AI in their writing tasks.

Utami and Winarni (2023) used quantitative and qualitative methods to study how three Indonesian EFL seniors in high schools used AI-assisted tools to improve their writing skills. The researchers used questionnaires presented with a Likert scale to demonstrate how AI technology impacted students' engagement in writing-skill learning. Besides, Nguyen et al. (2024) used quantitative and qualitative methods to investigate how ChatGPT improved students' argumentative essay writing performance. While the quantitative survey provided students' perspectives on statistics, the qualitative interviews gave the practical use of different students' attitudes in using AI in doing their writing tasks.

Hwang et al. (2023) used a controlled and experimental group to explore the effects of AI-driven tools in giving feedback to EFL students' writing performance. This research gave a thorough insight into the AI tool's efficacy thanks to quantitative data on students' writing scores and qualitative data on their experiences with the tool.

Discussing the results and findings

It is clear that many studies in both Vietnamese and global contexts investigate the effects of AI-powered tools in supporting language acquisition. Moreover, it is obvious that even though several studies have shown the benefits of AI-driven tools in enhancing students' writing skills, the use of AI-powered tools to help students improve their writing skills has some disadvantageous aspects that need to be considered. Moreover, the results of earlier research have brought benefits and attention to both the present state of education and the need for more study. In addition, numerous studies have shown that EFL students significantly improve their writing skills thanks to AI-powered tools. According to Rahman et al. (2022), students were pleased with the assistance of the AI-driven language learning tools because it effectively

detected and corrected grammatical errors, which had taken much time before the emergence of the AI-powered tool. Besides, according to Yan (2023), students' writing skills were enhanced thanks to ChatGPT providing immediate feedback and appropriate prompts, leading to higher-quality writing. When it comes to learning a new language, the function of AI systems in providing instant feedback is crucial. To be more specific, Xiao and Zhi (2023) and Lingard (2023) showed that AI-powered tools like ChatGPT were able to help language learners have more ideas, vocabulary, and writing structure for their writing works. Moreover, ChatGPT not only helped students improve their writing performance but also improved their engagement in class. According to Pham and Le (2024), polled students had a good attitude toward the use of AI-powered tools and considered them tools as useful assistance for their language acquisition. Moreover, AI-driven technology like ChatGPT was able to adapt the needs of students whenever needed, which increased students' engagement and allowed students more tailored instruction (Nguyen et al., 2024). In addition, Nguyen et al. (2024) showed that AI-assisted learning tools helped students in their writing tasks by providing them with vocabulary and ideas, suggesting well-organized work, and avoiding plagiarism. Thanks to this, students were able to develop a more well-rounded writing process.

Discussing the research gaps

Even though previous studies on the effectiveness of AI-powered tools like ChatGPT in enhancing writing skills among EFL students from Vietnam have shown favorable results, further investigations are necessary to fill certain gaps in the use of AI-driven tools to improve writing skills.

Research on AI's influence on fundamental writing skills, such as spelling, grammar checking, and vocabulary enhancement, is limited in comparison to research investigating AI's effects on more sophisticated writing competencies, including critical thinking, argumentation, and the structural complexities of academic writing.

Comprehending how AI technologies might facilitate enhancing higher-order writing abilities is crucial for completely actualizing their promise in educational settings.

A crucial aspect that requires further examination is the long-term impact of AI-assisted writing on student motivation and writing retention. While several research, such as those by Rahman et al. (2022) and Fitria (2021), have examined writing skills, they mostly emphasize rapid enhancements rather than the long-term effects of AI on learners' writing proficiency in order to understand the effects of AI tools on students' writing motivation and competence across different classroom settings, longitudinal studies are necessary. Learning how long-term use of AI tools influences students' writing motivation and competence necessitates longitudinal study, particularly in different educational settings. Even though studies have shown that students generally have positive impressions of AI tools, qualitative research on students' perspectives and experiences with AI in writing is lacking. One possible way to understand the educational impact of AI tools is by studying students' emotional responses, confidence measures, and interactions with them. Academic credit is another major concern when students are able to rely on AI-generated content. Huang & Tan (2023) showed that despite studies pointing out the possibility of plagiarism, a lack of study assessing how students handle ethical challenges presented by AI is noticeable. Instructors must provide students with knowledge of academic credibility and their strategies for preventing plagiarism while using AI in their assignments.

Conclusion

In conclusion, ChatGPT and other AI-driven technologies have completely transformed the way EFL students learn writing skills. The paper investigated numerous benefits of ChatGPT, including personalized learning, student engagement improvement, and immediate feedback. Using AI-powered tools like ChatGPT to enhance writing skills is an indispensable part of the learning process nowadays. Even though AI-driven tools like ChatGPT have a number of beneficial effects on improving EFL students' writing skills, they contain numerous drawbacks that need to be addressed. Because AI-powered tools can give unreliable and inappropriate answers, students can be misled and severely affected by their writing knowledge. If students have too much faith in ChatGPT, they are at risk of limiting the development of their creativity and critical thinking. It is necessary and timely to investigate the concerns of misuse and overuse of AI-powered tools in language learning, especially writing skills. These systems present major societal issues to ensure that AI systems like ChatGPT are used fairly and effectively for language acquisition,

It is necessary for teachers and parents to have clear guidance and well-incorporation with ChatGPT and ChatGPT's features are only considered as a tool for students to give feedback and point out grammatical errors, which help students not rely on AI-powered tools. Furthermore, strict implementation criteria and ethical frameworks must be used to solve problems with erroneous data, over-reliance, and incorrect information. Moreover, writing assistance tools powered by AI must undergo continuous inspection and development to maintain accuracy and avoid the transmission of disinformation. In addition, it is timely and relevant for experts including educators and innovators to make AI better and ensure it effectively helps all EFL students. AI technology like ChatGPT, which promotes a balanced approach and highlights ethical concerns, has the potential to greatly enhance EFL students' writing skills.

References

- Abdullayeva, M., & Musayeva, Z. M. (2023). The impact of Chat GPT on student's writing skills: An exploration of AI-assisted writing tools. In *International Conference of Education, Research and Innovation* (Vol. 1, No. 4, pp. 61-66).
- Afiliani Afiliani, Pricilia Tupalessy, & Beby Sinta Talaohu. (2023). Exploration of the Use of ChatGPT as A Writing Assistance for EFL Students: A Literature Review. *MATAI International Journal of Language Education*, 4(1), 1–18.
<https://doi.org/10.30598/matail.v4i1.11885>
- Akerkar, R. (2014). Introduction to artificial intelligence (2nd). Delhi: PHI Learning.
<https://books.google.com.ag/books>
- AlAfnan, M. A., Dishari, S., Jovic, M., & Lomidze, K. (2023). Chatgpt as an educational tool: Opportunities, challenges, and recommendations for communication, business writing, and composition courses. *Journal of Artificial Intelligence and Technology*, 3(2), 60-68.
<https://doi.org/10.37965/jait.2023.0184>

- Aldosari, S. A. M. (2020). The future of higher education in the light of artificial intelligence transformations. *International Journal of Higher Education*, 9(3), 145-151.
<https://doi.org/10.5430/ijhe.v9n3p145>
- Altınmakas, D., & Bayyurt, Y. (2019). An exploratory study on factors influencing undergraduate students' academic writing practices in Turkey. *Journal of English for Academic Purposes*, 37, 88–103. <https://doi.org/10.1016/j.jeap.2018.11.006>
- Barrot, J. S. (2023). Using ChatGPT for second language writing: Pitfalls and potentials. *Assessing Writing*, 57, 100745. <https://doi.org/10.1016/j.asw.2023.100745>
- Bašić, Ž., Banovac, A., Kružić, I., & Jerković, I. (2023). ChatGPT-3.5 as writing assistance in students' essays. *Humanities and Social Sciences Communications*, 10(1), 1-5.
<https://doi.org/10.1057/s41599-023-02269-7>
- Bishop, L. (2023). A computer wrote this paper: What chatgpt means for education, research, and writing. *Research, and Writing*. <http://dx.doi.org/10.2139/ssrn.4338981>
- Baskara, R. (2023). Exploring the implications of ChatGPT for language learning in higher education. *Indonesian Journal of English Language Teaching and Applied Linguistics*, 7(2), 343-358. <http://doi.org/10.21093/ijeltal.v7i2.1387>
- Campbell, M. (2019). Teaching academic writing in higher education. *Education Quarterly Reviews*, 2(3), 2, 608–614. <http://doi.org/10.31014/aior.1993.02.03.92>
- Chang, T. S., Li, Y., Huang, H. W., and Whitfield, B. (2021). Exploring EFL students' writing performance and their acceptance of AI-based automated writing feedback. In *2021 2nd International Conference on Education Development and Studies*. (pp. 31–35). Association for Computing Machinery. <https://doi.org/10.1145/3459043.3459065>
- Chen, T. J. (2023). ChatGPT and other artificial intelligence applications speed up scientific writing. *Journal of the Chinese Medical Association*, 86(4), 351-353.
<https://doi.org/10.1097/JCMA.0000000000000900>
- Dergaa, I., Chamari, K., Zmijewski, P., & Saad, H. B. (2023). From human writing to artificial intelligence generated text: examining the prospects and potential threats of ChatGPT in academic writing. *Biology of sport*, 40(2), 615-622.
<https://doi.org/10.5114/biol sport.2023.125623>
- Divekar, R. R., Drozdal, J., Chabot, S., Zhou, Y., Su, H., Chen, Y., et al. (2021). Foreign language acquisition via artificial intelligence and extended reality: Design and evaluation. *Computer Assisted Language Learning*, 35(9), 2332–2360.
<https://doi.org/10.1080/09588221.2021.1879162>
- Farrelly, T., & Baker, N. (2023). Generative artificial intelligence: Implications and considerations for higher education practice. *Education Sciences*, 13(11), 1109.
<https://doi.org/10.3390/educsci13111109>
- Fathi, J., & Rahimi, M. (2022). Examining the impact of flipped classroom on writing complexity, accuracy, and fluency: A case of EFL students. *Computer Assisted Language Learning*, 35(7), 1668-1706. <https://doi.org/10.1080/09588221.2020.1825097>

- Fitria, T. N. (2021). Grammarly as AI-powered English writing assistant: Students' alternative for writing English. *Metathesis: Journal of English Language, Literature, and Teaching*, 5(1), 65-78. <https://doi.org/10.31002/metathesis.v5i1.351>
- Fitria, T. N. (2023). Augmented Reality (AR) and Virtual Reality (VR) Technology in Education: Media of Teaching and Learning: A Review. *International Journal of Computer and Information System (IJCIS)*, 4(1), 14–25. <https://doi.org/10.29040/ijcis.v4i1.102>
- Fulton, L., Hoffman, D. L., & Paek, S. (2021). Language learning in an era of datafication and personalized learning. *Educational Technology Research and Development*, 69, 315-318. <https://doi.org/10.1007/s11423-020-09903-0>
- Gayed, J. M., Carlon, M. K. J., Oriola, A. M., & Cross, J. S. (2022). Exploring an AI-based writing Assistant's impact on English language learners. *Computers and Education: Artificial Intelligence*, 3, 100055. <https://doi.org/10.1016/j.caeai.2022.100055>
- Grabe, W. (2012). Notes toward a theory of second language writing. In *On second language writing* (pp. 39-57). Routledge. <https://doi.org/10.4324/9781410600899>
- Hsiao, P. W., Kong, L. Q., & Ye, Y. L. (2024). Interactive game experience: a preliminary investigation of the impact of virtual reality on exercise rehabilitation behaviors. *Interactive Learning Environments*, 32(9), 5287-5301. <https://doi.org/10.1080/10494820.2023.2212716>
- Huang, A. Y., Lu, O. H., & Yang, S. J. (2023). Effects of artificial Intelligence–Enabled personalized recommendations on learners' learning engagement, motivation, and outcomes in a flipped classroom. *Computers & Education*, 194, 104684. <https://doi.org/10.1016/j.compedu.2022.104684>
- Huang, J., & Tan, M. (2023). The role of ChatGPT in scientific communication: writing better scientific review articles. *American journal of cancer research*, 13(4), 1148.
- Huang, X., Zou, D., Cheng, G., Chen, X., & Xie, H. (2023). Trends, research issues and applications of artificial intelligence in language education. *Educational Technology & Society*, 26(1), 112-131. [https://doi.org/10.30191/ETS.202301_26\(1\).0009](https://doi.org/10.30191/ETS.202301_26(1).0009)
- Hwang, W. Y., Nurtantyana, R., Purba, S. W. D., Hariyanti, U., Indrihapsari, Y., & Surjono, H. D. (2023). AI and recognition technologies to facilitate English as foreign language writing for supporting personalization and contextualization in authentic contexts. *Journal of Educational Computing Research*, 61(5), 1008-1035. <https://doi.org/10.1177/07356331221137253>
- Ippolito, D., Yuan, A., Coenen, A., & Burnam, S. (2022). Creative writing with an ai-powered writing assistant: Perspectives from professional writers. *arXiv preprint arXiv:2211.05030*. <https://doi.org/10.48550/arXiv.2211.05030>
- Jiang, R. (2022). How does artificial intelligence empower EFL teaching and learning nowadays? A review on artificial intelligence in the EFL context. *Frontiers in Psychology*, 13, 1049401. <https://doi.org/10.3389/fpsyg.2022.1049401>

- 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>
- Kok, J. N., Boers, E. J., Kusters, W. A., Van der Putten, P., & Poel, M. (2009). Artificial intelligence: definition, trends, techniques, and cases. *Artificial intelligence*, 1(270-299), 51. <https://unesdoc.unesco.org/ark:/48223/pf0000128588>
- Lingard, L. (2023). Writing with ChatGPT: An illustration of its capacity, limitations & implications for academic writers. *Perspectives on medical education*, 12(1), 261. <https://doi.org/10.5334%2Fpme.1072>
- Liu, C., Hou, J., Tu, Y. F., Wang, Y., & Hwang, G. J. (2023). Incorporating a reflective thinking promoting mechanism into artificial intelligence-supported English writing environments. *Interactive Learning Environments*, 31(9), 5614-5632. <https://doi.org/10.1080/10494820.2021.2012812>
- Luckin, R., Holmes, W., Griffiths, M., and Forcier, L. B. (2016). *Intelligence unleashed: An argument for AI in education*. London, UK: Pearson
- Matsuda, P. K. (2019). A special interview with Paul kei Matsuda about second language writing. *PASAA*, 58(1), 3-11. <https://doi.org/10.58837/CHULA.PASAA.58.1.1>
- Meunier, F., Pikhart, M., & Klimova, B. (2022). New perspectives of L2 acquisition related to human-computer interaction (HCI). *Frontiers in Psychology*, 13, 1098208. <https://doi.org/10.3389/fpsyg.2022.1098208>
- Nazari, N., Shabbir, M. S., & Setiawan, R. (2021). Application of Artificial Intelligence powered digital writing assistant in higher education: randomized controlled trial. *Heliyon*, 7(5). <https://doi.org/10.1016/j.heliyon.2021.e07014>
- Ngo, K. T. (2024). The use of ChatGPT for Vocabulary acquisition: A literature review. *International Journal of AI in Language Education*, 1(2), 1–17. <https://doi.org/10.54855/ijaile.24121>
- Ngo, T. T. A. (2023). The perception by university students of the use of ChatGPT in education. *International Journal of Emerging Technologies in Learning (Online)*, 18(17), 4. <https://doi.org/10.3991/ijet.v18i17.39019>
- Nguyen Thi Thu, H. (2023). EFL teachers' perspectives toward the Use of ChatGPT in writing Classes: A case study at Van Lang University. Nguyen, TTH (2023). EFL Teachers' Perspectives toward the Use of ChatGPT in Writing Classes: A Case Study at Van Lang University. *International Journal of Language Instruction*, 2(3), 1- 47. <https://doi.org/10.54855/ijli.23231>
- Nguyen, P. H., & Dieu, N. B. (2024). An investigation into third-year Elt students' perceptions of using Chatgpt as an Ai writing-assistant tool: a case study in Vietnam. *International Journal of Arts Humanities and Social Sciences Studies*, 9(5). <https://www.ijahss.com/Paper/09052024/1179451928.pdf>

- Nguyen, H. H. B., Ngoc, H. H. B., & Dan, T. C. (2024). EFL students' perceptions and practices of using CHATGPT for developing English argumentative essay writing skills. *European Journal of Alternative Education Studies*, 9(1), 168-216. <https://doi.org/10.46827/ejae.v9i1.5341>
- Pham, V. P. H., & Le, A. Q. (2024). ChatGPT in Language Learning: Perspectives from Vietnamese Students in Vietnam and the USA. *International Journal of Language Instruction*, 3(2), 59-72. <https://doi.org/10.54855/ijli.24325>
- Rahman, N. A. A., Zulkornain, L. H., & Hamzah, N. H. (2022). Exploring artificial intelligence using automated writing evaluation for writing skills. *Environment-Behaviour Proceedings Journal*, 7(SI9), 547-553. <https://doi.org/10.21834/ebpj.v7iSI9.4304>
- Roll, I., & Wylie, R. (2016). Evolution and revolution in artificial intelligence in education. *International journal of artificial intelligence in education*, 26, 582-599. <https://doi.org/10.1007/s40593-016-0110-3>
- Rudolph, J., Tan, S., & Tan, S. (2023). ChatGPT: Bullshit spewer or the end of traditional assessments in higher education? *Journal of Applied Learning and Teaching*, 6(1), 342-363. <https://doi.org/10.37074/jalt.2023.6.1.9>
- Salvagno, M., Taccone, F. S., & Gerli, A. G. (2023). Can artificial intelligence help for scientific writing?. *Critical care*, 27(1), 75. <https://doi.org/10.1186/s13054-023-04380-2>
- Seufert, S., Burkhard, M., & Handschuh, S. (2021, November). Fostering Students' Academic Writing Skills: Feedback Model for an AI-enabled Support Environment. In *Innovate Learning Summit* (pp. 49-58). Association for the Advancement of Computing in Education (AACE). <https://www.alexandria.unisg.ch/handle/20.500.14171/109740>
- Song, C., & Song, Y. (2023). Enhancing academic writing skills and motivation: assessing the efficacy of ChatGPT in AI-assisted language learning for EFL students. *Frontiers in Psychology*, 14, 1260843. <https://doi.org/10.3389/fpsyg.2023.1260843>
- Su, A. A. T. & Tran, T. H. N. (2024). The Benefits and Weaknesses of ChatGPT on Students' Learning Writing. (2024). *International Journal of AI in Language Education*, 1(1), 20-28. <https://doi.org/10.54855/ijaile.24112>
- Su, Y., Lin, Y., & Lai, C. (2023). Collaborating with ChatGPT in argumentative writing classrooms. *Assessing Writing*, 57, 100752. <https://doi.org/10.1016/j.asw.2023.100752>
- Sumakul, D. T. Y. G. ., Hamied, F. A. ., & Sukyadi, D. (2022). Artificial Intelligence in EFL Classrooms: Friend or Foe?. *LEARN Journal: Language Education and Acquisition Research Network*, 15(1), 232–256. Retrieved from <https://so04.tci-thajjo.org/index.php/LEARN/article/view/256723>
- Sun, Z., Anbarasan, M., & Praveen Kumar, D. J. C. I. (2021). Design of online intelligent English teaching platform based on artificial intelligence techniques. *Computational Intelligence*, 37(3), 1166-1180. <https://doi.org/10.1111/coin.12351>

- Suryana, I., Asrianto, A., & Murwantono, D. (2020). Artificial intelligence to master English listening skills for non-English major students. *Journal of Languages and Language Teaching*, 8(1), 48-59. <https://doi.org/10.33394/jollt.v8i1.2221>
- Truong, H. (2023, June 21). ChatGPT in Education - A Global and Vietnamese Research Overview. <https://doi.org/10.35542/osf.io/r4uhd>
- Utami, S. P. T., & Winarni, R. (2023). Utilization of Artificial Intelligence Technology in an Academic Writing Class: How do Indonesian Students Perceive?. *Contemporary Educational Technology*, 15(4). <https://doi.org/10.30935/cedtech/13419>
- Vygotsky, L. S. (1984). The problem of age. *Pedagogical*
- Wu, L., Wu, Y., & Zhang, X. (2021). L2 learner cognitive psychological factors about artificial intelligence writing corrective feedback. *English Language Teaching*, 14(10), 70-83. <https://doi.org/10.5539/elt.v14n10p70>
- Xia, Q., Chiu, T. K., Lee, M., Sanusi, I. T., Dai, Y., & Chai, C. S. (2022). A self-determination theory (SDT) design approach for inclusive and diverse artificial intelligence (AI) education. *Computers & education*, 189, 104582. <https://doi.org/10.1016/j.compedu.2022.104582>
- Xiao, Y., & Zhi, Y. (2023). An exploratory study of EFL learners' use of ChatGPT for language learning tasks: Experience and perceptions. *Languages*, 8(3), 212. <https://doi.org/10.3390/languages8030212>
- Yan, D. (2023). Impact of ChatGPT on learners in a L2 writing practicum: An exploratory investigation. *Education and Information Technologies*, 28(11), 13943-13967. <https://doi.org/10.1007/s10639-023-11742-4>
- Yoon, C. (2011). Concordancing in L2 writing class: An overview of research and issues. *Journal of English for Academic Purposes*, 10(3), 130-139. <https://doi.org/10.1016/j.jeap.2011.03.003>
- Zhang, R., & Zou, D. (2022). Types, purposes, and effectiveness of state-of-the-art technologies for second and foreign language learning. *Computer Assisted Language Learning*, 35(4), 696-742. <https://doi.org/10.1080/09588221.2020.1744666>
- Zhao, X. (2023). Leveraging artificial intelligence (AI) technology for English writing: Introducing word tune as a digital writing assistant for EFL writers. *RELC Journal*, 54(3), 890-894. <https://doi.org/10.1177/00336882221094089>
- Zimmerman, B. J. (2002). Becoming a self-regulated learner: An overview. *Theory into practice*, 41(2), 64-70. https://doi.org/10.1207/s15430421tip4102_2

Biodata

Pham Nguyen Nhat Huy is currently working as a full-time English Teacher at an English Center named Eflita Edu. He earned his BA in English Language Studies in 2022. He is going to defend his MA thesis in English Language Studies at the Faculty of Foreign Languages, Van Lang University, Ho Chi Minh City, Vietnam. His research interests include innovative teaching methodologies and AI integration on improving Writing Skills.