



ChatGPT as an AI Learning Assistant for Enhancing EFL Students' Writing: A Systematic Literature Review

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Abstract. The rapid development of Artificial Intelligence (AI), particularly ChatGPT, has significantly influenced English as a Foreign Language (EFL) learning practices. This study aims to examine the role of ChatGPT as an AI-powered learning assistant in enhancing EFL students' writing skills through a Systematic Literature Review (SLR) approach. The study employed the PRISMA framework to identify, screen, and analyze relevant articles published between 2023 and 2025. The findings reveal that ChatGPT positively contributes to various aspects of writing development, including idea generation, grammatical accuracy, vocabulary enrichment, writing organization, and paragraph coherence. Furthermore, the use of ChatGPT enhances students' motivation, self-confidence, and autonomy throughout the writing process. However, several challenges were identified, including overreliance on AI technology, academic integrity concerns, and the risk of inaccurate information caused by AI hallucinations. Therefore, ChatGPT should be utilized as a supportive learning tool rather than a substitute for teachers. The study concludes that integrating ChatGPT into EFL writing instruction offers considerable potential for improving learning outcomes when accompanied by the development of AI literacy, digital literacy, and academic ethical awareness.

Keywords: AI Learning Assistant; Artificial Intelligence; ChatGPT; EFL Writing; Systematic Literature Review.

1. BACKGROUND

The rapid development of Artificial Intelligence (AI) has significantly transformed educational practices worldwide. One of the most influential AI-based technologies in recent years is ChatGPT, a large language model developed by OpenAI. Since its introduction, ChatGPT has attracted considerable attention from educators, researchers, and students due to its ability to generate human-like text, provide instant feedback, and support personalized learning experiences. The emergence of generative AI has created new opportunities for language education, particularly in enhancing students' writing skills through interactive and adaptive assistance.

Writing has long been recognized as one of the most challenging language skills for learners of English as a Foreign Language (EFL). Unlike listening, speaking, and reading, writing requires learners to simultaneously manage grammar, vocabulary, organization, coherence, and critical thinking. Many EFL students struggle to generate ideas, construct logical arguments, and produce grammatically accurate texts. Consequently, educators have continuously sought innovative approaches and technological tools that can facilitate the writing process and improve students' writing performance.

Recent studies have highlighted the positive contributions of ChatGPT to English language learning, particularly in writing instruction. Putu et al (2024), through a systematic

literature review of studies conducted between 2023 and 2024, found that ChatGPT can enhance students' academic writing performance by improving grammatical accuracy, text coherence, idea generation, and learner motivation. Their review also revealed that ChatGPT provides personalized feedback and promotes student-centered learning environments. Similarly, Slamet (2024) reported that both teachers and students perceive ChatGPT as an effective digital language-learning assistant capable of supporting language acquisition and facilitating writing activities.

Nguyen & Huy (2025) Despite the growing body of research on ChatGPT in language education, several gaps remain in the existing literature. First, many studies have primarily focused on the effectiveness of ChatGPT in improving writing outcomes, while relatively limited attention has been given to synthesizing the broader pedagogical implications of its integration into English writing instruction. Second, previous research has often examined ChatGPT within specific educational contexts or short-term interventions, resulting in fragmented findings that are difficult to generalize. Third, the rapid evolution of generative AI technologies has led to emerging concerns regarding academic integrity, learner dependency, critical thinking development, and ethical considerations, which have not yet been comprehensively reviewed. As a result, a systematic understanding of both the opportunities and challenges associated with the use of ChatGPT in English writing education remains insufficient.

Therefore, a comprehensive review of recent literature is necessary to synthesize current knowledge, identify emerging research trends, and highlight future directions regarding the use of ChatGPT in English writing education. This literature review aims to examine and analyze existing studies on the use of ChatGPT as an AI learning assistant in English writing education. By synthesizing findings from previous research, this article seeks to provide a comprehensive understanding of the benefits, challenges, and pedagogical implications of integrating ChatGPT into English writing instruction. The findings are expected to contribute to the growing discourse on AI-assisted language learning and provide valuable insights for educators, researchers, and policymakers seeking to optimize the use of AI technologies in English language education.

2. THEORITICAL STUDY

Artificial Intelligence in Education

Artificial Intelligence (AI) has become a technological innovation with a significant impact on the world of education. AI enables computer systems to perform various tasks that typically require human intelligence, such as understanding language, analyzing information, and generating relevant responses. According to Faiz et al (2023), the development of Large Language Models (LLMs) has opened up new opportunities in education because they can support learning, teaching, and assessment processes more effectively. Furthermore, Dwivedi et al (2023) explain that generative AI offers various opportunities in education by providing rapid access to information, more personalized learning support, and increased academic productivity.

The use of AI in education is growing with the emergence of generative AI technology that can generate new content based on user instructions. This technology functions not only as a source of information but also as a tool that can support independent learning. Therefore, AI is seen as an innovation with the potential to improve the quality of English language learning, particularly in the development of writing skills.

ChatGPT as an AI-Based Learning Assistant

ChatGPT is a generative Artificial Intelligence (AI) application developed by OpenAI using Large Language Model (LLM) technology. ChatGPT is designed to understand and generate text that resembles human language, enabling it to provide relevant responses to a variety of academic questions and assignments.

According to Lo et al (2024), ChatGPT has the potential to revolutionize education through more personalized, interactive, and flexible learning. This technology allows students to receive learning assistance at any time, without being limited by time and space. In line with this opinion, Nguyen & Huy (2025), stated that ChatGPT can function as a virtual tutor, helping students understand material, providing feedback, and supporting independent learning.

In the context of English language learning, ChatGPT can be used to help students develop vocabulary, improve grammar, generate writing ideas, and receive feedback on their writing. Thus, ChatGPT has great potential to act as a learning assistant that supports the development of EFL students' writing skills.

ChatGPT and EFL Students' Writing Skills

Writing skills are a crucial aspect of learning English as a foreign language (EFL). Writing involves not only the ability to use grammar and vocabulary correctly, but also the ability to develop ideas, organize information, and construct logical and coherent arguments.

In learning to write, EFL students often face various difficulties, such as limited vocabulary, grammatical errors, lack of ideas, and poor ability to develop paragraphs effectively. The introduction of ChatGPT provides an alternative solution to these problems. Tlili et al (2023) explain that ChatGPT can help students generate ideas, improve sentence structure, provide vocabulary suggestions, and support the writing revision process more effectively.

Furthermore, Dwivedi et al (2023), state that ChatGPT's ability to generate text quickly allows students to receive assistance during the writing process, thereby increasing learning efficiency and productivity. Therefore, ChatGPT is considered to have the potential to support the improvement of EFL students' writing quality.

Benefits and Challenges of Using ChatGPT in Writing Learning

Various studies have shown that the use of ChatGPT offers a number of benefits in learning English writing. Putu et al (2024) found that ChatGPT can improve grammatical accuracy, text coherence, idea development, and student motivation. Furthermore, this technology allows students to receive immediate feedback, thus enabling faster and more effective revision.

However, the use of ChatGPT also presents several challenges (Crompton & Burke, 2024) warn that excessive use of AI can lead to student dependence on the technology and potentially reduce critical thinking skills. Meanwhile, Dwivedi et al (2023) highlight academic integrity issues, such as plagiarism, the misuse of AI in academic assignments, and the potential for inaccurate information.

Chen (2025), also explain that ChatGPT can produce information that appears convincing but is not always true (AI hallucinations). Therefore, the use of ChatGPT in learning must be accompanied by teacher supervision and adequate digital literacy skills to maximize the benefits of this technology without neglecting academic ethics.

Previous Research

Research on the use of ChatGPT in English language learning continues to grow Putu et al (2024), through a systematic literature review, found that ChatGPT had a positive impact on students' academic writing skills, particularly in aspects of grammar, text coherence, idea

development, and learning motivation. The results of this study indicate that ChatGPT can function as an effective tool in the writing learning process.

Furthermore, Slamet (2024) reported that teachers and students had positive perceptions about the use of ChatGPT as a language learning assistant. ChatGPT was perceived as being able to provide learning assistance quickly, easily accessed, and support student-centered learning.

However, most previous research has focused on the effectiveness of ChatGPT on writing learning outcomes. Studies specifically synthesizing the benefits, challenges, and pedagogical implications of using ChatGPT in English writing learning are relatively limited. Therefore, this study was conducted to provide a more comprehensive understanding of the role of ChatGPT as an AI-based learning assistant in improving EFL students' writing skills.

3. RESEARCH METHODS

This study used a Systematic Literature Review (SLR) method to identify, evaluate, and synthesize research findings related to the use of ChatGPT as an artificial intelligence-based learning assistant to improve EFL students' writing skills. The SLR method was chosen because it allows researchers to obtain a comprehensive overview of research developments on a topic through a systematic and transparent procedure.

The research data sources came from scientific journal articles discussing ChatGPT, Artificial Intelligence, English language learning, and writing skills. Articles were obtained through searches in various academic databases, such as Google Scholar, Scopus, ERIC (Education Resources Information Center), and Science Direct.

The literature search was conducted using the keywords "ChatGPT," "Artificial Intelligence," "EFL Writing," "English Writing," "AI-Assisted Learning," and "Generative AI in Education." The articles found were then selected based on inclusion and exclusion criteria. The inclusion criteria included: (1) articles published between 2023 and 2025; (2) discussed the use of ChatGPT or generative AI in education; (3) focused on English language learning or writing skills; and (4) were available in full-text form. Articles irrelevant to the research objectives were excluded from the analysis process.

The research phase followed the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) model, which consists of four stages: identification, screening, eligibility, and inclusion. In the identification phase, articles were collected from various databases. A screening process was then carried out to remove duplicate articles and articles that did not align with the research topic. Articles that passed the screening phase were then

evaluated for content suitability and research quality before being included in the analysis phase.

Data that met the criteria were analyzed using thematic analysis techniques. The analysis was conducted by identifying key themes emerging from previous research, grouping research results based on their focus, comparing findings across studies, and developing a comprehensive synthesis. This analysis focused on the benefits of using ChatGPT in writing learning, user perceptions, implementation challenges, and pedagogical implications.

The results of the analysis are then presented descriptively to provide a deeper understanding of the role of ChatGPT as an AI-based learning assistant in improving EFL students' writing skills and provide recommendations for future research and learning practices.

4. RESULT AND DISCUSSION

Literature Synthesis Results

Characteristic of the Reviewed Studies

Based on the article search and selection process using the PRISMA method, this study identified a number of articles discussing the use of ChatGPT in English as a Foreign Language (EFL) learning. The reviewed articles were published between 2023 and 2025, indicating that research on the application of ChatGPT in education is a relatively new and rapidly developing field.

Most of the studies employed quantitative approaches, experimental designs, case studies, and systematic literature reviews. The primary research focuses included the impact of ChatGPT on writing skills, students' perceptions of AI use, the effectiveness of automated feedback, and the challenges of implementing ChatGPT in educational settings.

Research Trends on ChatGPT in Writing Instruction

The synthesis results indicate that writing skills have become one of the most extensively investigated aspects of language learning within the context of ChatGPT utilization. According to Lo et al (2024), most studies examining ChatGPT in language education focus on writing due to the AI's ability to generate texts and provide instant feedback.

This finding is supported by Xiao (n.d.) who argue that the increasing attention given to ChatGPT in writing instruction is attributed to its capability to assist students in generating ideas, improving grammar, and enhancing the overall quality of their writing.

Chatgpt As An Ai Learning Assistant In Efl Writing Instruction

The Role of ChatGPT in Supporting the Writing Process

Based on the literature synthesis, ChatGPT functions as a learning assistant that supports EFL students throughout various stages of the writing process, including brainstorming, outlining, paragraph development, and final revision. Bibi (2024) explain that the use of ChatGPT helps students generate more diverse ideas and improves their ability to develop written arguments. Their study revealed that students who utilized ChatGPT during the writing process produced more organized compositions than those who did not use AI assistance.

Barrot (2024) argue that the dialogic interaction between students and ChatGPT facilitates a scaffolding process that helps learners recognize weaknesses in their writing. Through continuous interaction, students can revise their work incrementally and gain a more reflective learning experience. Furthermore, Halaweh (2023) found that university students frequently use ChatGPT as a brainstorming partner before beginning the writing process. The presence of AI helps reduce writer's block, which often becomes a major obstacle in academic writing.

ChatGPT as a Virtual Tutor

Halaweh (2023) explain that ChatGPT has the potential to function as a virtual tutor by providing personalized academic support. This technology enables students to access learning assistance anytime without relying entirely on teacher availability.

A similar perspective was proposed by Tlili et al (2023), who emphasized that ChatGPT can create a more flexible and student-centered learning experience. Through individualized interactions, students can receive explanations and feedback tailored to their specific needs.

However, Dwivedi et al (2023) caution that ChatGPT should be viewed as a supplement to learning rather than a replacement for teachers. Teachers remain essential in guiding students to develop critical thinking skills and evaluate information obtained from AI systems.

The Impact Of Chatgpt On Efl Students' Writing Skills

Improvement in Grammar and Vocabulary

Mahapatra (2024) found that the use of ChatGPT positively influences students' grammatical accuracy. Through immediate feedback, students can identify and correct grammatical errors more efficiently.

Xiao (n.d.) discovered that ChatGPT-generated feedback helps students enrich their academic vocabulary and improve lexical variety in their writing. According to their findings, the AI's ability to provide synonyms and alternative expressions contributes significantly to writing quality enhancement.

Similarly, Halaweh (2023) concluded that ChatGPT contributes to improvements in grammar accuracy and vocabulary mastery among EFL learners. These findings suggest that AI can serve as an effective supplementary learning resource in language development.

Improvement in Writing Organization and Coherence

In addition to linguistic aspects, numerous studies demonstrate that ChatGPT assists students in producing more structured writing. Song & Song (2023) reported that students using ChatGPT showed improvement in organizing arguments and arranging ideas logically. They argued that AI support facilitates the creation of coherent writing outlines.

Xiao (n.d.) also found that ChatGPT enables students to improve paragraph connections and overall textual cohesion. Consequently, the resulting texts become easier for readers to understand.

Enhancement of Motivation and Self-Confidence

Beyond improving technical writing skills, ChatGPT also positively affects students' affective dimensions. Song & Song (2023) stated that the use of ChatGPT increases students' learning motivation because assistance is readily available and easily accessible. Students feel more confident in writing since they have access to a constantly available support system.

These findings are reinforced by Özçelik & Ekşi (2024), who explained that generative AI can create more engaging learning experiences, thereby increasing student participation and involvement in the learning process.

Challenges And Limitations Of Using Chatgpt In Writing Instruction

Dependence on AI

One of the most frequently reported challenges across studies is students' increasing dependence on AI technology. Özçelik & Ekşi (2024) warned that excessive use of ChatGPT may reduce students' critical thinking and independent problem-solving abilities. When learners become overly dependent on AI, they tend to accept generated answers without conducting further evaluation.

Similarly, Barrot (2024) argued that the convenience offered by ChatGPT may deprive students of opportunities to develop deeper cognitive processes during writing activities.

Academic Integrity Issues

Cotton et al (2024) highlighted growing concerns regarding plagiarism and violations of academic integrity resulting from the use of ChatGPT in academic assignments.

According to their study, the AI's ability to generate relatively high-quality essays within a short period may encourage some students to submit work that is not entirely their own. Therefore, educational institutions need to establish clear policies governing the use of AI in academic activities.

Information Accuracy and AI Hallucination

Bibi (2024) explained that one of ChatGPT's major limitations is its tendency to generate information that appears convincing but is not always accurate. This phenomenon is commonly referred to as AI hallucination.

Howlader et al (2025) further emphasized that students should verify information obtained from ChatGPT before using it in academic assignments. Without proper verification, the risk of misinformation increases significantly.

Pedagogical Implications

Teachers' Role in AI Integration

The synthesis results indicate that the successful integration of ChatGPT in learning largely depends on teachers' roles. Barrot (2024) emphasized that teachers remain the primary actors in the educational process. ChatGPT functions merely as a supporting tool rather than replacing teachers' pedagogical responsibilities.

Zhai (2023) argued that teachers need to develop instructional strategies that effectively integrate AI while still providing opportunities for students to engage in critical and creative thinking.

Development of AI Literacy

Sun (2024) emphasized the importance of prompt engineering skills in maximizing the benefits of ChatGPT. The better the instructions provided by students, the higher the quality of the AI-generated responses.

Meanwhile, Dwivedi et al (2023) stated that AI literacy has become an essential competency in twenty-first-century education. Students need not only to know how to use AI tools but also to understand their limitations and ethical implications.

Based on these findings, the integration of ChatGPT into EFL writing instruction should be accompanied by the development of digital literacy, AI literacy, and academic ethics to maximize the benefits of technology while maintaining the quality of the learning process.

5. CONCLUSION AND SUGGESTION

Based on the findings of this Systematic Literature Review on the use of ChatGPT in English as a Foreign Language (EFL) writing instruction, it can be concluded that ChatGPT possesses significant potential as an AI Learning Assistant in supporting the development of students' writing skills. Numerous studies indicate that ChatGPT can assist learners at every stage of the writing process, from idea generation and outlining to paragraph development, revision, and editing.

Furthermore, the use of ChatGPT has been shown to contribute positively to improvements in grammatical accuracy, vocabulary acquisition, writing organization, paragraph coherence, and writing fluency. The presence of ChatGPT also enhances students' learning motivation, self-confidence, and autonomy in completing writing tasks.

Nevertheless, the review also reveals several challenges that require careful consideration, including dependence on AI technology, potential violations of academic integrity, and the risk of inaccurate information generation (AI hallucination). Therefore, ChatGPT should not replace teachers in writing instruction but rather serve as a supportive tool that is used wisely and responsibly. Teachers continue to play a crucial role in guiding students to develop critical thinking skills, evaluate information critically, and utilize technology ethically.

Based on these findings, English language teachers are encouraged to integrate ChatGPT as a supplementary instructional tool that provides students with rapid and personalized feedback. Students should also develop AI literacy and critical thinking skills to maximize the benefits of the technology without becoming overly dependent on AI-generated outputs. In addition, educational institutions should establish clear guidelines regarding the use of AI in academic activities to maintain academic integrity and educational quality.

Future research is recommended to investigate the effectiveness of ChatGPT in more specific writing domains, such as academic writing, argumentative writing, and creative writing. Further studies should also explore its influence on students' creativity, critical thinking skills, and digital literacy within the context of English language learning.

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