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Effectiveness of ChatGPT in Improving English Writing Proficiency among Non-native English Speakers

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Abstract

The release of models like ChatGPT from research labs has created new opportunities for personalized feedback and engagement in language instruction, aligning with the needs of foreign language learners seeking to enhance their English writing skills. This study examined the effectiveness of ChatGPT in improving English writing proficiency among Saudi undergraduate students and their perceptions and experiences of using ChatGPT. The research utilized a mixedmethods approach, incorporating experimental pre-and post-tests, semi-structured interviews, and open-ended questionnaires, which were analyzed using thematic analysis. The study comprised two phases: an interactive phase, where participants utilized ChatGPT for writing tasks and feedback, and an assessment phase involving pre- and post-intervention writing assessments. The findings revealed that the integration of ChatGPT into language learning positively impacted English writing proficiency, offering personalized support and feedback to learners. The results also underscore the potential of AI-powered learning tools in facilitating language development as captured by the positive perceptions and experiences of the participants. In conclusion, the results of this study suggested that ChatGPT could be effective in enhancing the writing proficiency of Saudi English as a foreign language



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(EFL) learner, and their perceptions and experiences provided valuable insights into the integration of ChatGPT into language learning.

Keywords: ChatGPT, English as a Foreign Language, English as a Second Language, OpenAI, Saudi Arabia, Writing Proficiency.

Introduction

Writing is a crucial skill for individuals seeking to communicate effectively in English. However, high writing proficiency in English as a foreign language (EFL) can be challenging due to limited exposure to English-speaking environments, cultural differences, and ineffective instructional support.

In recent years, there has been a surge of interest in applying artificial intelligence (AI) and natural language processing to language learning. ChatGPT, an AI language model developed by OpenAI, is a popular application of this emerging technology. ChatGPT generates a human-like response in conversational settings, making it a potentially valuable tool for learners seeking to improve their writing proficiency (Orrù et al., 2023). By engaging in dialogue with ChatGPT, learners can receive instant feedback, guidance, and support tailored to their writing needs. The interactive nature of ChatGPT could potentially empower learners to practice writing in a more supportive, non-judgmental environment, increasing their confidence and motivation (Song et al., 2023).

This study explored the effectiveness of ChatGPT as a tool to enhance the writing proficiency of EFL learners and provide personalized, interactive support. This type of research is essential for several reasons. First, it addresses the pressing need to improve the writing skills of EFL learners. Second, it explores the potential of using AI to support language learning and writing instruction. Understanding the effectiveness of such technologies can inform educators and policymakers in designing more effective learning programs. Finally, the study contributes to



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computer-assisted language learning by investigating the use of ChatGPT in a specific language-learning context. To this end, the study sought to answer two research questions:

- 1. Does interacting with ChatGPT improve the English writing proficiency of Saudi EFL learners?
- 2. How do these EFL learners perceive using ChatGPT as a writing tool?

Literature Review

AI-Powered Chatbots

ChatGPT is an advanced chatbot developed using supervised and reinforcement learning techniques, built on OpenAI's GPT3 language model (Radford et al., 2018). Supervised fine-tuning involves training the model on labelled datasets, while reinforcement learning enables the model to interact with its environment to maximize rewards and explore different possibilities autonomously (Synopsys, n.d.). A key feature of ChatGPT is its ability to engage in natural and responsive conversations with users (King & ChatGPT, 2023). This key feature is achieved through a neural network that leverages large datasets to establish connections of varying strengths, enabling ChatGPT to generate text responses that closely resemble human language (MacNeil et al., 2022). The model can handle follow-up questions, acknowledge mistakes, challenge incorrect assumptions, and refuse inappropriate requests.

Additionally, it can generate text in various formats, including essays, humour, and poetry. Most importantly, with ongoing human input, it can continuously improve its performance in similar tasks. This means that through user interaction and feedback, the model can enhance its ability to answer similar questions and provide more accurate responses.

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ChatGPT stands out from traditional question-and-answer chatbots due to its conversational approach (Pavlik, 2023). Researchers and students can leverage its ability to summarise lengthy papers and generate initial drafts. The more advanced version, ChatGPT 4.0, can even produce relatively high-quality academic articles.

The conversational AI system ChatGPT has potential applications in language education by enabling more personalized and interactive learning experiences for students (Montenegro-Rueda et al., 2023). It can cater to differing needs and learning styles as a virtual tutor, assisting students with homework, guiding them through complex topics, and providing step-by-step explanations. Additionally, it can aid in research by retrieving relevant information, summarising articles, and suggesting credible sources. It can help students explore new concepts, review material, and prepare for exams by generating practice questions and providing study tips. Furthermore, it can offer emotional support to students, fostering a positive learning environment.

Students in traditional classes frequently suffer from limited access to tutors, instructors, and high-quality resources. In this context, teachers do not have the time to give individual attention to everyone in a class of 15–20 students, much less crowded lecture halls with hundreds of students. ChatGPT can help bridge this gap by being available 24/7.

As a result, researchers have been testing ChatGPT to increase learner engagement and cognition (García Sánchez, 2023). In particular, it has been shown to improve writing ability by giving grammar corrections, suggestions, and comprehensive feedback through dynamic interactions that help users better convey their ideas in writing (Osorio, 2023). However, it still requires the writer to have the knowledge and skills to develop valid, high-quality output.

Tools like ChatGPT are facilitating a radical shift in everything from assessment design to language acquisition in the expanding field of online education. Several e-

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learning sites, such as Coursera, use AI to find common project errors (Steenbergen-Hu & Cooper, 2014). ChatGPT can help educators create course syllabi, teaching materials, and assessments (Yaacoub et al., 2023; Zhai, 2022). It can help develop training resources tailored for course-specific bots that could, for example, facilitate students' English proficiency by simulating native-speaker interactions (Sanderson, 2023). Furthermore, ChatGPT can enhance active learning methodologies. For instance, flipped classrooms, where students are expected to engage with content before class, can foster more interactive learning, but learners might encounter challenges in pre-class preparation. Amid the COVID-19 pandemic, the shift to online education resulted in lower class attendance and a lack of enthusiasm for collaborative learning among peers. Acting as a virtual instructor, ChatGPT can support learners in their self-paced online and pre-class work by answering questions and facilitating collaboration through suggested discussion frameworks and prompt responses.

Based on its potential benefits, educational institutions are evaluating how to incorporate this technology (Susnjak, 2022), and researchers have explored using chatbots to support different areas of language learning, such as discussion, pronunciation, feedback, and vocabulary (e.g., Chen et al., 2022; Kim, 2018; Shin et al., 2021; Yang et al., 2022), as well as writing skills (e.g., dos Santos et al., 2023; Sims., 2023). ChatGPT offers more diverse opportunities to engage with the target language, and learners can delve into materials reflecting real-life usage, spanning films, web articles, and podcasts, fostering competence through more immersive and meaningful learning (Hassan Taj et al., 2017). Furthermore, this technology can increase enthusiasm for language study (Gikas & Grant, 2013; Smith, 2018), giving students a sense of greater autonomy and control over their learning (Peterson, 2017).

By engaging in real-time conversations, ChatGPT can assist learners in various aspects of writing (Herbold et al., 2023). Kohnke et al. (2023) demonstrated



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ChatGPT's ability to define words, construct conversations tailored to varied competence levels, and explain vocabulary in students' first language.

Shin et al. (2021) developed an adaptive chatbot that adjusted the difficulty of discussions based on user language proficiency, leading to higher engagement and learning outcomes. Yang et al. (2022) found that learners with a pronunciation-focused chatbot improved their pronunciation accuracy significantly more than a control group. Chen et al. (2022) found that a chatbot providing personalized guidance on grammar, vocabulary, and sentence structure improved writing performance over time. Kim (2018) developed a vocabulary-focused chatbot that presented learners with contextualized vocabulary and offered instant feedback on usage, leading to higher vocabulary retention.

ChatGPT can suggest improvements, offer alternative phrasing, and provide explanations for corrections, helping learners develop a better understanding of English writing conventions (Imran & Almusharraf, 2023). Moreover, it can assist in organizing ideas, improving the flow of writing, and enhancing overall clarity and coherence (Lund & Wang, 2023). Using ChatGPT, learners can gain confidence, refine their language skills, and work towards higher proficiency.

ChatGPT also facilitates critical thinking and argumentation skills (Ningrum, 2023). It assists learners in expanding their vocabulary and incorporating idiomatic phrases to add richness and fluency to their writing. This exposure to diverse language patterns and expressions helps develop a more sophisticated writing style (dos Santos et al., 2023).

Moreover, ChatGPT can help learners practice different writing genres, such as essays, reports, and formal correspondence (Imran & Almusharraf, 2023). Learners can receive guidance on structuring their writing, organizing their ideas logically, and adapting their tone and style to suit the task or audience. Additionally, learners can practice their writing skills outside the classroom and work at their own pace.



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The adaptable nature of ChatGPT allows for a student-focused learning approach that gives learners greater agency and control over their own education (Huang & Li, 2023).

ChatGPT can provide learners with immediate and targeted feedback on their grammar, helping them identify and correct errors in sentence structure, verb agreement, or word order (Harunasari, 2022). The iterative nature of this feedback helps learners internalize correct grammar patterns (Haggag, 2023).

The Limitations of ChatGPT

Despite its benefits, using ChatGPT to improve writing among EFL students poses several challenges, including overreliance on the system (Baskara, 2023). As ChatGPT provides instant feedback and suggestions, learners may become overly dependent on it, relying solely on the system for corrections without actively engaging in the learning process. This can hinder the development of independent writing and critical thinking skills. Another challenge is the system's limitations in understanding context and nuance. While ChatGPT can offer grammar corrections and sentence restructuring, it might not accurately capture the intended meaning or context of the writing. Thus, learners must critically evaluate suggestions to ensure their intended message is conveyed.

ChatGPT's responses are based on the information it has been trained on, a subset of existing resources (Pavlik, 2023). While it can reorganize and repeat information from those resources, users may need to refine their prompts to obtain the desired results. For this reason, ChatGPT can generate responses that sound reasonable but are inaccurate or fabricated. Therefore, it is essential to ensure the data quality and understand how to present complex prompts to the system. Furthermore, the language resources used by ChatGPT are limited to data available before 2021 (Xiao & Zhi, 2023), so users must carefully evaluate its responses. A related issue is that



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the training data might not always reflect the most up-to-date or contextually appropriate usage (Huang & Li, 2023).

Privacy and security concerns also arise when using ChatGPT or any AI system that involves submitting personal writing (Fitria, 2023). Learners should consider the platform's privacy policies and data handling practices to ensure their work is treated confidentially and securely. Another challenge is the lack of human interaction. While ChatGPT can provide automated feedback, it cannot replace human instructors' nuanced insights and guidance.

Finally, ChatGPT carries the risk of plagiarism (Jarrah et al., 2023). Plagiarism is taking someone else's work or ideas without proper attribution. AI algorithms can make differentiating original and borrowed material difficult, muddying the boundary between originality and plagiarism.

For these reasons, ChatGPT should be used as a supportive tool alongside human writing instruction and feedback to ensure a well-rounded approach (Lund & Wang, 2023).

Methodology

Research Design

This study employed a mixed-methods design, combining quantitative and qualitative data in two main phases. In the interactive phase, participants engaged in writing tasks and interacted with ChatGPT to receive feedback and guidance. The assessment phase involved experimental pre-and post-tests to initiate writing assessments to measure progress over time. Using randomly generated numbers from a computer, the participants were allocated evenly into an experimental group and a control group.

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Participants

Participants consisted of 600 undergraduate university students, 300 males and 300 females, who studied English language courses at Taibah University in Yanbu branch, Saudi Arabia. All were Saudi EFL learners with English proficiency ranging from intermediate to advanced. This allowed for a broader understanding of the potential impact of ChatGPT on various stages of writing development. Ages ranged from 19 to 24.

Data Collection

Before the intervention, participants were asked to complete a writing assessment based on topics taken from the textbook in their course, Savage and Mayer (2012). They were asked to write a four-paragraph narrative essay about a significant experience that changed or taught them something important. This assessment served as a baseline measurement of the writing skills the intervention aimed to improve.

After the pre-intervention writing assessment, ChatGPT was explained to the experimental group to ensure it was used correctly. Participants then interacted with ChatGPT to receive feedback and guidance on their writing. They could seek assistance, ask questions, and receive suggestions. The interactions were logged to measure grammar, vocabulary usage, coherence, and overall writing quality improvements. Next, participants took a post-intervention writing assessment. This was similar to the pre-intervention assessment and measured any improvement after the intervention.

Partially structured interviews were performed with a subgroup of the participants to obtain comprehensive understandings of their views and impressions from an open dialog. The interviews explored the usability, usefulness, effectiveness, and limitations of ChatGPT as a language-learning tool. Finally, participants completed a survey to gather additional data on their satisfaction, engagement, and overall



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perceptions. Out of the total participants, 20 individuals (10 men and 10 women) were selected at random.

Ethical Considerations

Participants were given detailed information about the study's purpose, procedures, risks, and benefits, after which they gave informed consent. Their identities were kept confidential, and data were anonymized during analysis and reporting. Measures were taken to ensure the security and protection of participants' data throughout the study, following ethical guidelines and regulations.

Data Analysis

The quantitative data collected from the writing tasks and assessments were analyzed using descriptive and inferential statistics (e.g., paired *t*-tests) in SPSS (Version 26) to determine the significance of any improvements. The qualitative data from the interviews and surveys were carefully examined using thematic analysis methodology to determine commonly emerging ideas and patterns using ChatGPT.

Results

Quantitative Results

The descriptive statistical values summarize the pre-intervention and post-intervention outcomes for both the experimental and control groups in Table 1. The experimental group, which interacted with ChatGPT during the intervention phase, showed a much higher improvement in writing proficiency regarding grammar and vocabulary than the control group.



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Table (1): Pre- and Post-Test Scores

Group	Pre-Test		Post-Test	
	M	SD	M	SD
Experimental	6.6556	0.68245	8.0795	0.63689
Control	6.6887	0.64376	6.5432	0.5622

As depicted in Table 2, the statistical examination revealed that the experimental group attained a notably higher average post-test score compared to the control group, with a t-value of 18.562, significant at p < 0.05.

Table (2): T-Test Results on the Post-Test for Experimental and Control Groups

N	M	SD	t	р
300	8.0795	0.63689	18.562	0.00

Sig. < 0.05

Qualitative Results

The qualitative interviews and open-ended survey questions revealed several themes in participants' responses about their experiences and opinions.

- Effectiveness of ChatGPT. Participants reported that their writing skills, including grammar, word usage, coherence, and general writing quality, had improved after using ChatGPT. One said, "ChatGPT helped me identify and correct grammatical errors that I would have otherwise missed," while another said, "I became more precise and grammatically correct in my writing." Furthermore, participants stated that using ChatGPT increased their confidence and motivation. As one said, "ChatGPT's feedback assured me I was on the right track. It inspired me to keep practising and honing my writing skills."
- Participant perceptions and experiences. Participants commonly compared ChatGPT's feedback and advice to that of teachers or peers. While they appreciated its immediate responses, they also understood the value of human interactions in providing nuanced feedback and tailored help. In the words of one participant,



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"ChatGPT is great for quick feedback, but there is no substitute for the expertise and individualized feedback that teachers provide."

Regarding usability, participants judged ChatGPT's user interface to be intuitive and straightforward, allowing them to focus on their writing without getting distracted by complex features. One said, "I liked how simple ChatGPT's interface was. It did not take away my writing, and I could easily access the criticism."

Participants offered ideas for integrating AI technology, such as ChatGPT, into language learning. They emphasized the need to provide opportunities for interaction and collaboration with human instructors and peers. They proposed including more context-specific prompts and exercises to improve the relevance of ChatGPT's feedback. One participant said, "Integrating ChatGPT in writing workshops or discussion groups, where we can receive feedback from AI and human experts, would be ideal. It would provide a comprehensive learning experience."

- Individual differences in learning and writing styles. When utilizing ChatGPT, participants emphasized the importance of considering individual differences in learning and writing styles. They expressed concern that ChatGPT's output might not correspond to their writing goals or preferences. One wrote, "ChatGPT's suggestions were valuable, but I had to tailor them to fit my writing style and the specific requirements of my writing tasks."

Participants also reviewed the learning strategies they used with ChatGPT. Some preferred an exploratory approach, engaging in open-ended chats to experiment with different writing concepts. In contrast, others preferred a more focused approach, asking for criticism on specific elements of their writing. One said, "I found it helpful to experiment with different approaches. Sometimes, I would chat with ChatGPT and other times, I'd ask it to focus on specific areas I wanted to improve."



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- Ethical considerations. Participants voiced concerns about potential biases in ChatGPT's suggestions. They emphasized the importance of human monitoring and critical thinking to provide unbiased input. "While ChatGPT is useful," one participant said, "we should be cautious about blindly accepting its suggestions. To prevent perpetuating biases or losing inventiveness, human judgment is required."

Participants also voiced concern about needing to be more reliant on ChatGPT. One said, "I had to be careful not to become too reliant on ChatGPT. It is critical to establish a balance and use it to improve my writing ability."

- **Future directions.** Participants offered suggestions for increasing ChatGPT's effectiveness. They recommended improving its natural language processing skills to deliver more accurate and context-specific feedback. They also proposed adding more assignments or suggestions to help students learn about different writing styles. One participant said, "Including more writing exercises, such as essays, reports, or creative writing prompts, would make ChatGPT more versatile and useful for a wider range of writing tasks."

Participants showed interest in connecting ChatGPT with other writing tools or platforms, such as grammar checkers, plagiarism detectors, or online writing groups, to create a more comprehensive and collaborative environment. This sentiment was exemplified by one participant who said, "Integrating ChatGPT with other writing tools could create a one-stop platform for writing improvement, combining instant feedback with grammar checks and opportunities for peer review."

Discussion

The main aim of this study was to examine the effectiveness of ChatGPT in improving English writing proficiency among Saudi-Arabia undergraduates. The participants who received the intervention showed substantially enhanced writing abilities after the program compared to those in the control group who did not receive



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the intervention. Improvement in their writing skills compared to the control group. ChatGPT could help identify and correct grammatical and spelling mistakes, suggest alternative words or phrases to enhance vocabulary and provide variety in writing, and offer suggestions to improve sentence structure, clarity, and coherence. For these reasons, incorporating AI-powered language learning tools could provide learners with more personalized support for their writing.

These findings were similar to Rahman et al. (2022) and Utami and Winarni (2023), who found that AI-powered learning increased EFL learners' involvement and participation in writing tasks. Similarly, Barrot (2023) found that AI tools showed promise in improving essay organization and coherence and scaffolding the writing process. Furthermore, the findings were consistent with Shaikh et al. (2023), who surveyed participants about the value and efficacy of ChatGPT. Shaikh et al.'s (2023) study found that university students used chatbots for language acquisition. Research on primary and secondary school children has likewise revealed a favourable influence on EFL ability (e.g., Jeon, 2022; Yang et al., 2022).

The findings were also consistent with Xiao and Zhi (2023), who conducted a small-scale qualitative study that suggested ChatGPT had the potential to assist students in language-related tasks. Participants also displayed critical thinking when evaluating the quality of ChatGPT's output and the capacity to adjust prompts to maximize learning gains, potentially mitigating academic integrity issues. Yan's (2023a) students voiced additional concerns about ChatGPT's threat to educational integrity. At the same time, participants in the present study were more positive, with all but one firmly believing that universities should promote rather than restrict its use. This acceptance could have been due to their knowledge of ChatGPT and their ability to evaluate its output critically. In other ways, the findings aligned with Yan (2023b), who highlighted ChatGPT's potential in second-language writing education.



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The participants' perceptions and experiences regarding ChatGPT's feedback and usability align with existing research on peer and teacher feedback in language learning. The participants' recognition of the value of human interactions in providing nuanced feedback resonates with studies by (Carless & Boud, 2018), (Huisman et al., 2018), and (Gielen et al., 2010), which have demonstrated the importance of specific and relevant feedback in improving writing performance. Similarly, the participants' emphasis on the need for interaction and collaboration with human instructors and peers aligns with the findings of (Ortiz et al., 2019), which highlight the positive impact of multiple peer feedback occurrences on attitudes and performance. The participants' positive assessment of ChatGPT's user interface and intuitive design is consistent with the literature on the usability of feedback systems. Studies by (Ortiz et al., 2019), (Zarfsaz, 2021), and Joh (2019) have emphasized the importance of user-friendly interfaces in facilitating effective feedback uptake and learning experiences. The participants' suggestions for integrating AI technology into language learning, such as providing context-specific prompts and exercises, are in line with the findings of Nicol and Mccallum (Nicol & McCallum, 2021), which highlight the benefits of exploiting multiple comparisons during peer review to generate elaborate feedback.

Furthermore, the participants' proposal to integrate ChatGPT into writing workshops or discussion groups, where feedback from both AI and human experts is provided, resonates with the research by (Ingdriawati, 2023), which emphasizes this highlights the beneficial influence that feedback from classmates can have on improving students' overall writing approach.writing process. Additionally, the participants' recognition of the complementary roles of AI and human feedback aligns with the findings of (Sippel and Jackson, 2015), which compared the impact of oral peer and teacher corrective feedback on language acquisition. The participants' suggestions for improving the relevance of ChatGPT's feedback through context-specific prompts and exercises are consistent with the literature on the effects of peer review

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and teachers' corrective feedback on writing performance. Studies by Xiao-ng and Zhou (Xiao-ling & Zhou, 2018), eerathai and Belardo (Wihastyanang et al., 2020), and Saiful et al. Almutairi (2023) has highlighted the positive impact of peer and teacher feedback on students' writing performance and attitudes toward feedback. In summary, existing research on peer and teacher feedback in language learning supports the participants' perceptions and experiences regarding ChatGPT's feedback and usability. Integrating AI technology, such as ChatGPT, into language learning can benefit from the insights and recommendations provided by the participants and the existing body of literature on feedback systems and language acquisition.

Although ChatGPT is useful, it should not be considered a comprehensive solution for content creation. Writers still need to rely on their expertise and experience to validate and enrich the tool's output.

Conclusion

The results of this study suggested that ChatGPT could enhance the writing proficiency of Saudi EFL learners, and their perceptions and experiences provided valuable insights into the integration of ChatGPT into language learning.

Implications and Recommendations

The results could inform educators about the potential benefits of integrating AI-based language models like ChatGPT into their teaching practices. The researcher recommends integrating such tools into language curricula as supplementary resources to support writing improvement. Language educators should provide training and guidance on using these tools effectively, while developers should focus on enhancing contextual understanding, customization, and explaining the abilities of AI models. Collaboration with writing experts, feedback mechanisms, and ethical guidelines are also recommended.



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Limitations

The small sample size and participant characteristics limited the generalizability of the findings, and the reliance on self-reported data could introduce bias. Additionally, the evaluation was focused on short-term effects, ethical considerations about the long-term use of ChatGPT were not extensively addressed, and the study needed to explore specific features.

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References

- Almutairi, R. T. (2023). EFL students & amp; #39; reactions to peer versus teacher feedback to improve writing skills: a study at intermediate school level. English Language Teaching, 16(4), 88.
- 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.
- Baskara, F. R. (2023). Integrating ChatGPT into EFL writing instruction: Benefits and challenges. International Journal of Education and Learning, 5(1), 44–55.
- Carless, D. and Boud, D. (2018). The development of student feedback literacy: enabling uptake of feedback. Assessment & Amp; Evaluation in Higher Education, 43(8), 1315-1325.
- Chen, Z., Chen, W., Jia, J., & Le, H. (2022). Exploring AWE-supported writing process: An activity theory perspective. Language Learning & Technology, 26, 129–148.
- dos Santos, A. E., Olesova, L., Vicentini, C., & de Oliveira, L. C. (2023). ChatGPT in ELT:
 Writing affordances and activities. TESOL Connections.
 http://newsmanager.com/partners.com/tesolc/print/2023-05-01/2.html



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- Fitria, T. N. (2023). Artificial intelligence (AI) technology in OpenAI ChatGPT application: A review of ChatGPT in writing English essay. ELT Forum: Journal of English Language Teaching, 12(1), 44–58.
- García Sánchez, O. V. (2023). Uso y percepción de ChatGPT en la educación superior. Revista de Investigación en Tecnologías de la Información, 11, 98–107.
- Gielen, S., Tops, L., Dochy, F., Onghena, P., & Smeets, S. (2010). A comparative study of peer and teacher feedback and various peer feedback forms in a secondary school writing curriculum. British Educational Research Journal, 36(1), 143-162.
- Gikas, J., & Grant, M. M. (2013). Mobile computing devices in higher education: Student perspectives on learning with cellphones, smartphones & social media. The Internet and Higher Education, 19, 18–26.
- Haggag, M. H. (2023). A program based on chat generative pre-trained text transformer (ChatGPT) for enhancing EFL majors' descriptive paragraph writing skills and their English grammar use.

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- Harunasari, S. Y. (2022). Examining the effectiveness of AI-integrated approach in EFL writing: A case of ChatGPT. International Journal of Progressive Sciences and Technology, 39(2), 357–368.
- Hassan Taj, I., Ali, F., Sipra, M., & Ahmad, W. (2017). Effect of technology enhanced language learning on vocabulary acquisition of EFL learners. International Journal of Applied Linguistics & English Literature, 6(3). https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2927643.
- Herbold, S., Hautli-Janisz, A., Heuer, U., Kikteva, Z., & Trautsch, A. (2023). A large-scale comparison of human-written versus ChatGPT-generated essays. Scientific Reports, 13, 18617. https://doi.org/10.1038/s41598-023-45644-9.
- Huang, J., & Li, S. (2023). Opportunities and challenges in the application of ChatGPT in foreign language teaching. International Journal of Education and Social Science Research, 6(4), 75–89.
- Huisman, B., Saab, N., Driel, J. v., & Broek, P. v. d. (2018). Peer feedback on academic writing: undergraduate students' peer feedback role, peer feedback perceptions and essay performance. Assessment & Amp; Evaluation in Higher Education, 43(6), 955-968.



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- Imran, M., & Almusharraf, N. (2023). Analyzing the role of ChatGPT as a writing assistant at higher education level: A systematic review of the literature. Contemporary Educational Technology, 15(4), ep464.
- Jarrah, A. M., Wardat, Y., & Fidalgo, P. (2023). Using ChatGPT in academic writing is (not) a form of plagiarism: What does the literature say? Online Journal of Communication and Media Technologies, 13(4), e202346.
- Jeon, J. (2022). Exploring AI chatbot affordances in the EFL classroom: Young learners' experiences and perspectives. Computer Assisted Language Learning, 37(1–2). https://doi.org/10.1080/09588221.2021.2021241.
- King, M. R., & ChatGPT. (2023). A conversation on artificial intelligence, chatbots, and plagiarism in higher education. Cellular and Molecular Bioengineering, 16, 1–2. https://doi.org/10.1007/s12195-022-00754-8.
- Kohnke, L., Moorhouse, B. L., & Zou, D. (2023). ChatGPT for language learning and teaching. RELC Journal, 54(2), 1–14. https://doi.org/10.1177/00336882231162868.
- Lund, B. D., & Wang, T. (2023). Chatting about ChatGPT: How may AI and GPT impact academia and libraries? Library Hi Tech News. https://doi.org/10.2139/ssrn.4333415.
- MacNeil, S., Tran, A., Mogil, D., Bernstein, S., Ross, E., & Huang, Z. (2022). Generating diverse code explanations using the GPT-3 large language model. In Proceedings of the 2022 ACM Conference on International Computing Education Research (Vol. 2, pp. 37–39). https://doi.org/10.1145/3501709.3544280.
- Montenegro-Rueda, M., Fernández-Cerero, J., Fernández-Batanero, J. M., & López-Meneses, E. (2023). Impact of the implementation of ChatGPT in education: A systematic review. Computers, 12(8), 153.
- Nicol, D. and McCallum, S. (2021). Making internal feedback explicit: exploiting the multiple comparisons that occur during peer review. Assessment &Amp; Evaluation in Higher Education, 47(3), 424-443.
- Ningrum, S. (2023). ChatGPT's impact: The AI revolution in EFL writing. Borneo Engineering & Advanced Multidisciplinary International Journal, 2, 32–37.
- Orrù, G., Piarulli, A., Conversano, C., & Gemignani, A. (2023). Human-like problem-solving abilities in large language models using ChatGPT. Frontiers in Artificial Intelligence, 6, 1199350.



المجلة الدولية للعلوم التربوية والآداب

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April 2024

الإصدار (3)، العدد (4)

- Ortíz, D. C., Nogué, L., Serra, T., & Colomer, J. (2019). Supportive peer feedback in tertiary education: analysis of pre-service teachers' perceptions. Education Sciences, 9(4), 280.
- Osorio, J. A. C. (2023). Explorando el potencial de ChatGPT en la escritura científica: Ventajas, desafíos y precauciones. Scientia et Technica, 28, 3–5.
- Pavlik, J. V. (2023). Collaborating with ChatGPT: Considering the implications of generative artificial intelligence for journalism and media education. Journalism & Mass Communication Educator, 78, 84–93.
- Radford, A., Narasimhan, K., Salimans, T., & Sutskever, I. (2018). Improving language understanding by generative pretraining. https://s3-us-west-2.amazonaws.com/openai-assets/research-covers/language-unsupervised/language_understanding_paper.pdf.
- Sanderson, K. (2023). GPT-4 is here: What scientists think. Nature, 615(7954), 773. https://doi.org/10.1038/d41586-023-00816-5.
- Savage, A., & Mayer, P. (2012). Effective academic writing 2 (2nd ed.). Oxford University Press.
- Shaikh, S., Yayilgan, S. Y., Klimova, B., & Pikhart, M. (2023). Assessing the usability of ChatGPT for formal English language learning. European Journal of Investigation in Health, Psychology and Education, 13(9), 1937–1960.
- Shin, D., Kim, H., Lee, J. H., & Yang, H. (2021). Exploring the use of an artificial intelligence chatbot as second language conversation partners. Korean Journal of English Language and Linguistics, 21, 375–391.
- Sippel, L. and Jackson, C. N. (2015). Teacher vs. peer oral corrective feedback in the german language classroom. Foreign Language Annals, 48(4), 688-705.
- Smith, B. (2018). Technology-enhanced language learning in action: A review of the literature on vocabulary acquisition. Language Learning & Technology, 22, 124–142.
- 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.
- Steenbergen-Hu, S., & Cooper, H. (2014). A meta-analysis of the effectiveness of intelligent tutoring systems on college students' academic learning. Journal of Educational Psychology, 106(2), 331–347.



المجلة الدولية للعلوم التربوية والآداب

Vol. (3), No. (4)

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الإصدار (3)، العدد (4)

- Susnjak, T. (2022). ChatGPT: The end of online exam integrity? arXiv. https://doi.org/10.48550/arXiv.2212.09292.
- Synopsys. (n.d.). What is reinforcement learning? https://www.synopsys.com/ai/what-is-reinforcement-learning.html.
- Wihastyanang, W. D., Kusumaningrum, S. R., Latief, M. A., & Cahyono, B. Y. (2020). Impacts of providing online teacher and peer feedback on students' writing performance. Turkish Online Journal of Distance Education, 178-189.
- Xiao-ling, L. and Zhou, C. (2018). The effect of online feedback types on foreign language writing. Theory and Practice in Language Studies, 8(7), 733.
- 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.
- Yaacoub, J. P. A., Noura, H. N., Salman, O., & Chehab, A. (2023). Ethical hacking for IoT: Security issues, challenges, solutions and recommendations. Internet of Things and Cyber-Physical Systems, 3, 280–308.
- Yan, D. (2023b). How ChatGPT's automatic text generation impact on learners in a L2 writing practicum: An exploratory investigation. https://hal.science/hal-04037687.
- Yan, D. (2023a). Impact of ChatGPT on learners in a L2 writing practicum: An exploratory investigation. Education and Information Technologies, 28, 13943–13967. https://doi.org/10.1007/s10639-023-11742-4.
- Yang, H., Kim, H., Lee, J. H., & Shin, D. (2022). Implementation of an AI chatbot as an English conversation partner in EFL speaking classes. ReCALL, 34, 327–343.
- Zarfsaz, P. Y. E. (2021). The Impact of Positive Peer Feedback on Second Language Writing Accuracy. Journal of Turkish Studies, Volume 16 Issue 1(Volume 16 Issue 1), 409-426.
- Zhai, X. (2022). ChatGPT user experience: Implications for education. https://dx.doi.org/10.2139/ssrn.4312418.



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Appendix A

Interview Questions

- How would you describe your experience of using ChatGPT for improving your writing skills?
- What specific features or aspects of ChatGPT did you find most helpful in enhancing your writing proficiency?
- In what ways did ChatGPT provide guidance and feedback on your writing? How did it impact your writing process?
- Did you notice any improvements in your grammar, vocabulary usage, coherence, or overall writing quality after interacting with ChatGPT? Could you provide specific examples?
- Were there any limitations or challenges you encountered while using ChatGPT for writing improvement? How did you overcome them?
- How would you compare the feedback and guidance provided by ChatGPT with feedback from human instructors or peers?
- Did using ChatGPT enhance your motivation and confidence in writing? If yes, how? If no, why not?
- What are your overall perceptions of using AI systems like ChatGPT for language learning and writing improvement?
- How do you envision the integration of AI technologies like ChatGPT in language classrooms or self-study environments?
- Based on your experience, what recommendations or suggestions would you give to improve the effectiveness of ChatGPT for writing improvement?



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Appendix B

Questionnaire Questions

- On a scale of 1-5, how satisfied were you with your overall experience of using ChatGPT for writing improvement?
- Did you find the feedback and guidance provided by ChatGPT helpful in improving your writing skills? Please rate on a scale of 1-5.
- Did you notice any improvements in your grammar, vocabulary usage, coherence, or overall writing quality after using ChatGPT? Please provide specific examples, if possible.
- How user-friendly and intuitive was the interface of ChatGPT for writing improvement?
- To what extent did using ChatGPT enhance your motivation and confidence in writing? Please rate on a scale of 1-5.
- Were there any specific features or functionalities of ChatGPT that you found particularly useful or beneficial for your writing improvement?
- Did you encounter any difficulties or challenges while using ChatGPT for writing improvement? If yes, please elaborate.
- How likely are you to continue using ChatGPT or similar AI systems for language learning and writing improvement in the future? Please rate on a scale of 1-5.
- Based on your experience, what improvements or additional features would you suggest for ChatGPT to enhance its effectiveness as a writing support tool?