

A Systematic Review of Artificial Intelligence in Enhancing English Foreign Learners' Writing Skills

Aryawira Pratama¹, Urip Sulistiyo²

¹Universitas Islam Negeri Sulthan Thaha Saifuddin Jambi, Jambi, Indonesia,

²Universitas Jambi, Jambi, Indonesia

Corresponding author e-mail: aryawirapratama@uinjambi.ac.id

Article History: Received on 18 August 2024, Revised on 19 October 2024,
Published on 9 November 2024

Abstract: This systematic review examines the impact of Artificial Intelligence (AI) on enhancing the writing skills of English foreign learners. It highlights how AI technologies, such as ChatGPT, provide immediate feedback on grammar, punctuation, and style, facilitating efficient revisions and fostering creativity through brainstorming and vocabulary suggestions. The review emphasizes personalized learning experiences by analyzing individual writing patterns, which allows for tailored resources that increase student engagement and motivation. Using the Preferred Reporting Items for Systematic Review and Meta-Analyses (PRISMA) 2020 checklist, the study evaluates 22 peer-reviewed articles published in 2024, revealing that AI tools promote collaboration among students through peer feedback and shared projects, enhancing critical thinking and communication skills. Additionally, AI improves accessibility for learners with disabilities through features like text-to-speech and speech recognition. The findings suggest that as AI technology evolves, its integration into language education will significantly enhance teaching methodologies and learning outcomes. This research underscores the importance of adapting pedagogical practices to fully leverage AI's potential in promoting effective language acquisition, particularly in writing, thereby providing valuable insights for future explorations of AI's role in educational settings.

Keywords: Artificial Intelligence, English Foreign Learners, Writing Skill

A. Introduction

This systematic review paper examines matter concerning the educational utilization of Artificial intelligence in Enhancing English Foreign Learners' writing skills. In other words, it is a paper that provides an overview of the way that Artificial Intelligence is capable of supporting the process of writing skill from the students. This will commence with the definition of Artificial Intelligence especially in the used of enhancing English language skill. It also discusses how the Artificial Intelligence is utilized to support the enhancing of students' writing skills. In practice, Artificial

Intelligence is defined as a set of technologies that enable computers to perform a variety of advanced functions, including the ability to see, understand and translate spoken and written language, analyze data, make recommendations, and more (Law, 2024; Razoqey, 2024). This is also having a very beneficial things to support the students' writing skills.

Artificial intelligence (AI) supports students' writing skills in several impactful ways. One of the primary benefits is the provision of automated feedback on grammar, punctuation, and style, allowing students to receive immediate corrections and suggestions (Dilzhan, 2024; Ramzan & Ijaz, 2024). This real-time feedback helps them identify and rectify errors quickly, fostering a more efficient revision process. Additionally, AI applications like ChatGPT can assist in brainstorming ideas, generating outlines, and offering vocabulary suggestions, which exposes students to various writing styles and enhances their creativity in composition. Another significant advantage of AI is its ability to personalize learning experiences. By analyzing students' writing patterns, AI can provide tailored resources and exercises that meet individual needs, thus enhancing engagement and motivation (Devasena, 2024). Moreover, found that motivation, alongside ICT and self-efficacy factors, significantly influences students' independent learning with technology (ICT). AI tools facilitate research by summarizing articles and extracting key points, which streamlines the information-gathering process. This support enables students to focus more on developing their writing rather than getting overwhelmed by the research aspect. AI fosters collaboration among students through AI-powered platforms that encourage peer feedback and shared writing projects. This collaborative environment not only enhances communication skills but also promotes critical thinking as students learn to evaluate and improve each other's work (Farr, 2024). With features like text-to-speech and speech recognition, AI tools also make writing more accessible for students with learning disabilities. As AI technology continues to evolve, its role in supporting and enhancing students' writing skills will likely become even more significant in educational settings (Akhiat, 2024; Punar Özçelik & Yangın Ekşi, 2024). Finally, this systematic literature review (SLR) was done to comprehend the perspectives of various scholars on the usefulness of Artificial Intelligence in enhancing the students' writing skills. As mentioned earlier, this paper will highlight the effectiveness of Artificial Intelligence, particularly on students' writing skills.

Due to technological development and advancement in the world, digital tools and appliances have started to become commonplace, especially in the classroom, and this presents an opportunity to expand the abilities of students to learn to write efficiently using artificial intelligence. Hence, as a result, the objective of this paper is to examine the role of Artificial Intelligence in Enhancing students' writing skill in learning English. The main research question is as follows "What is the role of Artificial Intelligence in Enhancing students' writing Skills?".

B. Methods

The Preferred Reporting Items for Systematic Review and Meta-Analyses (PRISMA) 2020 checklist was used to conduct this systematic literature review. The PRISMA checklist includes 27 criteria to help with transparency in a systematic review. The comparative research approach, namely descriptive comparison, was used in this systematic literature review (Check & Schutt, 2012; Creswell, 2014; Sharp, 2003). As this paper aims to describe and explain the use of Artificial Intelligence in Enhancing the students' writing skills in English, this paper serves as a systematic effort to demonstrate how Artificial Intelligence differs and stands out from other learning platforms. This study conceptually explores the key components of how artificial intelligence adds to the efficacy of teaching and learning the English language, particularly writing abilities, by evaluating selected papers linked to the usage of artificial intelligence. The goal of this systematic literature review is to provide readers a better understanding of the function of artificial intelligence in the classroom, particularly in terms of improving students' writing abilities. The information that was accessed for review consisted of electronic journals. This study is premised on a systematic analysis of articles sourced from a main database, which are ERIC. The processing of the literature was done based on journals dated between 2024. Hence, in this study, the researchers utilized four phases to carry out the analysis. These include the identification phase, screening phase, eligibility phase and lastly, inclusion phase.

Phase 1: Identification Phases

This stage of the systematic review involved identifying relevant work. This phase consisted of two main processes. The first stage involved collecting relevant articles and choosing suitable articles premised on what is termed inclusion and exclusion criteria. Studies like this may exhibit the limitation of publication bias. This research process did not involve the analysis of literature from sources other than journal databases, such as book chapters, white papers and technical reports. Hence, the research was focused on analyzing journals that are peer-reviewed become the sources. The primary databases used for this study was ERIC, as shown in Table1. Furthermore, the papers that were used in this systematic review were published between 2024. Given the increasing rate of scientific papers being produced, today's evaluations of the literature must be aware not only of the broad direction and achievements of an area of research but also of the most recent findings in order to avoid becoming out-of-date. There was a combination of various keywords that were used in this process. These include Artificial Intelligence, writing skill in education and Artificial Intelligence in enhancing students' writing skills.

Table 1. Source of Journals

Journal Source	Quantity	Keywords
ERIC	22 articles	Artificial Intelligence, Artificial Intelligence in Writing Skills

Phase 2: Screening Phase

As the suitable papers in ERIC was chosen, duplicates were discovered and removed within a week. The papers were then re-examined to ensure that the remaining articles met the researcher’s requirements.

Phase 3: Eligibility Phase

The gathered papers were reviewed for eligibility in the third phase, where they had to match the criteria outlined in the table a’s inclusion section. This is a critical step in ensuring that the data collected in this study were of high quality and dependability.

Table 2. Inclusion Criteria

Inclusion
Artificial Intelligence in Writing skill
Research methodologies: quantitative, qualitative and mixed method
Sample or respondent various levels of education
Evaluate Artificial Intelligence in Enhancing Writing Skills
Journal Articles published in 2024

The papers chosen focus on researchers who utilized Artificial Intelligence to enhance students’ writing skills. The papers were vetted in accordance with the criteria outlined in figure 1.



Figure 1. Assessment criterion in choosing articles

Phase 4: Exclusion Phase

After checking the articles who eligibility in the third phase, the remaining articles were excluded from this systematic literature review. The criteria of the exclude articles are stated in Table 3. The exclusion step, like the eligibility step, was crucial in ensuring that the researchers collected high-quality data.

Table 3. Exclusion Criteria

Exclusion
Artificial Intelligence was not implemented in Writing skill
The studies did not access and evaluate artificial intelligence
Teaching and learning which did not used artificial intelligence
Articles not published in 2024

There were 22 articles provided information about the role of artificial intelligence in enhancing students' writing skills. Most of the analyzed articles showed the combination of quantitative, qualitative, and mixed-method type studies as depicted in Table 4. The respondents from all of the studies included all levels of education from primary until university level.

Table 4. Quantity of Journals based on Research Design

Research Design	Quantity
Quantitative Design	7
Qualitative Design	8
Mixed-Method Design	2
Review of Literature	3

Figure 2 depicts the full procedure from Phase 1 through Phase 4 in clearer detail based on The Preferred Reporting Items for Systematic Review and Meta-Analyses (PRISMA) 2020 checklist in conducting this systematic literature review.

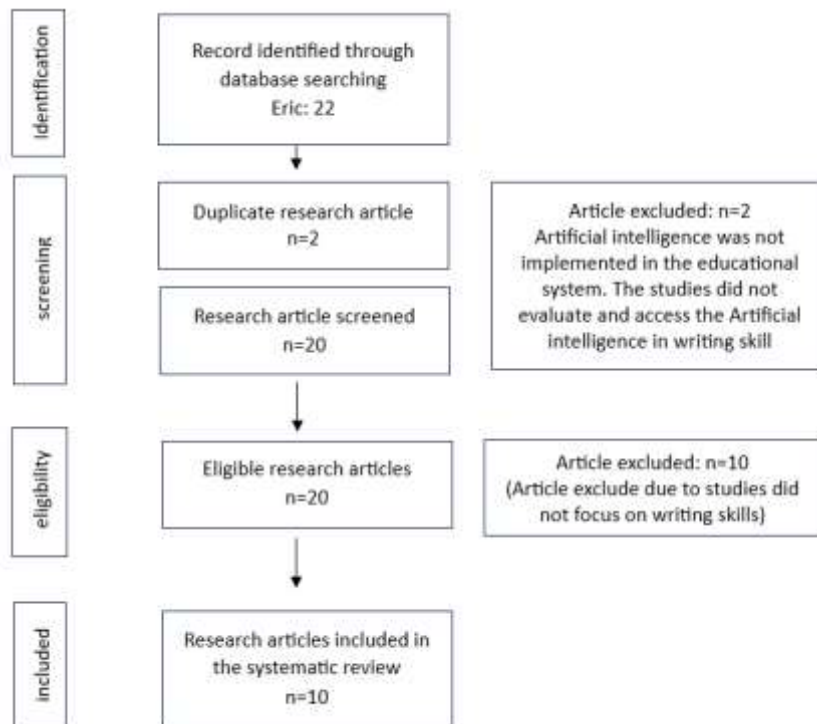


Figure 2. Stream Chart of the Research Article Selection Process

C. Results and Discussion

The findings of the research papers will be reviewed in-depth in this section. Due to the nature of investigations, 10 articles were chosen to be appropriate in this systematic review after four phases of choosing eligible articles for evaluation. Many different researchers have presented research on the role of artificial intelligence in enhancing students' writing skills, and the best and most seminal of these research papers are described in Table 5 below.

Table 5. Main Characteristics, Perspectives and perception of using Artificial Intelligence in enhancing students' writing skills

Authors	Territory	Study Purpose	Participants	Discussion
ED643603	Saudi Arabia.	To evaluate the effectiveness of AI TTS applications in improving pronunciation skills.	EFL students at Majmaah University.	The study indicates a positive perception of AI TTS apps among students, enhancing their pronunciation skills and overall language learning experience, with strong endorsement for continued use in and out of class.
ED650283	Middle Eastern countries.	To explore educational challenges and innovations in the region.	Educators and researchers in Middle Eastern contexts.	The study highlights the need for context-specific solutions to address educational challenges, emphasizing the role of local insights in shaping effective teaching strategies.
ED652493	Unspecified, but relevant to global language education.	To assess the effectiveness of ChatGPT in supporting language learning.	Students and educators involved in English language programs.	Results show that ChatGPT facilitates language practice and interaction, contributing to improved communication skills and learner confidence.
EJ1415045	Philippines.	To explore teachers' perspectives on using ChatGPT in the classroom.	Teachers from various educational backgrounds.	The research indicates that teachers find ChatGPT helpful for enhancing student engagement and providing personalized feedback, suggesting a positive impact on learning dynamics.
EJ1423132	Japan.	To explore the effectiveness of CALL tools in language teaching.	Language learners and educators using CALL methodologies.	Findings suggest that CALL tools (AI) improve language learning outcomes by providing interactive and engaging environments for students, facilitating better language retention especially for writing.

EJ1425486	Unspecified, but applicable to various educational contexts.	To analyze the impact of AI tools on language acquisition and teaching effectiveness.	Language educators and students utilizing AI tools.	The study reveals that AI tools significantly enhance learning experiences, promoting greater student interaction and personalization in language education.
EJ1428229	a country using Cami AI	To assess students' achievements and perceptions across different stages of the SAMR model.	EFL students using Cami AI for writing tasks.	Results indicate that students perceive Cami AI as a valuable tool for enhancing their writing skills, fostering creativity and engagement in the writing process.
EJ1428942	global relevance	To evaluate the effectiveness of various teaching strategies in language education.	English language educators and learners.	The research underscores the need for continual adaptation of pedagogical practices (Technology/AI) to meet the evolving needs of students, ensuring more effective language acquisition
EJ1434552	Eurasian countries	To explore innovative approaches in language teaching and learning.	Educators and researchers from various Eurasian countries.	The findings highlight the importance of adapting teaching methods to incorporate new linguistic insights and technologies (AI), fostering better learning outcomes for students (writing skills).
EJ1435643	Indonesia	To investigate how AI can assist teachers in creating educational materials.	Indonesian EFL teachers.	The study emphasizes the potential of AI as a collaborative partner in content creation, enhancing the teaching process and enabling more personalized learning experiences.

The integration of technology, particularly Artificial Intelligence (AI), is reshaping language education, providing innovative solutions for enhancing both teaching and learning. The Determinants of Technology Acceptance Model (TAM) in EFL studies by Al Arif, Sulistiyo, Handayani, et al. (2022) emphasize the role of ICT in engaging and motivating learners through technology-enhanced environments, resonating with findings on motivational impacts of AI and ICT tools. In addition, (Williyan et al., 2024) investigates how Indonesian EFL teachers can effectively collaborate with AI in creating educational materials. This study emphasizes the potential of AI as a transformative tool, enabling teachers to produce personalized content that aligns closely with their students' needs. By incorporating AI into the pedagogical process, educators can significantly elevate the quality of educational resources, fostering a more engaging learning environment.

The broader implications of AI in language learning are also explored by (Aluthman, 2024) where various researchers advocate for the adaptation of teaching methodologies to embrace technological advancements. These findings suggest that innovative approaches can lead to improved learning outcomes, making education more relevant and effective for students. By integrating AI tools, educators not only enrich the learning experience but also prepare students for the challenges of a rapidly changing digital landscape. This theme is echoed in (Hadizadeh, 2024) which underscores the necessity for continual adaptation of pedagogical practices to meet the evolving needs of learners.

In examining specific AI applications, the research by (Muslimin et al., 2024) reveals that students perceive Cami AI as a valuable asset in enhancing their writing skills. The study utilizes the SAMR model (Substitution, Augmentation, Modification, and Redefinition) to demonstrate how Cami AI fosters creativity and engagement, indicating a positive correlation between AI usage and academic performance. This is particularly significant as it shows that technology can play an essential role in improving educational outcomes. Similarly, (Tseng & Lin, 2024) highlights the positive impact of AI Text-to-Speech applications on students' pronunciation skills. Her research suggests that these technologies provide crucial support in developing phonological awareness, thereby enhancing overall language acquisition.

The effectiveness of Computer-Assisted Language Learning (CALL) tools is further supported by the findings from (Gozali et al., 2024) Various authors in this journal find that CALL tools significantly enhance language learning outcomes by creating interactive environments that promote better retention and understanding. This reinforces the argument for ongoing integration of technology in education, as such tools can complement traditional teaching methods. Additionally, (Mabuan et al., 2024) reveals that teachers appreciate ChatGPT for its ability to enhance student engagement and provide personalized feedback, indicating a favorable shift towards more technologically integrated classrooms.

Moreover, the article (Phuong, 2024) further examines the effectiveness of ChatGPT as a supportive tool in language learning. The research demonstrates how students and educators utilize ChatGPT to facilitate language practice and interaction, ultimately leading to improved communication skills and increased learner confidence. These findings align with the overarching theme of leveraging technology to create dynamic and responsive learning environments that cater to diverse student needs. Finally, the (Abdel-Reheem Amin, 2024; Al-Jarf, 2024) addresses educational challenges and innovations specific to the Middle Eastern context. The authors emphasize the need for context-specific solutions that address regional educational challenges, highlighting the importance of local insights in shaping effective teaching strategies. This regional focus complements the global perspective on technology integration, suggesting that while AI offers universal benefits, its implementation must consider cultural and regional nuances. Collectively, these studies underscore the significance of leveraging AI and technology to create dynamic, responsive learning environments that enhance educational practices and prepare students for future challenges in a digital world.

In summary, the integration of AI and technology in language education is not merely a trend but a necessary evolution that promises to enhance teaching methodologies and learning experiences. The collective insights from these articles illustrate the potential of AI to transform language education, making it more engaging, personalized, and effective. As educators continue to embrace these advancements, the future of language learning looks promising, equipping students with the skills they need to thrive in an increasingly digital landscape.

D. Conclusions

The exploration of AI and technology in language education highlights a transformative shift in teaching methodologies and learning experiences. As educators increasingly integrate tools like AI Text-to-Speech applications and collaborative platforms, they are not only enhancing the quality of instruction but also personalizing the learning journey for students. This evolution reflects a growing recognition of the diverse needs of learners, allowing for tailored educational approaches that foster engagement and motivation. Research demonstrates that AI tools, such as Cami AI and ChatGPT, are effective in improving specific language skills, including writing and pronunciation. These technologies provide immediate feedback and support, empowering students to take charge of their learning and develop confidence in their abilities. Furthermore, the positive perceptions of educators regarding these tools signify an important cultural shift in the acceptance of technology within the classroom setting.

Contextual factors also play a significant role in the successful integration of these technologies. As highlighted in studies addressing regional educational challenges,

understanding local contexts is essential for implementing effective solutions. This awareness allows for the adaptation of AI tools to meet cultural and pedagogical requirements, ensuring that they resonate with students and educators alike.

Ultimately, the findings collectively underscore the importance of continuous innovation in language education. As digital tools evolve, so too must the strategies have employed by educators. Embracing AI not only prepares students for future academic endeavors but also equips them with critical skills necessary for navigating an increasingly interconnected world. The potential for AI to redefine language learning is immense, promising to create enriching environments where students can thrive. As we move forward, the commitment to harnessing these advancements will be crucial in shaping the future landscape of education, ensuring that it remains relevant, engaging, and effective for all learners.

References

- Abdel-Reheem Amin, E. (2024). EFL Students' Perception of Using AI Text-to-Speech Apps in Learning Pronunciation. *SSRN Electronic Journal*, 8984, 887–903. <https://doi.org/10.2139/ssrn.4746800>
- Akhiat, M. (2024). *Second Language Acquisition in the Era of Technology and Artificial Intelligence: Exploring New Frontiers*. <https://digitalcommons.usu.edu/gradreports2023/28/%0Ahttps://digitalcommons.usu.edu/cgi/viewcontent.cgi?article=1035&context=gradreports2023>
- Al-Jarf, R. (2024). The Gaza-Israel War Terminology: Implications for Translation
- Al Arif, T. Z., Sulistiyo, U., & Wachyuni, S. (2024). EFL university students' self-directed language learning with ICT: A structural equation modelling approach. *Hachetepé. Revista científica en Educación y Comunicación*, 29, 1-21. <https://doi.org/10.25267/Hachetetepe.2024.i29.2205>.
- Pedagogy. *International Journal of Middle Eastern Research*, 3(1), 35–43. <https://doi.org/10.32996/ijmer.2024.3.1.5>
- Aluthman, E. S. (2024). An Investigation of Artificial Intelligence Tools in Editorial Tasks among Arab Researchers Publishing in English. *Eurasian Journal of Applied Linguistics*, 10(1), 174–185. <https://doi.org/10.32601/ejal.10116>
- Check, J., & Schutt, R. K. (2012). *Research Methods in Education*. Sage Publication.
- Creswell, J. W. (2014). *Research Design* (4th Editio). Sage Publication.
- Devasena, R. (2024). Artificial Intelligence in Education: An Alternative to Traditional Learning. *Journal of English Language Teaching*, 66(1), 13–21. <https://journals.eltai.in/index.php/jelt/article/download/JELT660103/1055>
- Dilzhan, B. (2024). *Teaching English and Artificial Intelligence: EFL Teachers' Perceptions and Use of ChatGPT Balnur*. SDU University.
- Farr, C. (2024). *Unmasking ChatGPT: The Challenges of Using Artificial Intelligence for Learning Vocabulary in English as an Additional Language*. 2021.
- Gozali, I., Wijaya, A. R. T., Lie, A., Cahyono, B. Y., & Suryati, N. (2024). ChatGPT as

- an automated writing evaluation (AWE) tool: feedback literacy development and AWE tools' integration framework. *JALT CALL Journal*, 20(1), 1–22. <https://doi.org/10.29140/jaltcall.v20n1.1200>
- Hadizadeh, A. (2024). ChatGPT , the end of L2 academic writing or a blessing in disguise ? *Acuity: Journal of English Language Pedagogy, Literature, and Culture*, 9(2), 183–201. <https://doi.org/10.35974/acuity.v9i2.3128>
- Law, L. (2024). Application of generative artificial intelligence (GenAI) in language teaching and learning: A scoping literature review. *Computers and Education Open*, 6(March), 100174. <https://doi.org/10.1016/j.caeo.2024.100174>
- Mabuan, R. A., Chatgpt, R. A., Exploring, E. L. T., & Journal, I. (2024). *ChatGPT and ELT : Exploring Teachers ' Voices To cite this article : ChatGPT and ELT : Exploring Teachers ' Voices.*
- Muslimin, A. I., Mukminatien, N., & Ivone, F. M. (2024). Evaluating Cami AI Across SAMR Stages: Students' Achievement and Perceptions in EFL Writing Instruction. *Online Learning Journal*, 28(2), 1–19. <https://doi.org/10.24059/olj.v28i2.4246>
- Phuong, H. P. X. (2024). Using ChatGPT in English Language Learning: A Study on I.T. Students' Attitudes, Habits, and Perceptions. *International Journal of TESOL & Education*, 4(1), 55–68.
- Punar Özçelik, N., & Yangın Ekşi, G. (2024). Cultivating writing skills: the role of ChatGPT as a learning assistant – a case study. *Smart Learning Environments*, 11(1). <https://doi.org/10.1186/s40561-024-00296-8>
- Ramzan, M., & Ijaz, S. (2024). *A Systematic Review on Cognitive And Motivational Impact on English Language Learning Through Artificial.* 9808.
- Razoqey, S. M. (2024). The Role of Using Artificial Intelligence-Murf Application For Promoting Speaking Skill of Iraqi EFL College Students. *Assist. Journal of the College of Basic Education*, 30(124).
- Sharp, C. A. (2003). Qualitative Research and Evaluation Methods (3rd ed.). In *Evaluation Journal of Australasia* (Vol. 3, Issue 2, pp. 60–61). <https://doi.org/10.1177/1035719X0300300213>
- Sulistiyono, U., Haryanto, E., Widodo, H. P., & Elyas, T. (2020). The portrait of primary school English in Indonesia: Policy recommendations. *Education 3-13: International Journal of Primary, Elementary and Early Years Education*, 48(8), 945–959. <https://doi.org/10.1080/03004279.2019.1680721>.
- Tseng, Y. C., & Lin, Y. H. (2024). Enhancing English as a Foreign Language (EFL) Learners' Writing with ChatGPT: A University-Level Course Design. *Electronic Journal of E-Learning*, 22(2), 78–97. <https://doi.org/10.34190/ejel.21.5.3329>
- Williyan, A., Fitriati, S. W., Pratama, H., & Sakhiyya, Z. (2024). Ai As Co-Creator: Exploring Indonesian Efl Teachers' Collaboration With Ai in Content Development. *Teaching English With Technology*, 2024(2), 5–21. <https://doi.org/10.56297/vaca6841/lrdx3699/rzoh5366>