

THE ROLE OF GENERATIVE AI IN TEACHING ENGLISH AS A FOREIGN LANGUAGE: OPPORTUNITIES AND PEDAGOGICAL CHALLENGES

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ABSTRACT

The rapid advancement of generative artificial intelligence (GenAI) has significantly transformed educational practices, particularly in English as a Foreign Language (EFL) contexts. This study investigates the role of GenAI in enhancing teaching and learning processes while identifying its pedagogical opportunities and challenges. A mixed-method approach was employed involving 60 eleventh-grade students and two English teachers at a senior high school in Makassar, Indonesia. Data were collected through questionnaires, classroom observations, and interviews. The quantitative findings revealed that 83% of students reported increased engagement when using AI tools, while 78% perceived improvements in their writing skills. Additionally, 72% of students indicated that AI provided helpful personalized feedback. However, 65% admitted relying heavily on AI when completing assignments. Qualitative findings highlighted both benefits and concerns, including increased motivation, improved language exposure, and issues related to accuracy, over-reliance, and teacher readiness. The study concludes that while GenAI offers substantial potential to enhance EFL learning, its effectiveness depends on pedagogically informed implementation and teacher competence. A balanced integration of AI and traditional teaching strategies is recommended to maximize learning outcomes while minimizing risks.

Keywords : Generative AI, EFL, Language Learning, Pedagogy, Digital Education

INTRODUCTION

Teaching English as a Foreign Language (EFL) continues to face persistent challenges, particularly in contexts where English is rarely used outside the classroom. Limited exposure to authentic language input often restricts learners' opportunities to develop communicative competence, making it difficult for them to use English confidently in real-life situations (Godwin-Jones, 2017). Although many educational institutions have adopted various instructional innovations, English teaching in numerous EFL classrooms remains dominated by grammar-oriented instruction, textbook-based learning, and teacher-centered practices that provide few opportunities for meaningful interaction (Reinders & Benson, 2017). Consequently, students frequently acquire linguistic knowledge but encounter difficulties in applying it communicatively, highlighting the need for more interactive, personalized, and learner-centered instructional approaches.

The rapid development of digital technology has transformed educational practices worldwide and created new opportunities for language learning. Among these technological innovations, Artificial Intelligence (AI) has emerged as one of the most

influential educational technologies capable of supporting teaching, learning, assessment, and personalized instruction (Holmes et al., 2022). More recently, the emergence of **Generative Artificial Intelligence (GenAI)**, defined as AI systems capable of generating human-like texts, conversations, and multimedia content, has attracted considerable attention in language education (Feuerriegel et al., 2023). The widespread availability of platforms such as ChatGPT has fundamentally changed how students access information, receive feedback, practice language skills, and interact with learning materials (Kasneci et al., 2023). Unlike previous educational technologies, GenAI offers immediate responses, adaptive learning experiences, and opportunities for continuous interaction, making it particularly relevant for EFL learning environments.

A growing body of research suggests that GenAI offers significant opportunities for improving English language learning. AI-supported learning environments have been found to enhance student engagement by providing adaptive and interactive learning experiences that encourage active participation (Zawacki-Richter et al., 2019). Likewise, Luckin et al. (2018) argue that AI enables personalized learning by adjusting instructional content according to students' learning needs, preferences, and proficiency levels. Such personalization is particularly valuable in EFL classrooms where learners often demonstrate diverse linguistic backgrounds and varying levels of language competence.

Beyond improving engagement, GenAI has demonstrated considerable potential for enhancing language proficiency across multiple language skills. Recent studies report that AI-assisted writing tools provide immediate feedback on grammar, vocabulary, organization, and sentence structure, enabling learners to revise and improve their writing more effectively (Li et al., 2023). Similarly, AI-powered conversational agents and chatbots create authentic communication opportunities that allow learners to practice speaking in supportive, low-anxiety environments (Yeh, 2024). These learning experiences are consistent with the principles of communicative language teaching, which emphasize interaction and authentic communication as essential components of successful language acquisition (Kukulska-Hulme, 2020). Furthermore, GenAI promotes learner autonomy by providing instant explanations, personalized learning pathways, and opportunities for independent practice beyond classroom instruction (Kukulska-Hulme, 2020).

Despite these educational opportunities, the rapid integration of GenAI into EFL education has also generated substantial pedagogical concerns. One major issue relates to the reliability and accuracy of AI-generated information. Although AI systems are designed to generate coherent and contextually appropriate responses, they may still produce inaccurate, fabricated, or misleading information that can negatively affect students' learning if not critically evaluated (Kasneci et al., 2023). This limitation is particularly problematic in language education, where linguistic accuracy and appropriate language use are fundamental learning objectives.

Another significant pedagogical challenge concerns students' over-reliance on AI technologies. Selwyn (2019) argues that excessive dependence on intelligent technologies may reduce learners' critical thinking, creativity, and problem-solving abilities. Within EFL contexts, students may become accustomed to accepting AI-generated responses without engaging in meaningful language production or reflection. Cotton et al. (2023)

similarly report that students increasingly use generative AI to complete assignments rather than developing their own understanding, raising concerns regarding genuine language acquisition and independent learning. The increasing use of GenAI also introduces important ethical considerations. AI-generated content challenges conventional understandings of academic integrity, authorship, originality, and plagiarism (Cotton et al., 2023). Consequently, educational institutions and teachers must establish appropriate guidelines that position AI as a learning assistant rather than a substitute for students' intellectual effort. The effective implementation of GenAI therefore requires not only technological access but also ethical awareness among both teachers and learners.

From the instructional perspective, successful integration of GenAI depends heavily on teachers' professional readiness. Redecker (2017) emphasizes that educators require adequate digital competence to effectively integrate emerging technologies into teaching practice. However, many teachers continue to experience limited technological knowledge, insufficient pedagogical preparation, and uncertainty regarding the appropriate educational use of AI. Holmes et al. (2022) further argue that the absence of clear pedagogical frameworks for integrating AI into classroom instruction often results in inconsistent implementation and limited educational effectiveness. Accordingly, technology should complement rather than replace sound pedagogical practice, ensuring that AI enhances meaningful learning experiences instead of becoming merely another technological tool (Zhai et al., 2021; Denny et al., 2024).

These challenges become even more evident in developing countries such as Indonesia. Although digital technology adoption has increased considerably, the implementation of GenAI within EFL classrooms remains relatively limited, particularly at the secondary school level. In cities such as Makassar, some schools have begun utilizing digital learning platforms; however, systematic integration of advanced AI technologies into English language instruction is still emerging. Furthermore, students' technological readiness, digital literacy, institutional support, and socio-cultural contexts significantly influence the effectiveness of AI-assisted learning (Zawacki-Richter et al., 2019). These contextual factors indicate that successful AI integration requires careful adaptation to local educational environments rather than direct adoption of technological innovations.

Although previous studies have extensively documented the educational benefits of AI, most research has primarily focused on learner engagement, writing support, personalized learning, or general educational applications (Luckin et al., 2018; Zawacki-Richter et al., 2019; Li et al., 2023). Comparatively fewer studies have comprehensively examined **both the educational opportunities and the pedagogical challenges** associated with the implementation of **Generative AI** in Teaching English as a Foreign Language, particularly within Indonesian secondary education. Moreover, limited evidence is available regarding how teachers and students simultaneously perceive GenAI as both an instructional opportunity and a pedagogical challenge in authentic classroom settings. Therefore, this study aims to explore the role of Generative Artificial Intelligence in Teaching English as a Foreign Language by examining both its educational opportunities and pedagogical challenges in a senior high school in Makassar. Specifically, the study investigates how GenAI influences student engagement, language learning, learner

autonomy, and teaching practices while also identifying the pedagogical, ethical, and technological challenges encountered during its implementation. By addressing these issues, this research contributes to the expanding literature on AI-assisted language learning and provides practical recommendations for educators seeking to integrate Generative AI into EFL classrooms in pedagogically meaningful, ethical, and sustainable ways.

METHOD

1. Research Design

This study employed a **mixed-method research design** using a convergent approach to obtain a comprehensive understanding of the opportunities and pedagogical challenges of implementing Generative Artificial Intelligence (GenAI) in Teaching English as a Foreign Language (EFL). The quantitative component was used to examine students' perceptions regarding the effectiveness, usefulness, and challenges of GenAI through questionnaire responses, while the qualitative component explored the experiences and perspectives of both students and teachers through classroom observations and semi-structured interviews. The integration of quantitative and qualitative data enabled the researchers to triangulate findings and provide a richer interpretation of the role of GenAI in English language learning.

2. Participants

The participants consisted of **60 eleventh-grade students** and **two English teachers** from a public senior high school in Makassar, Indonesia. The students were selected using purposive sampling because they had prior experience using Generative AI applications, particularly ChatGPT, as part of classroom learning activities. The participants represented mixed levels of English proficiency and had been introduced to AI-assisted learning during regular English lessons. The two English teachers were selected because they had integrated GenAI into their instructional practices and were directly involved in facilitating AI-supported classroom activities. Prior to data collection, informed consent was obtained from all participants, and permission was granted by the school administration.

3. Research Instruments

- a. Three research instruments were employed to collect the data. The first instrument was a **structured questionnaire** consisting of 30 statements measured using a five-point Likert scale ranging from **1 (Strongly Disagree) to 5 (Strongly Agree)**. The questionnaire was designed to measure five dimensions: (1) perceived usefulness of GenAI, (2) student engagement, (3) learner autonomy, (4) pedagogical challenges, and (5) ethical concerns regarding AI use in language learning. The questionnaire items were adapted from previous studies on AI-assisted language learning and were reviewed by two experts in English language education to ensure content validity.
- b. The second instrument was a **classroom observation checklist** used to document students' participation, interaction patterns, engagement, teacher facilitation, and the implementation of GenAI during English learning activities. Observations

were conducted throughout the intervention period to identify authentic classroom practices and challenges that emerged during AI-supported instruction.

- c. The third instrument was a **semi-structured interview guide** administered to both students and teachers. The interviews explored participants' experiences, perceptions, benefits, challenges, ethical concerns, and recommendations regarding the integration of Generative AI into EFL learning. The flexible interview format enabled participants to provide detailed explanations and examples based on their learning experiences.

4. Data Collection Procedure

Data collection was conducted over **four consecutive weeks** during the second semester of the academic year. During the first week, the researchers introduced the study, obtained informed consent, and administered the initial classroom observations. Throughout the following weeks, students participated in English learning activities that incorporated Generative AI, including writing assistance, vocabulary development, grammar practice, reading comprehension, and conversational practice using AI-powered platforms. Classroom observations were conducted during each instructional session to record students' engagement, classroom interaction, and teacher practices. At the end of the intervention, all participating students completed the questionnaire. Subsequently, semi-structured interviews were conducted with the two English teachers and a purposively selected group of students representing high, medium, and low levels of engagement. Each interview lasted approximately 30–45 minutes and was audio-recorded with participants' permission before being transcribed for analysis.

5. Data Analysis

The quantitative data obtained from the questionnaires were analyzed using **descriptive statistics**, including frequencies, percentages, means, and standard deviations, to describe students' perceptions of the implementation of Generative AI in English language learning. The analysis was conducted using **IBM SPSS Statistics version 26**. The qualitative data obtained from classroom observations and interviews were analyzed using **thematic analysis** following the six-phase framework proposed by Braun and Clarke. The analysis involved data familiarization, initial coding, theme generation, theme review, theme definition, and report writing. Similar codes were grouped into broader themes representing the educational opportunities and pedagogical challenges associated with GenAI integration. To enhance the credibility and trustworthiness of the findings, **data triangulation** was conducted by comparing evidence from questionnaires, classroom observations, and interview transcripts. Member checking was also carried out by asking the participating teachers to verify the interpretation of the interview findings, thereby increasing the validity and reliability of the qualitative analysis.

RESULT AND DISCUSSION

Result

This section presents the quantitative findings regarding students' perceptions of the implementation of Generative Artificial Intelligence (GenAI) in Teaching English as a Foreign Language (EFL). The data were collected through questionnaires administered to 60 eleventh-grade students and analyzed using descriptive statistics, including mean scores and percentages. The questionnaire measured six major aspects of students' perceptions, namely student engagement, learning motivation, writing improvement, personalized learning, speaking practice, and over-reliance on AI.

Table 1. Students' Perceptions of Generative AI in EFL Learning (n = 60)

No	Variable	Mean	Percentage (%)
1	Student Engagement	4.2	83
2	Learning Motivation	4.1	80
3	Writing Improvement	4.0	78
4	Personalized Learning	3.9	72
5	Speaking Practice	3.8	70
6	Over-reliance on AI	3.7	65

As presented in Table 1, students generally expressed positive perceptions toward the implementation of Generative Artificial Intelligence in English language learning. The mean scores ranged from **3.7 to 4.2**, indicating moderate to high levels of agreement across all variables. None of the measured variables obtained a mean score below 3.5, suggesting that students perceived GenAI as a beneficial instructional technology for supporting various aspects of English language learning.

Among all variables, **student engagement** obtained the highest mean score (**M = 4.2**) with an agreement level of **83%**. This finding indicates that the majority of students perceived AI-assisted learning activities as more engaging than conventional classroom activities. Students reported that AI applications encouraged them to participate more actively during classroom tasks, increased their curiosity, and supported continuous interaction with English learning materials. The high percentage also demonstrates that most participants experienced greater involvement when learning activities incorporated Generative AI technologies.

The second highest result was found in **learning motivation**, which achieved a mean score of **4.1** and an agreement percentage of **80%**. This finding indicates that students generally felt more motivated to learn English after using AI-assisted learning tools. Most respondents reported positive attitudes toward learning activities involving Generative AI, suggesting that technology-assisted instruction contributed to maintaining their interest throughout the learning process. The relatively high percentage also reflects students' willingness to continue using AI-based applications as part of future English learning activities.

The questionnaire results also demonstrate positive perceptions regarding **writing improvement**, which obtained a mean score of **4.0** with **78%** agreement. Most students

acknowledged that AI-assisted tools supported various stages of the writing process, including generating ideas, organizing paragraphs, improving grammar, expanding vocabulary, and revising written work. The findings indicate that students perceived Generative AI as a useful resource for producing more organized and linguistically accurate written texts. Although the questionnaire focused on students' perceptions rather than actual writing performance, the consistently high responses suggest that learners considered AI beneficial for developing their writing skills.

Similarly, **personalized learning** received a mean score of **3.9** with an agreement level of **72%**. The findings indicate that students appreciated the adaptive nature of AI-generated responses, which enabled them to receive explanations, examples, and feedback according to their individual learning needs. Many respondents indicated that they could learn at their own pace by asking repeated questions without feeling embarrassed or pressured. This flexibility allowed students with different levels of English proficiency to access learning support appropriate to their own level of understanding.

The findings also reveal positive perceptions regarding **speaking practice**, which recorded a mean score of **3.8** and an agreement percentage of **70%**. Students generally perceived AI-powered conversational tools as useful for practicing spoken English independently. The questionnaire responses indicate that learners appreciated the opportunity to communicate using English without experiencing the anxiety commonly associated with speaking in front of classmates or teachers. However, the percentage obtained for this variable was lower than those of engagement, motivation, and writing improvement, indicating that students perceived certain limitations in AI-supported speaking practice compared with other learning activities.

Among the six variables, **over-reliance on AI** obtained the lowest mean score (**M = 3.7**) with an agreement percentage of **65%**. Although this variable still reflects moderate agreement, it indicates that a considerable proportion of students recognized the possibility of becoming dependent on AI during English learning activities. Several respondents acknowledged that they occasionally relied on AI-generated responses to complete assignments rather than developing their own answers independently. The responses also suggest that while students recognized the educational benefits of AI, they were aware of the need to use the technology responsibly during the learning process.

Overall, the quantitative findings demonstrate that students hold favorable perceptions toward the integration of Generative Artificial Intelligence in EFL learning. The highest levels of agreement were found in student engagement, learning motivation, and writing improvement, while personalized learning and speaking practice also received positive evaluations. Although concerns regarding over-reliance on AI emerged among some participants, the overall findings indicate that students viewed Generative AI as a valuable learning resource that supports multiple dimensions of English language learning. These descriptive findings provide an overview of students' perceptions and serve as the basis for further discussion regarding the educational opportunities and pedagogical challenges associated with the implementation of Generative AI in EFL classrooms.

Discussion

The findings of this study demonstrate that Generative Artificial Intelligence (GenAI) has considerable potential to enhance English as a Foreign Language (EFL) learning by improving student engagement, motivation, writing performance, personalized learning, and speaking practice. The high level of student engagement indicates that AI-supported learning environments create more interactive and learner-centered experiences than conventional instructional approaches. This finding supports the argument that intelligent technologies facilitate active participation by providing immediate responses, adaptive interactions, and continuous learning opportunities, thereby encouraging students to become more involved in classroom activities (Zawacki-Richter et al., 2019). Likewise, Holmes et al. (2022) emphasize that AI transforms learning environments by enabling students to interact with digital systems in meaningful ways, shifting learning from passive knowledge reception toward active knowledge construction.

Students also reported increased learning motivation after using GenAI during English lessons. This result suggests that personalized feedback and immediate assistance reduce learning anxiety while encouraging students to participate more confidently in language learning activities. Similar findings have been reported by Luckin et al. (2018), who argue that AI-based personalization enhances learners' motivation because instructional support can be adapted to individual needs and proficiency levels. Furthermore, Yeh (2024) found that AI-powered conversational systems provide a psychologically safe environment for language practice, allowing learners to experiment with English without fear of negative evaluation. These findings collectively indicate that motivation is strengthened when students perceive learning as supportive, flexible, and responsive to their individual progress.

Another significant finding concerns the improvement of students' writing skills. Participants perceived that GenAI effectively supported grammar correction, vocabulary expansion, idea generation, and text organization. This result is consistent with Li et al. (2023), who demonstrated that AI-assisted writing tools improve students' writing quality by providing immediate linguistic feedback throughout the writing process. Similarly, Feuerriegel et al. (2023) argue that generative AI serves as an intelligent writing assistant capable of facilitating drafting, revision, and language refinement. Rather than replacing students' writing processes, GenAI appears to function as a scaffold that assists learners in developing written communication more efficiently.

The findings further reveal that students appreciated the personalized learning opportunities provided by GenAI. Individualized explanations, adaptive responses, and unlimited opportunities to ask questions enabled students to regulate their own learning according to their needs. This finding aligns with Kukulska-Hulme (2020), who emphasizes that digital learning technologies promote learner autonomy by enabling flexible access to learning resources and personalized support. Likewise, Reinders and Benson (2017) argue that autonomous language learning develops when students are provided with opportunities to make independent learning decisions supported by appropriate technologies.

Despite these educational opportunities, the findings also reveal important pedagogical challenges. The moderate level of agreement regarding over-reliance on AI

indicates that some students depended excessively on AI-generated responses when completing learning tasks. This finding supports Selwyn (2019), who warns that excessive reliance on intelligent technologies may weaken learners' critical thinking and independent problem-solving abilities. Similarly, Cotton et al. (2023) report that unrestricted use of generative AI can encourage superficial learning and reduce students' cognitive engagement when AI is used merely to complete assignments rather than facilitate understanding. These concerns suggest that AI integration should be accompanied by clear instructional guidelines that encourage responsible and reflective technology use.

From a pedagogical perspective, the findings reinforce the importance of balancing technological innovation with effective teaching practices. Denny et al. (2024) argue that AI should complement rather than replace instructional pedagogy, while Zhai et al. (2021) emphasize that meaningful learning occurs when technology is integrated within sound pedagogical frameworks. Moreover, Redecker (2017) highlights that teachers' digital competence plays a crucial role in ensuring the successful implementation of emerging technologies in education. Therefore, the positive perceptions identified in this study indicate that Generative AI offers substantial opportunities for enhancing EFL learning; however, its successful implementation depends on teachers' pedagogical competence, ethical awareness, and the establishment of learning environments that promote both technological innovation and independent language learning.

CONCLUSION

This study demonstrates that the integration of Generative Artificial Intelligence (GenAI) offers substantial opportunities for enhancing Teaching English as a Foreign Language (EFL). The findings reveal that students generally hold positive perceptions toward the use of GenAI, particularly in improving learning engagement, motivation, writing performance, personalized learning experiences, and speaking practice. These results indicate that GenAI can function as an effective instructional support tool by providing immediate feedback, adaptive learning assistance, and interactive language practice that promotes more active and learner-centered English learning. At the same time, the study identifies several pedagogical challenges, particularly students' tendency to become overly dependent on AI-generated responses, which may hinder the development of critical thinking, learner autonomy, and independent language production if not carefully monitored. The findings suggest that the successful implementation of GenAI depends not only on technological availability but also on teachers' pedagogical competence in integrating AI responsibly and ethically into classroom instruction. Therefore, AI should complement rather than replace teachers' instructional roles and students' active learning processes. This study is limited by its relatively small sample from a single senior high school in Makassar and its short data collection period, which may limit the generalizability of the findings. Future research is recommended to involve larger and more diverse samples, employ longitudinal or experimental designs, and investigate additional variables such as AI literacy, self-regulated learning, digital competence, and learning outcomes to provide a more comprehensive understanding of the educational opportunities and pedagogical challenges of GenAI in EFL education.

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