

An Exploratory Qualitative Investigation of ESL Postgraduate Students' Experiences and Perceptions of AI-assisted English Language Learning

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ABSTRACT

Artificial intelligence (AI) is considered a valuable tool for enhancing postgraduate students' English Language Learning (ELL) skills. Grounded in cognitive learning theory, this research highlights the role of AI in supporting student language learning experiences. Specifically, the small-scale exploratory study examines how students perceived the use of AI in supporting their English language learning, the perceived benefits of AI integration on their academic development, and their perceptions on the roles of teachers in this evolving context. A qualitative research approach using a case study design was employed in this study. Semi-structured interviews were conducted with three participants to gather the data. Using thematic analysis, the findings revealed that although there were persistent challenges such as technical constraints and content inadequacy, AI was perceived to assist students through active learning in the absence of their lecturers. Furthermore, teachers are expected to guide students in using AI and should actively upskill themselves. Consequently, AI was considered useful in advancing ESL postgraduate students' ELL development. These results add to the literature on AI integration in English language education, serving as a reference for future research and offering practical insights for educators and policymakers.

Keywords: Postgraduate students, English language learning, artificial intelligence, cognitive learning theory

INTRODUCTION

English Language Learning (ELL) plays a crucial role in academic, professional, and social communication, especially for ESL students studying in higher education. In this context, ESL students are from diverse cultural and linguistic backgrounds acquiring English to meet rigorous academic and professional demands (Yacob et al., 2022). English is not only a medium for communication but also a medium for postgraduate students to enhance critical thinking, write academic texts, and communicate professionally (Fajaryani et al., 2025). However, many ESL postgraduate students still struggle with using English for advanced writing, particularly in coherent and cohesive writing, as well as confident academic speaking. Traditional learning methods may not always provide immediate or personalized feedback, while artificial intelligence (AI) offers the potential for instant, flexible, and individualized language support (Liu et al., 2024).

Artificial intelligence (AI) has recently become an innovative solution to offer instant, flexible, and individualized language learning support (Liu et al., 2024). A growing variety of AI technologies, ranging from automated writing assistants and grammar checkers to conversational chatbots and speech recognition software, are gradually being utilized in English language education. These applications provide immediate feedback that helps students enhance vocabulary, improve grammatical structures, and practice speaking skills in less anxious environments. By having real-time evaluations, ESL postgraduate students can improve the structural clarity of their writing and oral fluency (Chong, 2023; Kim et al., 2023). Therefore, examining current AI tools and investigating their influence on English language skills is important for understanding

how postgraduate students perceive technology in supporting their English language learning.

However, the integration of AI tools in English language learning also leads to notable challenges that require careful consideration. Main concerns such as students' over-reliance on automated suggestions, the inaccuracy of AI-generated feedback, and academic integrity issues can be significant obstacles (Cotton et al., 2023; Kasneci et al., 2023). Moreover, the prevalent growth of educational technology changes traditional classroom dynamics, where the role of teachers has shifted from acting solely as main sources of information to digital facilitators who assist and guide students to use AI ethically, strategically, and critically (Chiu et al., 2023; Zawacki-Richter et al., 2019). Addressing these practical and pedagogical paradigm shifts of teachers' roles is essential to creating balanced and technology-supported English language learning environments.

Despite the wide availability of AI platforms, it remains unclear how ESL postgraduate students use AI to enhance their English language skills in an academic setting. Although AI has demonstrated potential in supporting writing, speaking, and students' engagement (Liu et al., 2024), students' usage patterns, realized benefits, and practical challenges vary widely among students, and traditional classroom support often falls short of addressing these individual variations in English language learning. To bridge this gap, this study explores how ESL postgraduate students perceive their use of AI to enhance their language learning. Therefore, the research objectives for the present study are:

1. To investigate the postgraduate students' experiences in using the current AI technologies for English language learning.
2. To explore the perceived benefits of AI support in developing English language skills.
3. To examine the challenges experienced by the postgraduate students regarding the integration of AI into English language learning.
4. To identify their perceived evolving role of teachers in integrating AI tools into English language learning.

LITERATURE REVIEW

THEORETICAL FRAMEWORK

This study is grounded in Cognitive Load Theory (CLT), originated by Sweller (1988), who provided a psychological framework to understand how the human brain works and stores information. CLT posits that human memory is a strictly limited working memory and an expansive long-term memory and human knowledge can be divided into two. Firstly, the primary information is processed and acquired unconsciously through natural evolutionary processes, for instance, in learning the first language. Secondly, secondary information requires conscious effort to learn a second language and receive explicit instructions (Sweller, 2024). Overloaded working memory will inhibit students' effective learning due to overwhelming irrelevant information. Consequently, educational approaches tend to reduce extraneous cognitive load that processes unnecessary information to allow students to improve their memory retention (Feng, 2024).

From the perspective of implementing AI in ELL, CLT offers a comprehensive theoretical understanding of how AI-driven tools may improve or hinder learning outcomes. In academic settings, ESL postgraduate students often face severe cognitive loads in doing their academic tasks that require complex linguistic structures, sophisticated vocabulary, and content domain knowledge simultaneously. AI adaptive learning platforms and instant feedback tools can adapt their learning experiences to their cognitive abilities. This helps them reduce unnecessary cognitive burdens and provide personalized content at the correct level of complexity (Liu et al., 2024). This targeted support assists them to manage their working memory capacity more effectively while meeting demanding academic requirements.

Empirical studies demonstrated that AI-driven interventions in ELL improved students' knowledge retention, engagement, and cognitive efficiency (Gkintoni, 2025). Positioned within the CLT framework, AI works as a

tool, ensuring students' cognitive load is considered and making room for the more important mental load to take place so that students can utilize their primary mental resources for higher-order tasks that require advanced critical analysis and coherent synthesis. AI serves as a cognitive scaffolding device during the process of language learning, enabling students to concentrate their mental resources on the most relevant aspects. AI can help manage cognitive load, thereby enhancing both short and long-term memory retention, leading to more efficient and accessible language acquisition.

AI and Receptive and Productive Skills

AI has proven to be a key factor in improving learners' receptive abilities, especially in listening and reading comprehension. Through AI applications, students can enjoy personalized learning experiences, allowing them to pay attention to the language input effectively, while adaptive feedback and speech recognition allow them to practice at their own pace (Qiao & Zhao, 2023; Rohmiyati, 2025). Students who utilize AI-based applications improved listening comprehension while increasing their motivation, autonomy, and confidence (Andino et al., 2025; Loebis, 2025). AI speech recognition technology not only assisted in enhancing learners' listening comprehension but also reducing their listening anxiety (Xiao, 2025). Postgraduate students also reported that AI can help them improve their listening skills, as the video and audio shown offer effective input that does not overwhelm students (Çepni et al., 2025). This shows that using AI as a learning aid for listening comprehension helped learners to learn comfortably without being pressured. In terms of reading comprehension, Lee (2025) stated that chatbots helped students understand factual information, main ideas, and text structures in reading tasks. Similarly, Sudin and Swanto (2024) reported that AI-produced personalized reading materials enhanced ESL learners' reading comprehension and motivation. A study examining postgraduate students found that AI tools such as ChatGPT and ChatPDF have made reading easier as they excel in clarifying concepts and tailoring reading experiences (Abdullah et al., 2025). Thus, AI offers more effective and engaging receptive language learning skills, which will help learners comprehend spoken language effectively.

On the other hand, productive skills entail one's ability to communicate through writing and speaking. Postgraduate students were found to be more inclined to conduct research on their productive skills than receptive skills (Çepni et al., 2025). Rohmiyati (2025) argued that AI is known to be useful in terms of students' productive skills development because it can actively redefine traditional methods rather than just supplementing them. Cheng et al. (2025) studied graduate ESL students' use of generative AI for their writing skills and discovered that AI could design learning that met individuals' needs of improving their writing skills without compromising ethical standards. A study of students before and after the usage of AI suggested that they performed better on their writing, exhibiting greater vocabulary range and sentence variety post AI usage (Mohamed & Elsayed, 2024). This shows students benefit from using AI in language learning. Although AI has been successful in improving students' vocabulary usage, language use, spelling, and punctuation, studies found that it was less effective at improving their sentence organization and content (Marzuki et al., 2023; Rahman et al., 2022). Most studies agree that this is credited to AI's feature of being able to provide immediate feedback and suggestions (Crompton et al., 2024; Dasam et al., 2024; Ekizoğlu & Demir, 2025; Guo et al., 2024). Swargiary and Roy (2024) examined postgraduate students from different universities and found that they tended to be less proficient in public speaking, expressing the need for tailored learning materials. These issues could be mitigated with the use of AI, as AI has been useful for improving speaking proficiency. As supported by Jantakoon et al. (2025) and Zou et al. (2023), this is due to AI tools' features, which can analyze speech in real time and give dynamic feedback. Other studies have also reported increased confidence levels with AI use, as they no longer fear making mistakes when speaking (Huong, 2025; Radhiyya et al., 2025; Qin & Zhong, 2024). In addition, Fryer et al. (2021) and Du and Daniel (2024) found that AI helped students overcome shyness when interacting with others. Thus, speaking skills can be nurtured through active lessons with AI tools.

AI in English Language Learning

AI technologies are changing how ESL students learn, providing flexible, tech-driven, and personalized outcomes. Chatbots, speech recognition, and intelligent tutoring systems support language learning by

designing specific pathways and real-time feedback (AbuSahyon et al., 2023; Kristiawan et al., 2024; Kuddus, 2022; Rohmiyati, 2025; Sharadgah & Sa'di, 2022). These resources increase independent learning, student engagement, and fluency in speaking and writing (Ghafar et al., 2023; Kristiawan et al., 2024). But integrating AI tools has its limitations. Teachers are often unable to implement these technologies because they have limited resources and lack readiness. Systemic issues such as technical challenges and privacy concerns also influence AI adoption in ESL classrooms (Crompton et al., 2024; Son et al., 2025).

AI has the potential to enhance ELL, but it has challenges for educators. These technologies can enhance general language skills (speaking, writing, and listening) and make learning more engaging (Fattah et al., 2023; Ghafar et al., 2023). ChatGPT, for instance, is capable of providing students with personalized feedback to help with writing skills (Jamshed et al., 2024). Rather than replacing human teaching, AI should be a tool for students to develop. However, technology breakdowns, the need to adapt teaching methods, and unequal access to AI tools are hurdles for educators (Crompton et al., 2024; Guzmán Alvarado & Naranjo Andrade, 2025).

AI technology has great promise for language learning but is not without technical, instructional, and ethical issues in English education. Systemic limitations and software failures are among the greatest obstacles to learning the basics of language (Crompton et al., 2024). The effectiveness of the integration should depend on teacher readiness and professional development to be properly used (Kohnke et al., 2023). Chatbots like ChatGPT also raise concerns for academic integrity and student dependency and could undermine the authenticity of language education (Al-khresheh, 2024; Kostka & Toncelli, 2023). Yet, good AI tools should work well with students in English as a Foreign Language (EFL) situations (Yang et al., 2022).

AI integration into ELL is transforming education, with both opportunities and challenges. Teachers are crucial for AI tools that can increase language learning and meet student needs (Rohmiyati, 2025). When implemented properly, these technologies provide teachers with new teaching techniques and professional development to prepare them to better support customized language learning for all students (Al-Smadi et al., 2024; Kovalenko & Baranivska, 2024; Zulkarnain & Yunus, 2023). But the lack of technology integration, such as infrastructure and training, can limit these advantages (Kovalenko & Baranivska, 2024; Zulkarnain & Yunus, 2023). Additionally, teachers are confronted with ethical issues of data privacy and student surveillance in order to ensure a safe learning environment (Hockly, 2023).

METHODOLOGY

Research Approach and Sampling

This study employed a qualitative research approach using a case study design to gain some insights on how ESL postgraduate students perceived their use of AI to enhance their English language skills. Qualitative research is especially appropriate for examining how and why a phenomenon occurs within a specific context (Busetto et al., 2020). The case study design was suitable, as it focused on understanding the participants' experiences, perceptions, and challenges within a real-world setting (Yin, 2018), rather than measuring their use of AI from a numerical perspective. A purposive sampling strategy was chosen in selecting the sample. According to Tajik et al. (2024), a purposive sampling strategy can provide rich, context-specific insights exploring complex phenomena in depth while maintaining conceptual coherence relevant to the aim of the study. To identify relevant participants, a set of criteria was determined as a guide: postgraduate students studying in one public university in Malaysia who use English as a second language and have experience using AI tools for ELL were included. Based on these criteria, three postgraduate students were selected as the sample for this exploratory case study. The small sample could gain more information power, as the sample belonged to a shared academic environment. It also provides contextual, in-depth insights into individual experiences rather than generalizable objective outcomes. According to Boddy (2016), it is easier to identify the emerging patterns and themes from the data, making small samples sufficient to understand the phenomenon within that specific context.

Instrument

Semi-structured interviews were used as the instrument of the study. The interview questions were carefully adapted from Rohmiyati (2025), which served as the main reference to suit the context and purpose of the present study. Based on the research objectives, a total of ten questions were developed to gather the data, and probing questions were added during the interviews to encourage elaborations on the ESL postgraduates' personal experiences to elicit richer and comprehensive responses (Roberts, 2020). To strengthen the validity and reliability, the interview questions were reviewed by an expert in the ESL field. The feedback from the expert helped with the alignment of the interview questions with the research objectives (Omam et al., 2023), thereby enhancing the overall quality and rigor of the data collection process.

Data Collection Procedures

The data collection process started after the interview protocol had been developed and validated via an expert review process. Following the selection criteria, three individuals were selected for the research. The consent to be interviewed was obtained from the participants, and the interviews were scheduled at the participants' most convenient time to adhere to ethical research standards (Arifin, 2018). They were interviewed individually for approximately 30 minutes to assess their perceptions, experiences, and opinions about the use of AI tools in English language learning (ELL). The interview responses were recorded and transcribed verbatim for further analysis using Nvivo software.

Data Analysis Method

Thematic analysis was employed in analyzing the data, as it provides a systematic but flexible approach to identifying and reporting recurring patterns in qualitative data (Braun & Clarke, 2006; Cernasev & Axon, 2023), particularly the participants' experiences and perceptions of the use of AI in ELL in this study. The researchers reviewed interview transcripts several times to get familiar with the data and then assigned the relevant responses the initial codes based on their meanings. Similar codes and recurring ideas were grouped into larger themes. To establish intercoder reliability, the researchers coded the interview transcripts independently and compared their coding decisions. Any differences were discussed until consensus was reached (O'Connor & Joffe, 2020). The researchers subsequently reviewed and refined the themes to ensure that they were supported by the responses of the participants and that they were relevant for the purposes of the research. Expert reviews were also performed on the codes and themes to ensure they were appropriate for interpretation. Finally, the themes were identified and used for interpretation, presentation, and discussion of the findings.

Reliability and Validity

Several measures were used to establish the credibility and trustworthiness of the study. The content validity of the interview protocol was verified by aligning the ten questions with the four research questions. The protocol was also reviewed by an expert for clarity, relevance, and suitability before being amended (Sánchez-Guardiola Paredes et al., 2021). Intercoder reliability was used to ensure coding consistency by comparing the researchers' codes and resolving differences through discussion (Cheung & Tai, 2023; Coleman et al., 2024). An audit trail was kept so that the interview questions, transcripts, codes, themes, and revisions were transparent throughout the research process (Korstjens & Moser, 2018; Nowell et al., 2017). In addition, there was a thick description of context and quotes from the participants to allow readers to assess the transferability of the findings (Korstjens & Moser, 2018). Thus, in general, these methods increased the credibility, dependability, confirmability, and transferability of the study.

FINDINGS AND DISCUSSIONS

This section presents the empirical findings gathered through thematic analysis of the interview transcripts. A thorough interpretation was made by integrating these results into a comprehensive discussion and comparing them with relevant previous studies to highlight some meaningful insights.

Postgraduate Students' Experiences in Using the Current AI Tools for English Language Learning

The themes found regarding AI technologies used in ELL are language support features and learning support and engagement. Participants agreed that AI tools enhance language use through grammar correction, sentence restructuring, and vocabulary enrichment.

Language Support Features

They suggested that language accuracy in writing tasks could be improved by AI, and Grammarly helped identify often-overlooked mistakes.

"Umm, but it does help me in, like, checking the accuracy of the language used." (Participant 1)

"I think for writing is where I use AI the most because it can help me fix the grammar and vocabulary and suggest ideas." (Participant 2)

"Okay, well, for Grammarly, it helps me in spotting mistakes that I normally miss, so I learn the correct sentence structure, lah. It also helps me in paraphrasing my sentences." (Participant 3)

Regarding sentence restructuring and paraphrasing, participants noted that AI provided alternative sentence constructions and suggestions that improve the clarity and quality of their writing. AI was also used to paraphrase sentences while maintaining the intended meaning.

"AI could give me the appropriate suggestions for me to improve my writing." (Participant 1)

"It also helps me in paraphrasing my sentences." (Participant 3)

The participants further reported that AI contributed to vocabulary enhancement by suggesting synonyms, reducing repetitive word usage, and explaining unfamiliar words or terms.

"So, that also helped me to gain more vocabulary." (Participant 1)

"AI can highlight the word 'maybe' when we repeat the same word too often and suggest the synonym because it also has the automated correction when we use Google Docs." (Participant 2)

AI-supported accessible self-learning appeared as a key component in language instruction. The participants perceived AI as a flexible tool to learn on their own and continuously practice the language together with traditional education. AI was found to promote a collaborative learning environment (Al Balushi, 2025; Ghannam et al., 2025).

"Uh, and when you're using apps like Duolingo, right, you could actually repeat the question." (Participant 1)

"I can do it anytime because yeah, it's just me and AI, right?" (Participant 2)

These findings are consistent with previous research that has demonstrated the benefits of AI tools in language skill development. AI enables learners to check accuracy and identify missed mistakes, as Ghannam et al. (2025) stressed that instant feedback from tools like Grammarly is extremely useful since it helps self-correct and enhance language accuracy. AI can also aid vocabulary growth by suggesting synonyms, reducing repetition, and clarifying unfamiliar terms. This is in line with AbuSahyon et al. (2023) and Ghannam et al. (2025), which both highlight the role of AI in vocabulary development and the development of learner confidence in English.

Learning Support and Engagement

The participants highlighted the role of AI in supporting learning and increasing engagement particularly in idea generation as mentioned by all three participants below.

"I also use, uh, Quillbot and Google AI for a quick search when it comes to, like, vocabulary, right, and pronunciation." (Participant 1)

"I also rely on Gemini, Microsoft Office, and Perplexity for things like pitching ideas or getting suggestions on how to start the assignment or brainstorming, something like that." (Participant 2)

"So, for Grammarly, you know, it is for fixing my grammar and rephrasing my sentences, and ChatGPT solely used for helping me in finding ideas." (Participant 3)

The participants also valued the instant feedback provided by AI tools. AI also allowed them to receive corrections, suggestions, and explanations right away.

"And I also like that AI gives you instant feedback, right, compared to if I were to ask a human being..." (Participant 1)

"...it also has the automated correction when we use the Google Docs." (Participant 2)

It was also discovered that AI tools were often used by participants. ChatGPT and Grammarly were reported to be frequently used for academic writing and coursework as well.

"I definitely would use something like Grammarly, ChatGPT sure, I have used Duolingo but it's for another language. I also use uh Quillbot, and Google. Almost daily." (Participant 1)

"I use Grammarly quite often. I also rely on Gemini, Microsoft Office and Perplexity." (Participant 2)

"I mostly use Grammarly and ChatGPT for my studies." (Participant 3)

The findings indicated that participants frequently used AI tools to brainstorm ideas, suggest ideas and start assignments, which is in line with Rahman et al. (2025) and Chia and Frattarola (2025) who found that AI tools support creativity and idea generation by encouraging students to explore other points of view. Mou (2026) points out that students often view AI as a helpful tool for refining ideas and building confidence and feel that AI tools are useful for learning. However, prior studies also indicated that reliance on AI tools could reduce the critical thinking and independent learning skills of students (Attaluri & Mudunuri, 2025; Rahman et al., 2025). AI should complement, not replace student learning.

Perceived Benefits of AI Support in Developing English Language Skills.

Receptive Skills

The perceived benefits of AI use in receptive skills are presented through reading development and listening development, respectively.

Reading Development

AI supports reading development through reading comprehension and vocabulary support. All participants stated that AI helped learners learn better by simplifying texts to understand details and understand unknown concepts. The findings align with Lee (2025), who found that ChatGPT enhanced learners' understanding of factual information, text structures, and main ideas. They also reported that AI assisted in providing clearer explanations of academic texts, summarising long texts, and improving overall understanding of academic texts and the more abstract aspects of text knowledge as well.

"So, I think it could help me to understand the text better." (Participant 1)

"I can maybe fully understand the full purpose by asking AI." (Participant 2)

Moreover, the participants indicated the role of AI in vocabulary development in which AI helped students

understand hard words, technical terms, and new phrases in academic texts. They felt that these explanations make reading easier and help vocabulary building. Similarly, Sudin and Swanto (2024) found that ESL learners' reading comprehension and motivation were improved by using AI generated personalised reading materials.

"So, by using AI, you could actually ask the AI to like help to simplify the ideas." (Participant 1)

"I can just go back to AI and ask to help summarising maybe the main points or explain that difficult jargon or technical terms in simpler English to make me easy to understand what the research is about." (Participant 2)

"Maybe it can help by explaining some difficult words, or maybe it can give meaning about the sentences." (Participant 3)

The findings imply that participants perceived AI as helpful in supporting text comprehension and vocabulary acquisition. Participants reported that AI helped them to understand complex content, explain unfamiliar vocabulary, summarise lengthy academic materials, and provide clarification in terms of difficult concepts. The result suggests that AI serves as a learning aid, which helps learners to grasp academic texts better.

Listening Development

Listening comprehension emerged as another area of perceived support for AI integration into ELL. AI-enabled tools help learners hear spoken language through interactive listening activities, pronunciation models, transcriptions, and immediate feedback, as the participants reported.

For example, participant 1 noted that the use of AI applications like Duolingo to do listening exercises improved comprehension skills. Similarly, participant 2 stated that AI could help in understanding spoken input and it could be used to give feedback when needed, while participant 3 mentioned that AI helped students listen to different accents.

"We have apps named Duolingo, where there is interactive audio exercises, and there's also listening tests in a way. I guess it could help with comprehension." (Participant 1)

"Besides, I think it can also enhance my listening skills through maybe using a tool to detect whether I listen to words correctly or understood the input and AI can just give a correction or feedback." (Participant 2)

"I think AI can help students listen to different accent." (Participant 3)

These findings are consistent with Loebis (2025) and Xiao (2025), who highlighted that AI-based language learning applications could enhance learners' listening comprehension through personalised feedback, interactive listening exercise, and adaptive learning. The findings are strengthened by Andino et al. (2025), who discovered that using AI-powered chatbots to enhance listening comprehension provided beneficial results, with authentic language exposure and immediate feedback, in terms of motivation and confidence of the learners. Therefore, AI can be a helpful tool to improve listening comprehension through interactive practice and ongoing language support.

Productive Skills

The results of AI integration of productive skills are divided into two categories: speaking and writing development.

Speaking Development

The findings indicated that participants agreed that AI provides a good environment for learning spoken English in which learners are more confident in the language. Participants acknowledged that with AI in place,

it reduced the fear of mistakes in learning because there was no fear of others judging them. That made the learning easier and more comfortable, and AI also made it easier for people to use English more often. This is supported by Huong (2025), Radhiyya et al. (2025), and Qin and Zhong (2024) who highlighted that AI usage increased learners' confidence levels as they no longer fear making speaking mistakes.

"I believe that if students are used to using AI tools that could help with their speaking skills, in a way, I think they could be more confident when using English." (Participant 1)

"I think maybe confidence because we can practise speaking with AI without pressure or without fear of anyone judging you because we can hear maybe certain terms that how it should sound actually." (Participant 2)

"I think, for confidence, I think the students won't feel any pressure la. Because, you know, we are talking to a robot, and we don't have anything that can pressure us." (Participant 3)

As for pronunciation improvement, participants said AI provided pronunciation models and corrective feedback to identify and correct pronunciation errors. When they practice and use correct pronunciation more often, then they can learn English easily. This is aligned with previous studies that suggested AI improved speaking proficiency through immediate feedback, and speech analysis (Jantakoon et al., 2025; Zou et al., 2023).

"I guess students could learn. What, uhm... How to pronounce things." (Participant 1)

"For example, I can listen to maybe some the correct pronunciation of some complex words." (Participant 2)

Participants also mentioned that frequent interactions with AI helped in the development of fluency. When students have a conversation, practice what they would say and receive immediate feedback, they get more confident in expressing their ideas in English and the communication flows even better. Likewise, Fryer et al. (2021) and Du and Daniel (2024) reported that AI reduced speaking anxiety and helped learners overcome shyness which resulted in greater confidence and using English more often.

"I think it can strengthen my confidence and maybe a bit of fluency when I'm speaking." (Participant 2)

"I think AI also helps with fluency since like they can practice conversation with AI." (Participant 3)

As a result, the findings indicate that participants felt AI contributed positively to their speaking confidence and fluency. AI can facilitate speaking development through a supportive environment for continuous practice and improvement.

Writing Development

Academic writing was highlighted as an area where participants frequently sought and valued AI support. It seemed that all the participants used AI tools to enhance their written work to make it more accurate, organised and effective. They reported that AI assisted them with identifying mistakes, refining sentence structure, and increasing overall clarity of their writing. As a result, their writing was more cohesive and academically appropriate. This is supported by Crompton et al. (2024), Dasam et al. (2024), Ekizoğlu and Demir (2025), and Guo et al. (2024) who mentioned that AI tools could enhance writing quality by providing real-time feedback and vocabulary enrichment.

"So, it could help me in my grammar accuracy, in my vocabulary, and yeah, and all that." and "AI could give me the appropriate suggestions for me to improve my writing." (Participant 1)

"Google Docs even have the Gemini features to help us to refine the language or give suggestions and maybe to ensure that we can reduce bad seed or simple errors when we are writing." (Participant 2)

“Well AI can check the grammar mistakes like spelling, punctuation or maybe the sentence structure.” (Participant 3)

The findings suggest that participants found AI useful for refining sentence structure and clarifying written expression.

Challenges Experienced by Postgraduate Students in Integrating AI into English Learning Language

A free-to-use learning platform comes with its own set of challenges. AI in ELL has proven to pose a few challenges, under technical limitations and content, which include critical evaluation limitations, unreliability, generic or robotic responses, and technical issues.

Critical Evaluation Limitation

Participants noted that AI use caused students to lack critical thinking, due to overreliance.

“I think maybe the biggest challenge is that we depend too much on AI, like when we got our assignment or the lecturers asked us to do something, we just write straight to AI to get the answers without trying to do it by ourselves, first.” (Participant 2)

“Then we have the tendency to just copy and paste straight away from AI without actually learn and analyse the answer.” (Participant 3)

Both agreed that AI discouraged critical thinking over time. The findings showed that an active learner tended to become a passive learner when adapting AI into their learning process. Rohmiyati (2025) lamented that with heavy reliance on AI tools, students might miss out on important cultural context and AI tools caused hindrance to the students' ability to fully engage in language skills.

Unreliability

Another challenge is the need for specific contextual prompts to ensure reliability and accuracy. This issue was voiced by two of the participants.

“Sometimes I think if I ask a question too generally, sometimes it doesn't answer the way that I want it, like the points that I want is not like exactly what I asked.” (Participant 1)

“The issues from using AI, I think maybe accuracy because sometimes when we use AI, maybe we think that AI gives us a correct answer but maybe the actual this that is not quite contextually correct for English and it can confuse students when students are trying to look at the differences maybe in meaning or tone.” (Participant 2)

Participants stated that they felt AI might lack the contextual depth in its answers. It can sometimes be insufficient to answer questions that they need answers to. These findings align with existing studies revealing that AI tools frequently struggle with social context, appropriate tone, and subtle differences in meaning although AI tools handle basic grammar well (Klimova et al., 2024; Mai et al., 2024). As a result, without proper guidance or higher language skills, students may accept incorrect AI outputs as accurate, which can ultimately hinder their language development.

Generic or Robotic Responses

Students also reported that with AI, the lack of human touch was apparent. The participants expressed a sense of emptiness with AI responses.

“And I think if there's a third one, that would be the less, it feels less natural, like lack of human touch in a way, sometimes, like it feels to whether the answer could be quite generic, right?” (Participant 1)

“So, maybe the feedback or the answers that AI gives are not appropriate, it can miss the empathy or the tone or the cultural appropriateness that we need, or we want actually in our answers.” (Participant 2)

Unconsciously, students expect real-life connection with a man-made programme. These findings suggest that AI's empty, robotlike responses are contributing to students' doubt in using AI. This supports Rohmiyati's (2025) claim that AI might not recognise students' emotional needs, and they cannot replace human touch. Such challenges were also apparent in another past study, which found that students felt discouraged from using AI as their generic and robotic responses were disconnected from real life (Isaiah et al., 2026).

Technical Issues

Apart from the above challenges, participants also noted technical difficulties when using AI for ELL.

“And another one could be whenever there is a faulty system, probably somehow the system is down.” (Participant 1)

“So, I think it's hard for students to use the AI, like fully use their features because we cannot just, you know, like pay AI, pay everything to just use more features.” (Participant 2)

“Internet connection is the main problem when using AI.” (Participant 3)

All three participants mentioned various technical difficulties when it came to AI usage. These findings are in line with the view of Hamid et al. (2025) which stated that unstable connectivity and limited digital access reduced study workflows and students' engagement.

The Perceived Evolving Role of Teachers in Integrating AI Tools into English Language Learning

AI is considered a supplementary mentor when teachers are absent. Even so, the findings dictate that teachers are still needed and responsible as guides for students when incorporating AI in ELL.

Teacher as Guide and Mentor

As noted by the participants, the role of a teacher was to be a facilitator between AI and the student.

“I think a teacher should be a guidance, I guess, like a guide, because the job of a teacher is to teach, right? But if you want to include AI in learning, I guess it could be the guide.” (Participant 1)

“Okay, I think maybe more like mentor, like to guide us because teachers, lecturers, they are delivering the content to us and maybe at the same time, they can also guide students to use AI more responsibly and effectively because they can help us, uhm, maybe to ensure that AI tools are used correctly to enhance the learning rather than just leave us, you know, like replace the engagement with the language.” (Participant 2)

“What I mean is, they can help students to check whether the answer provided by AI is suitable for specific answer, for specific answer or not.” (Participant 3)

Consensus showed that a teacher played a role in AI use in ELL. Participants 2 and 3 noted a few ways in which a teacher could be a sufficient guide in AI integration: they could cross-check information, monitor correct AI use, and deliver the content to students. This is supported by Crompton et al. (2024) and Rohmiyati (2025), who stated that teachers are the bridge to a successful integration of AI into ELL.

Need for Teacher Technological Improvement

Teachers are also expected to upskill themselves to keep up with AI integration, as stated by participants.

“I think because nowadays everything is AI, right, in our modern era right now and I think teachers really need

to stay updated on the current AI technologies and they really need to understand how these tools can be integrated into classroom practice.” (Participant 2)

“Well, in my opinion, maybe teachers can attend workshops about AI tools, because, you know, workshops, right, they have a lot of practices and also theories about AI.” (Participant 3)

These findings support past studies which state that challenges such as structural inequities and inadequate training opportunities, hindered teachers' readiness to implement AI in diverse educational contexts (Rohmiyati, 2025; Kovalenko & Baranivska, 2024; Zulkarnain & Yunus, 2023). Therefore, the results suggest that educators and teachers alike need to enhance their AI skills to actively use AI tools in ELL.

CONCLUSION

This study indicates that AI was perceived to support ELL through advanced features such as grammar correction, vocabulary enhancement, sentence restructuring, instant feedback, and idea generation, which contribute to the development of listening, reading, speaking, and writing skills. Participants perceived AI as a valuable supplementary tool for self-directed learning, deeper understanding of learning materials, reduced anxiety when practising English, and faster access to information. However, several challenges were identified, including overreliance on AI, limited critical thinking, unreliable outputs, generic responses lacking human interaction, internet dependency, technical issues, and restricted access to premium features. The findings emphasised that even though AI can assist independent learning when teachers are absent, teachers remain important in guiding students to use AI responsibly, verifying accuracy, and bridging the gap between technology and learning. Therefore, AI holds potential as a supportive aid in ELL when integrated thoughtfully alongside teacher guidance.

Although this research provides insights on the integration of AI in ELL, it still has its limitations. Firstly, the small sample size from a specific homogenous group affects the generalizability of the study as it cannot capture the viewpoints from diverse groups of learners. Secondly, this research employed fully a qualitative research method which only offers the narrative accounts rather than numerical representations. Therefore, the findings should be considered as exploratory and context-bound only for the present research. For future research, a larger and diverse sample of ESL learners should be engaged to enhance applicability. Furthermore, future research would be best conducted using mixed methods design in order to reduce potential bias and provide more in-depth understanding of AI use in ELL. Additionally, a longer data collection period is recommended to explore learners' experiences and the long-term effects of AI on language development more effectively.

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