Artificial intelligence in EFL speaking activities and classrooms: A systematic literature review

Dian Toar Y. G. Sumakul
Satya Wacana Christian University, Indonesia
Virna Margetan
Monash University, Australia
Yustinus Calvin Gai Mali, Novia Cristiany Susetyo and Karolina O. Hitokdana
Satya Wacana Christian University, Indonesia

This study aims to explore AI tools that can be employed in EFL speaking activities, along with the potential benefits, classroom applications, and associated challenges. For this purpose, a systematic literature review was conducted, following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) protocol. A set of rigorous criteria, including types and quality of articles, contents, contexts of the study, and years of publication, was used to select 33 articles. An inductive coding analysis strategy was then used to analyse these articles. Our study reported 40 AI tools that teachers could use in their speaking classes. These tools could offer benefits to EFL learners' speaking skills development, from the perspectives of language, soft skills, and pedagogical aspects. The classroom applications were categorised into dependent learning, independent learning, supporting tools for learners, and supporting tools for lecturers. The associated challenges were categorised into eight themes: the language/content generated, AI biases, security risks, technical limitations, app designs, learners' AI literacy, teachers' limitations, and learners' perspectives. Our study serves as a valuable reference for EFL lecturers, educators, and teachers who wish to integrate AI tools into their EFL speaking classes.

Introduction

In the English as a foreign language (EFL) context, AI-powered tools have been integrated into many language classrooms. AI and its automation features have brought new dimensions to EFL discussions and practices, including its ability to communicate in human languages (Stone et al., 2016). With such capability, AI tools are now being utilised to enhance the teaching and learning of various language skills, including speaking skills. AI technology could offer more benefits to the teaching and learning of speaking skills. Among others, more personalised learning (Lege et al., 2024), instant feedback (Aldosari, 2024), and increased opportunities for speaking practice (Son et al., 2023) are some recognised potentials of the utilisation of AI tools in EFL speaking classrooms.

Despite the potential, there has been little research on AI and speaking skills (Pentina et al., 2023). From these few studies, one way to get a comprehensive overview of the integration of AI tools in speaking classrooms is to conduct a systematic review study. According to Gough et al. (2017), a systematic review is "a review of existing research using explicit, accountable, rigorous research methods" (p. 4). A systematic review would provide an overview of the existing knowledge about a research topic based on previous

studies. In relation to speaking and AI, the context of this study, a systematic review would provide more information, deeper insights, and wider perspectives on how AI is being utilised in EFL speaking classrooms and its implications.

Correspondingly, our study used a systematic review to look at existing and current studies on AI and speaking skills. For that purpose, we employed four research questions: (1) What are AI tools used by EFL lecturers to teach English speaking skills? (2) What are the potentials for AI tools in teaching English speaking skills? (3) How do EFL lecturers use AI tools to teach EFL speaking skills? (4) What are the challenges when using the AI tools? We expected that the results of this study would offer ideas to EFL teachers when integrating AI tools in their speaking classrooms, to researchers when designing research on AI and speaking skills, and to software developers when programming AI tools for speaking.

Literature review

Artificial intelligence and language learning

The term artificial intelligence (AI) was introduced by John McCharty in 1955 in the field of computer science. However, along with its development, the discussion on AI has involved contributions from many other fields, not limited to computer science, such as biology, philosophy, anthropology, psychology, and linguistics (Luckin et al., 2016). Given that complexity, it is not easy to find a single definition for AI. However, many agree that the general purpose of AI is about making intelligent machines that refer to human intelligence (Stone et al., 2016). With that sense, AI can be simply defined as machines that are programmed to think and act like humans (Russell & Norvig, 2016). In its application, for example, AI can perform some tasks in human professions such as factory workers, car drivers, customer service, doctors, lawyers, and educators.

In language classrooms, as AI is designed to replicate human intelligence, AI should be programmed to mimic language teachers (Matthews, 1993). Studies show that current AI technologies are able to perform tasks that were traditionally only associated with language teachers. AI can now facilitate learning in grammar (Kim, 2020), vocabulary (Wang et al., 2024), writing (Marzuki et al., 2023), reading (Hsiao & Chang, 2023), listening (Alrasheedi, 2024), and speaking (Darmawansah et al., 2025). Recent surveys also suggest that many EFL students perceive AI as beneficial to their learning (e.g., Aini et al., 2024; Ha, 2024; Shafiee Rad, 2024). The fact that AI can help EFL learners learn these basic knowledge and skills suggests that AI is now able to perform some roles of EFL teachers. Moreover, some studies also found that AI is capable of boosting learners' motivation (Yin et al., 2021) and fostering soft skills, such as critical thinking (Sumakul et al., 2022) and creativity (Adipat, 2023). These further imply that, in language teaching and learning contexts, the human teachers' tasks that can be performed by AI are expanding.

Artificial intelligence and speaking

Particularly in the area of speaking, the use of AI in teaching and learning of speaking skills has been increased since the introduction of chatbots, or conversational AI agents. Although not intentionally designed for speaking practice, chatbots can be used as a means for practising language, and one of them is for speaking. One of the primary functions of chatbots is to serve as conversational partners (Kim, 2020). The conversations could be conducted via both text-based and voice-based media, and studies show that these could help improve learners' speaking skills (Zou, Guan et al., 2023). While interacting with chatbots, learners could get several benefits. In addition to serving as a medium for speaking practice, chatbots could also help reduce speaking anxiety (Hapsari & Wu, 2022), promote personalised learning (Qassrawi et al., 2024), and enhance motivation (Annamalai et al., 2023). Although there were still issues with the application of chatbots in language classrooms, such as technical glitches (Li et al., 2025) and speech recognition errors (Zhang et al., 2024), the advantages they offer are still remarkable.

Apparently, AI tools that can be applied in speaking classrooms are not limited to chatbots. As speaking is not merely about conversations, other speaking skills-supporting elements could also be facilitated with other AI tools. For example, *Elsa* is an AI-powered tool that can help learners learn pronunciation (Nushi & Sadeghi, 2021). Another example is *Orai*, an AI tool that could help learners master public speaking skills through feedback on pace, tone, vocal energy, and the use of fillers (Fernandes et al., 2024). Some studies have also reported that AI-based shopping tools could help promote learners' soft skills while speaking (Adipat, 2023), while image and audio generator AI apps could help learners in preparing their presentation (Baskara et al., 2024) in speaking classrooms. In short, the automation feature of AI could help enhance the different elements of speaking skills.

Educators and researchers have been injecting AI tools into their speaking classrooms and investigating how those tools could impact teaching and learning. Some issues in traditional speaking classrooms, such as too many students in a class, speaking anxiety, various learning paces, fear of making mistakes, limited linguistic knowledge, and personalised attention (Labadze et al., 2023) could be mediated with the use of AI. AI seems to offer promises for better teaching and learning of speaking skills. These are evident in the existing studies on AI and speaking.

Previous systematic reviews on AI and speaking

Although scarce (Kim, 2020), studies on AI and speaking skills are emerging. These studies looked at various aspects of the use of AI in the teaching and learning of speaking skills. They also came in different types, such as empirical studies, experimental studies with control and experimental groups, classroom action research, and app reviews. They also came up with findings regarding perceptions from both teachers and students, teaching methods, advantages and disadvantages, potentials and challenges, and examples of classroom applications. As discussed earlier, to get a comprehensive understanding of

the topic on AI and speaking skills could be done through systematic literature review studies.

One systematic literature review study on AI and speaking was conducted by Sariyildiz et al. (2024). They examined 22 research articles published between 2020-2024. This study found that the application of chatbots in EFL classrooms came with several advantages and disadvantages. For the advantages, this study found that chatbots could be beneficial to the development of speaking skills because they provide advantages, such as authentic communication, immediate feedback, personalised feedback, human-like interactions, fun and easy activities, and good spoken English. However, there were also some disadvantages found. For instance, during the interactions with chatbots, there could be communication breakdowns, errors in speech recognition, irrelevant responses, and even security issues. Despite the disadvantages, this study suggests that chatbots would serve as effective AI tools for improving speaking skills.

In the same year, Du and Daniel (2024) conducted another systematic literature review study on EFL speaking and AI. Their study was also about the use of chatbots in EFL speaking classrooms, delving into 24 articles published between 2017-2023. Like Sariyildiz et al. (2024), this study also found some advantages and disadvantages in the use of chatbots in speaking activities. For the advantages, this study found that, among others, chatbots could help alleviate speaking anxiety, boost motivation, help pronunciation, and enhance interactions. However, the downside is that this study found that learners could also experience frequent disconnections during communication and problems with speech recognition.

In general, the integration of AI tools into EFL speaking classrooms presents a promising shift in language education. AI has progressively demonstrated its ability to support various dimensions of speaking instruction. Despite some technical and pedagogical challenges, existing studies highlight the potential offered by AI for EFL language classrooms. By synthesising findings from previous research using a systematic literature review approach, our study aims to inform educators, researchers, and developers about the effective use of AI technologies in enhancing speaking skills, while also identifying areas that require further exploration and innovation.

Methods

Research design

Our study used a systematic review method to explore previous studies discussing various AI tools for teaching and learning English-speaking skills in EFL classrooms. To select the articles to review in this study, the authors initially searched the studies in technology-related journals, such as *CALL-EJ, JALT-CALL, The Journal of Teaching English with Technology*, and *Language Learning with Technology*. However, articles relevant to the topic of this study were limited. Thus, each of the authors expanded their search from various databases, such as *Google Scholar, SCOPUS*, and *EBSCO*, the same databases used by previous systematic review studies (e.g., Bond et al., 2024; Lashari & Umrani, 2023). The

following keywords were used: artificial intelligence for English-speaking; AI for speaking; chatbots in EFL classrooms; AI for speaking in EFL classes.

Inclusion and exclusion criteria

The authors then thoughtfully selected articles retrieved from their search using the criteria in Table 1 to ensure the article's quality and relevance to answer the research questions. First, the articles should be written in English and published between 2023-2025. That way, it can be ensured that all the discussions and insights presented in this paper are current. Second, the articles should be published in peer-reviewed academic articles indexed in the *Scopus* database. If not indexed by *Scopus*, the articles should be cited by more than 10 previous studies. Third, the articles must emphasise the practical use of AI tools for English-speaking activities in EFL contexts in higher education settings. Fourth, the selected articles can be both empirical or non-empirical studies. Additionally, the authors agreed to include two articles from non-EFL contexts (i.e., Annamalai et al., 2023; Cherner et al., 2023), considering their insightful findings and discussions to answer the research questions in this study. For the same reasons, the authors also agreed to review four app-review articles discussing AI for teaching speaking.

Table 1: Inclusion and exclusion criteria

Criteria	Inclusion	Exclusion
Language	English	Non-English
Document	Journal articles	Non-journal articles (e.g., book chapters, books, conference proceedings, websites, or newspaper articles)
Article types and quality	Peer-reviewed articles indexed in SCOPUS. If not indexed by SCOPUS, the articles should be cited more than 10 times.	Non-peer reviewed articles, non-SCOPUS indexed. If not indexed by SCOPUS, the articles are cited less than 10 times.
Content	Discussing the use of AI for teaching and learning EFL speaking skills; telling specific AI tools used for the speaking activities	Not discussing the use of AI for teaching and learning EFL speaking skills; not telling specific AI tools used for the speaking activities/ not related to EFL speaking skills
Context of study	EFL contexts in higher education settings	Non-EFL contexts; non-higher education settings
Year of publication	2025-2023	Before 2023

The next stages were eligibility and inclusion. By strictly following the criteria in Table 1, each author independently searched for the articles relevant to the research questions. With the inclusion and exclusion criteria displayed in Table 1, the authors carefully examined the abstracts, methods, findings, and conclusion sections of the previous studies and initially found 75 articles eligible for review in this study. The authors finally selected 33 articles to be included in this study, as listed in Table 2. The 33 articles are from 25

journals; most are educational-related journals, while a few are educational-technology journals. Of the 33 articles, 19 (57%) were published in 2024, 10 (31%) were published in 2023, while the other four (12%) were published in 2025.

Table 2: The articles reviewed in this study

Code	Author(s) (year)	Journal	Journal homepage
S1	Aldosari (2024)	CALL-EJ	https://callej.org/index.php/journal
S2	Pack (2023)	CALL-EJ	https://callej.org/index.php/journal
S3	Moxon (2024)	CALL-EJ	https://callej.org/index.php/journal
S4	Ha (2024)	CALL-EJ	https://callej.org/index.php/journal
S5	Fathi et al. (2024)	System	https://www.sciencedirect.com/journal/system
S6	Shafiee Rad (2024)	Innovation in Language Learning and Teaching	https://www.tandfonline.com/journals/rill20
S7	Zhang et al. (2024)	System	https://www.sciencedirect.com/journal/system
S8	Sayed et al. (2024)	Language Testing in Asia	https://link.springer.com/journal/40468
S9	Zou, Guan et al. (2023)	Sustainability	https://www.mdpi.com/journal/sustainability
S10	Darmawansah et al. (2025)	Educational Technology Research and Development	https://link.springer.com/journal/11423
S11	Lo et al. (2025)	Studies in English Language and Education	https://jurnal.usk.ac.id/SiELE
S12	Qiao and Zhao (2023)	Frontiers in Psychology	https://www.frontiersin.org/journals/psychology
S13	Cherner et al. (2023)	Journal of Interactive Learning Research	https://aace.org/pubs/jilr/
S14	Zou, Lyu et al. (2023)	Computer Assisted Language Learning	https://www.tandfonline.com/journals/ncal20
S15	Wang (2025)	SAGE Open	https://journals.sagepub.com/
S16	Busso and Sanchez, (2024)	Technology in Language Teaching and Learning	https://www.castledown.com/journals/tltl
S17	Chen (2024)	JALT CALL	https://www.castledown.com/journals/jaltcall
S18	Lege et al. (2024)	Technology in Language Teaching and Learning	https://www.castledown.com/journals/tltl
S19	Qassarawi et al. (2024)	Forum of Linguistic Studies	https://journals.bilpubgroup.com/index.php/fls
S20	Zou, Du et al. (2023)	SAGE Open	https://journals.sagepub.com/
S21	Al-Shallakh (2024)	Theory and Practice in Language Studies	https://www.academypublication.com/tpls/
S22	Baskara et al. (2024)	Language Teaching Research Quarterly	https://www.eurokd.com/journal/jd/18
S23	Annamalai et al. (2023)	Computers and Education: Artificial Intelligence	https://www.sciencedirect.com/journal/computers-and-education-artificial-intelligence

Code	Author(s) (year)	Journal	Journal homepage
S24	Dennis (2024)	IAFOR Journal of Education	https://iafor.org/journal/iafor-journal-of-education/
S25	Kim and Sim (2024)	English Language Teaching	https://academic.oup.com/eltj
S26	Adipat (2023)	International Journal of Instruction	https://www.e-iji.net/
S27	Dakhil et al. (2025)	International Journal of Language Testing	https://www.ijlt.ir/
S28	Bin-Hady et al. (2023)	Library Hi Tech	https://www.emeraldgrouppublishing.com/journal/lht
S29	Son et al. (2023)	Journal of China Computer-Assisted Language Learning	https://www.hssonline.cn/yyznjx/en/home/
S30	Mustopa et al. (2024)	International Journal of Learning, Teaching and Educational Research	https://www.ijlter.org/index.php/ijlter
S31	Duong and Suppasetseree (2024)	International Journal of Learning, Teaching and Educational Research	https://www.ijlter.org/index.php/ijlter
S32	Meng and Zhang (2024)	RELC Journal	https://journals.sagepub.com/home/rel
S33	Wan and Moorhouse (2024)	RELC Journal	https://journals.sagepub.com/home/rel

Workload distribution and peer debriefing

For the workload, the following distributions were agreed. All authors were responsible to search the articles to review using the inclusion and exclusion criteria. For reviewing the 33 articles, however, 16 articles were reviewed by the first author (T), 11 articles by the second author (V), and six articles by the third author (C). V created a *Google Sheet* where each of the authors could report important points of their reviewed articles (i.e., the title of the articles, name of the journal, research design and instruments, research participants, list of the AI tools, potential and challenges of the AI tools for teaching and learning EFL speaking). The fourth and fifth authors (N and K) helped checked the categories in the sheet. After all sections in the sheet were completed, the authors had three *Zoom* meetings, each lasting around 30-45 minutes, on 17 February, 5 April and 1 May 2025, to discuss the findings. N and K were assigned to create the tables in the appendices and put the findings on those tables. During the research process, T also made a *WhatsApp* group to communicate with one another and allowed the research members to post any questions and discussions related to the research. This peer debriefing strategy, where "the members of the qualitative research team check one another's work and act to keep one another honest" (Ary et al., 2019, p. 443) has enhanced the credibility of the research findings presented in this study.

PRISMA guidelines used in this study

The authors followed the PRISMA (*Preferred Reporting Items for Systematic Reviews and Meta-Analyses*) reporting guideline (by Page et al., 2021). This helped this systematic review to be conducted in a structured manner. See Figure 1.

Data analysis procedures

An important step of this study was the inductive coding of the data. This coding analysis strategy was used successfully by Du & Daniel (2024). With this coding strategy, the coded data pieces could be merged into categories refined through some iterations. After this process, each author could explore the relationships across categories and then develop major themes as the answers to the research questions. The generated themes developed were then put on a new page of the same *Google Sheet*, compared, and discussed with one another to confirm the final themes presented in our article.

Results and discussion

The following section presents the analysis results of the articles to answer the research questions: (1) What are AI tools used by EFL lecturers to teach English speaking skills? (2) What are the potentials of the AI tools to teach English speaking skills? (3) How do EFL lecturers use the AI tools to teach EFL speaking skills? (4) What are the challenges when using the AI tools? The findings will be discussed, explored, and related to relevant literature.

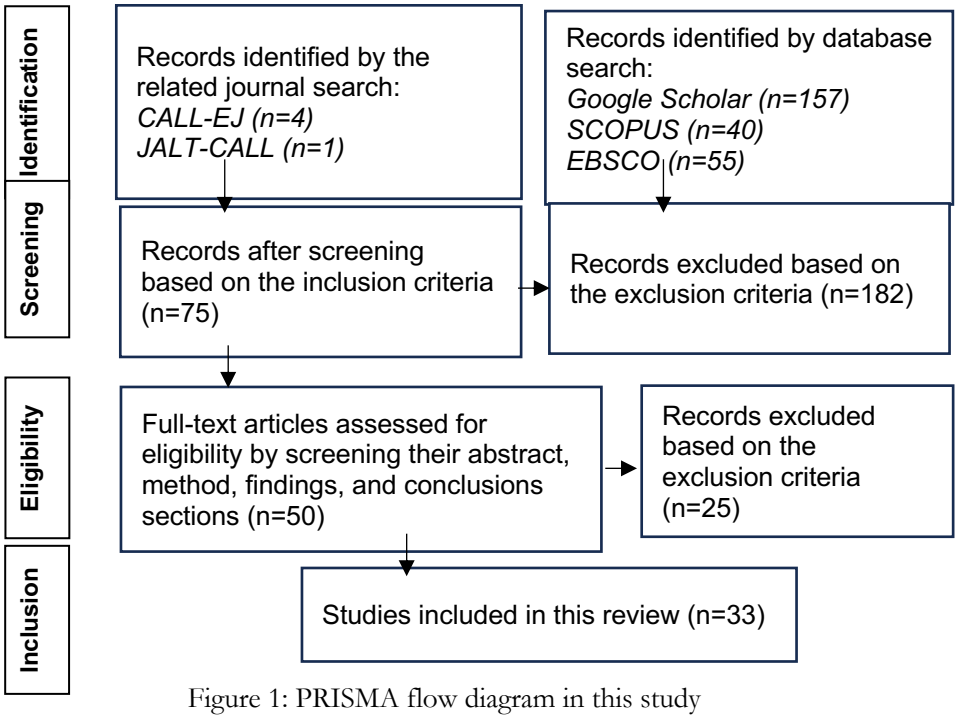

Figure 1: PRISMA flow diagram in this study

AI tools to teach English speaking skills

This study has found that there are 40 AI tools that could be used by teachers to teach speaking skills, as discussed in the 33 journal articles we investigated. Some articles discussed more than one AI tool, and the same AI tool may also be discussed in two or more articles. For example, *ChatGPT* is discussed in six articles (Aldosari, 2024; Baskara et al., 204; Bin-Hady et al., 2023; Chen, 2024; Sayed et al., 2024; Wang, 2025), while an article from Annamalai (2023) discussed 3 AI tools, namely *Andy Chatbot, Duolingo* and *Mondly*. The full list of AI tools identified in our study is presented in Appendix A.

Notably, the information in Appendix A could show more specific details of the AI tools and where to access them. This should fill the empirical gaps in the literature where previous systematic review studies (e.g., Li, 2022; Mananay, 2024) did not provide. More complete information about the AI tools could provide better assistance for teachers in using the tools in their classrooms. One interesting finding here is the use of non-related language learning apps, such as shopping apps, to teach speaking skills. Similar practices have also been reported in other studies (e.g., Othman, 2023; Rofi'i & Nurhidayat, 2020) where non-speaking related technology could be used in speaking classrooms. Apparently, based on the creativity of the teachers, these apps could be used to support learners' speaking activities.

The potential of the AI tools to teach English speaking skills

After getting knowledge of what AI tools teachers could use to teach speaking skills, another important piece of information is to understand the potential of those AI tools. This information would further help teachers in deciding what AI tools to use in their classroom contexts, particularly to fit those tools in the learning objectives. As the answers to the second research question, our analysis revealed the potential of various AI tools for teaching EFL speaking skills, as shown in Appendix B.

Appendix B shows that we identified four major themes: language skills, soft skills, pedagogical aspects, and psychological aspects. Firstly, language skills are all relevant skills relevant to language learning, including speaking skills as the main topic in this paper. We found that AI has the potential to help teachers teach speaking skills to EFL learners. Another study (El Shazly, 2021) found similar findings that AI could help learners with speaking skills. The articles examined in our study suggest that, in relation to speaking skills, AI could help learners in a number of areas, such as conversation, pronunciation, fluency, and presentation. In addition to speaking skills, these AI tools also possess the potential for learners to improve their grammar and vocabulary.

Another theme concerns soft skills. We found that AI tools could help teachers promote soft skills to the learners. Soft skills are important skills related to interpersonal skills (Matteson et al., 2016), and can be in the form of critical thinking, creativity, collaboration, and communication skills. The integration of technology, AI in particular, has been found to be able to help learners develop these soft skills. We found creativity discussed only in

Adipat's (2023) article. However, other studies have confirmed that AI could also play a role in fostering various soft skills (e.g., Borkovska et al., 2024; Sumakul et al., 2022). These strengthen the idea that when using AI tools in teaching speaking, teachers would not only help learners develop their language skills, but also soft skills.

The next theme is related to pedagogy. We found that the use of AI tools in speaking classrooms could also have potential that can be viewed from pedagogical aspects. From the learners' perspective, for example, AI could help promote learners' autonomy (e.g., Dennis, 2024; Qassarawi et al., 2024) and personalised learning (e.g., Kim & Sim, 2024; Lege et al., 2024). From the teachers' perspective, AI tools could help teachers in their job as teachers. For example, AI could help teachers conduct group work (Fathi et al., 2024) and assess their learners (e.g., Al-Shallakh, 2024; Darmawansah et al., 2025). Regarding this, there have been indications that teachers' roles are being disrupted. Some works that have been traditionally associated with teachers can now be completed by AI. However, recent studies (e.g., Cohen & Moher, 2025; Sumakul et al., 2022) have suggested that instead of considering AI as a threat to teachers' jobs, AI tools could be treated as companions to teachers while doing their work. Similarly, this study has also confirmed that, in certain circumstances, AI has been considered as tools to help teachers teach speaking skills.

The fourth potential can be explained by psychological aspects. Our study found that AI tools have the potential to boost motivation, improve WTC (willingness to communicate), and reduce speaking anxiety. Motivation has long been identified as an important psychological factor for language learning success, and technology could positively affect learners' motivation. More specifically, AI has been reported to help increase motivation (Sumakul & Hamied, 2023). In regard to WTC studies, there has been expansion of research scope due to increasing trends in AI use in language classrooms (Wang et al., 2024). Furthermore, another psychological concept to discuss here is speaking anxiety, a phenomenon that many learners experience in their language learning process. However, studies have come up with some ways to reduce speaking anxiety, and one of them is the utilisation of technology, including AI technology (Li et al., 2025).

How EFL lecturers use AI tools to teach English speaking skills

As the literature reveals, this section presents practical ideas on how EFL teachers use AI tools to teach EFL speaking skills. Appendix C lists the activities and the AI tools that the teachers used in their speaking classrooms. As displayed in Appendix C, four themes have been drawn: dependent learning, independent learning, supporting tools for learners, and supporting tools for teachers. There are two articles that did not clearly describe how the instructors utilised *Duolingo* (Li et al., 2025) and *ChatGPT* (Bin-Hady et al., 2023) in their classes.

The first major application is how teachers adopted AI tools to provide speaking opportunities and feedback for learners. These activities were conducted within classroom premises, which could be categorised as dependent learning, as the tasks were accompanied with clear guidelines, time, and expected outcomes (Duong &

Suppasetseree, 2024). Additionally, AI tools could also be utilised as a pre-speaking activity, as seen in Adipat (2023). This study also observed the adoption of AI as in-class assessment tools. AI seems to offer high practicality in providing personalised feedback, enabling it to be a formative assessment tool (Sayed et al., 2024). Similarly, Aryanti & Santosa (2024) have also exemplified the use cases of AI as an in-class evaluation instrument, highlighting the feedback promptness and psychological benefits. Zhang (2024) emphasised the significance of real-time and personalised feedback provided by AI tools for speaking improvement, whereby learners could receive feedback repeatedly.

On the other hand, AI apps also allow a self-directed approach to language learning, as summarised under the theme of independent learning. This study has found that self-autonomous learning may be implemented in the form of drilling and practices outside class, where the AI apps were adopted both as a stand-alone medium of learning (e.g. Moxon, 2024; Zou, Du et al., 2023) and as a supplement to classroom instruction (e.g. Pack, 2023; Fathi, et al., 2024), allowing time and location freedom for the students to access learning through the AI-based apps. Personalised learning is considered instrumental in language learning due to its customisable nature, facilitating comprehension and boosting learning motivation (Hien & Suppasetseree, 2024). In addition to the individual uses, our study has discovered how instructors employed task-based and project-based learning to improve students' speaking skills (e.g., Adipat, 2023; Chen, 2024). In their activities, generative AI tools were used during the idea generation and script creation stages. It is argued that task-based lessons and product creation allow students to take control of their own learning and may increase intrinsic motivation (Dewi & Wilany, 2023).

Regarding project-based learning, this study also identified adoption of other AI tools that are not exclusively engineered to train speaking. The tools were mainly those that produce multimedia outputs, such as *Adobe Firefly* for generating images and *Udio* for generating music (Baskara et al., 2024). These findings have suggested that teaching speaking skills may be conducted through multi-modal learning. Furthermore, Al-Jarf (2024) claimed that involving different modes of learning may accommodate learners with different learning styles.

Challenges when using AI tools

This subsection summarises the findings of the previous studies reporting various challenges when using AI tools. The findings have been grouped into eight themes, as displayed in Appendix D. While the findings communicated various things, there are some commonalities. Importantly, the discussions of the themes in the following paragraphs should address the call from Crompton et al. (2024), specifically related to the efforts to make explicit discussions about the challenges of AI in English language teaching and learning, which previous studies had not done. First, some researchers were concerned with the content quality generated by chatbots. English-language chatbots provided meaningless answers and were not grammatically accurate (Mustopa et al., 2024). Chatbots, such as *ChatGPT, Claude*, *Microsoft Copilot,* and *Google Gemini*, were also said to generate content that lacked originality and creativity (Baskara et al., 2024). At that point,

teachers need to develop their learners' AI literacy so they can fully understand the limitations of AI and discuss how to use it ethically and responsibly (Edmett et al., 2024).

Despite the perceived benefits of providing tailored and repetitive feedback on pronunciation (e.g., Dakhil et al., 2025; Son et al., 2023), a notable glitch was present in several studies pertinent to AI tendency to recognise particular inputs only. In the context of the *Elsa Speech Analyzer* app, Dakhil et al. (2025) have reported that its effectiveness in giving accurate feedback was greatly affected by the speaking accents of its users. The finding accorded well with Kim and Sim (2024), where their participants expressed unpleasant experiences when the AI app failed to identify their regionally influenced pronunciation. Consequently, users with non-native English accents might not be well supported by the app and receive inaccurate feedback for their pronunciation.

Previous studies have also reported various limitations when using AI for English-speaking practice. Limitations include students' spoken words that were not transcribed accurately in the case of *EAPTalk* (Pack, 2023) and *Pecha* (Lege et al., 2024), and poor audio quality in the case of *Duolingo* (Li et al., 2025). Notably, some studies have also reported potential infrastructure and Internet access barriers that might limit the implementation of AI technologies, such as in Indonesia (Mustopa et al., 2024) and Palestine (Qassrawi, 2024), presenting significant challenges to providing equal AI-enhanced language learning access. Another challenge was related to app design. For example, AI technologies may not function maximally due to device compatibility issues (Qassrawi et al., 2024; Zhang et al., 2022) and the free versions of the app (Moxon, 2024).

While the integration of AI-powered technologies in speaking classes may facilitate learning, particularly that related to idea generation (Busso & Sanchez, 2024; Wang, 2025), some researchers have addressed concerns about learners' readiness to leverage the machine meaningfully and ethically. In their conceptual research, Busso and Sanchez (2024) have contended that the use of an intelligent computer system in language learning entails a risk of over-dependence. Additionally, over-reliance on AI tools, specifically generative ones, is closely associated with academic misconduct, which may inhibit independent learning (Dakakni & Safa 2023). Baskara et al. (2024) reinforced this by emphasising ethical implementations, as learners expressed uncertainty about ethical boundaries. This underscores the necessity for formal and defined use guidelines, as asserted by Wang (2025).

As reported by Sumakul et al. (2022), teachers may face challenges when integrating an AI tool in class, primarily due to their unfamiliarity with navigating the application and their lack of pedagogical knowledge. This could lead to frustration, which may hinder the achievement of learning objectives and the facilitator role that teachers are expected to play. This is further supported by Busso and Sanchez (2024), who emphasised the necessity to provide adequate technical and pedagogical training to teachers in order to fully benefit from AI-integrated language learning.

Conclusion

Our study has examined recent empirical and non-empirical studies published in peer-reviewed journals from 2023-2025 on the use of AI for teaching EFL speaking in higher education contexts. The review came up with the following conclusions. First, the study has reported various AI tools that are accessible and free to use for teaching EFL speaking; each has its potential and challenges. This study has also revealed practical ideas on using AI tools for teaching EFL speaking. All those insights resulted from the systematic review method applied in this study. That said, we hope that this study to be a valuable reference for EFL lecturers, educators, and teachers who wish to integrate AI tools in their EFL speaking classes.

Implications from our study

To fully reap the benefits of AI advances for English learning, we suggest that educators should strive to be knowledgeable on both technical and pedagogical levels. The integration of such tools should go beyond technological adoption. Instead, careful lesson design grounded in solid didactic principles is the core of technology-enhanced language learning. Moreover, from a technical standpoint, AI for language learning is evolving rapidly, with new features being introduced, benefitting different language skills. Further development is deemed imperative as applications often experience technical glitches. As reported in the studies reviewed, such errors may impact learners psychologically and raise doubts about AI's reliability. We recommend that software developers focus on resolving operational bugs, e.g., login errors, speech recognition inaccuracies, forced exits, etc. Some problems with the use of technology could come from the limited pedagogical design of the apps. In addition, regarding content quality, enhancements should include more detailed feedback and more natural outputs, greater cultural relevance, emotional depth, and increased creativity.

Limitations and recommendations for future research

Recognising its limitations, the authors would like to acknowledge that this study is far from perfect. For example, the review was based only on the journal articles and limited to EFL settings in higher education contexts. To address those limitations and obtain richer insights, as suggested by Soodmand Afshar and Ranjbar (2025), future studies can look at research gaps on AI and language education, AI and soft skills, and ethics. Moreover, reviews should also involve more literature other than journal articles, such as book chapters, dissertations, conference proceedings, university campus websites, or *YouTube* videos, that explore the use of AI tools in secondary and primary school settings.

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Appendix A: AI tools to teach English speaking skills

No.	AI Tools	Access	Codes
1.	Adobe Firefly	https://www.adobe.com/id_en/products/firefly.html	S22
2.	Alexa (Smart Speaker)	https://developer.amazon.com/en-US/alexa	S16
3.	Amazon	https://www.amazon.com/	S26
4.	Andy Chatbot	https://andychatbot.com/	S05; S23; S31
5.	Bing (Copilot)	https://copilot.microsoft.com/	S17; S22
6.	Call Annie	https://callannie.ai/	S33
7.	Chat Everywhere	https://chateverywhere.app/id	S17
8.	ChatGPT	https://chatgpt.com/	S01; S08; S15; S17; S22; S28
9.	Class Point AI	https://www.classpoint.io/	S30
10.	Claude	https://claude.ai/	S22
11.	Cleverbot	https://www.cleverbot.com/	S29
12.	D-ID	https://www.d-id.com/	S17
13.	Deep English	https://deepenglish.com/	S32
14.	Duolingo	https://www.duolingo.com/	S11; S12; S23;
15.	EAPtalk	https://www.eaptalk.com/app/	S02; S14; S20
16.	ELSA Speak	https://elsaspeak.com/en/ai/	S10; S21
17.	ELSA Speech Analyser	https://speechanalyzer.elsaspeak.com /	S27
18.	Gather Town	https://www.gather.town/	S04
19.	GetPronounce	https://www.getpronounce.com/	S03
20.	Google Assistant	https://assistant.google.com/	S19
21.	Google Gemini	https://gemini.google.com/app	S22
22.	Google Home Mini (Smart speaker)	https://support.google.com/googlenest/answer/7072284?hl=en#zippy=%2Cgoogle-home-mini-st-gen	S16
23.	IELTS Liulishuo	https://www.liulishuo.com/en/ielts.html	S09; S20
24.	Lazada	https://www.lazada.com/en	S26
25.	Liulishuo	https://www.liulishuo.com/en/	S09; S20
26.	Lora	-	S07
27.	Microsoft Designer	https://designer.microsoft.com/	S22
28.	Mondly	https://www.mondly.com/	S23
29.	Pecha	The authors developed their own AI app, but public access is not available	S18
30.	PitchVantage	https://pitchvantage.com/	S13
31.	Plang	https://www.plang.ai/us	S25
32.	PowerPoint speaker coach	https://www.office.com/	S30
33.	Rask.ai	https://www.rask.ai/	S17
34.	Replika	https://replika.com/	S29
35.	Shanbay	https://web.shanbay.com/web/main	S20

No.	AI Tools	Access	Codes
36.	Shopee	https://shopee.co.id/	S26
37.	Speechling	https://speechling.com/	S24
38.	Speechnotes	https://speechnotes.co/	S29
39.	Speeko	https://www.speeko.co/	S06
40.	Suno	https://suno.com/	S22
41.	Udio	https://www.udio.com/	S22
42.	Voice AI	https://voice.ai/	S22

Note. Using the information in "Codes" column, refer to Table 2 to identify author, year of publication and journal discussing the AI tools.

Appendix B: Potential of AI tools to teach English speaking skills

No.	Themes	Potential	Codes
1.	Language skills	Practising conversations	S01; S02; S05; S07; S26; S27; S28; S29; S31
		Practising pronunciation	S02; S04; S09; S13; S14; S27; S29
		Improving fluency	S07; S09; S17; S20; S32
		Supporting outside-class practice	S02; S05; S07; S13; S32; S33
		Providing feedback on scripts	S15
		Assisting brainstorming	S22
		Providing feedback on vocabulary	S01; S08; S09; S17; S20; S22; S24; S32
		Providing feedback on grammar	S06; S07; S08; S09; S17; S20; S22
		Practising presentation and public speaking skills	S02; S04; S06; S09; S13; S14; S30
		Providing suggestions on more engaging delivery	S30; S20
		Providing feedback on coherence and idea organisation	
2.	Soft skills	Promoting students' creativity	S26
3.	Pedagogical aspects	Fostering self-directed learning	S01; S06; S07; S08; S12; S19; S23; S24; S25; S33
		Promoting personalised learning	S06; S18; S19; S23; S24; S25; S33
		Facilitating group work	S05
		Being utilised as a need assessment tool	S18
		Being utilised as a pre-/post-tool	S10; S21
4.	Psychological aspects	Boost motivation, improve willingness to communicate, and reduce speaking anxiety	S26

Appendix C: How EFL lecturers use the AI tools

No.	Themes	Teachers' uses	AI Tools	Codes
1.	Dependent learning	Classroom activities (e.g., speaking partner, drilling practice, warm-up activities, transcribing tool, providing discussion prompts, interactive platform)	EAPTalk, Duolingo, ELSA Speak, Gather Town Speechling, Google AI, Speechnotes, Andy English Bot, Deep English, ChatGPT	S01; S02; S04; S12; S21; S24; S26; S29; S31; S32
		Formative assessment tool (feedback and correction)	ChatGPT, ELSA, Pecha, Google Assistant	S08; S10; S15; S18; S19
		Diagnostic and summative assessment tools	ELSA Speak	S21; S27
2.	Independent learning	Self-study assignments	Pronounce.com, English Liulishuo, IELTS Liulishuo, EAP-Talk, Yidian English, Shanbay	S03; S09; S20
		Supplementary to classroom instruction	EAPTalk, Andy English, Speeko, Lora, ChatGPT, Google Home Mini, Alexa, ELSA Speak, Plang	S02; S05; S06; S07; S08; S14; S16; S21; S25
		Task-based activities (e.g., making a business plan, preparing and practising presentations outside class)	Pitch Vantage, AI recommendation system (Lazada, Shopee, PowerBuy, Amazon), AI Sales Assistant, Duolingo, Andy, Mondly, Deep English, Call Annie, PowerPoint Speaker Coach	S13; S22; S23; S26; S30; S32; S33
		Project-based learning (e.g., generating scripts for Digital Story Telling and a podcast project)	ChatGPT, Chat Everywhere, Bing (Microsoft Copilot), Claude, Google Gemini	S17; S22
3.	Supporting tool for learners	Narration	Risk.ai, D-ID	S17
		Image generator	Adobe Firefly, Microsoft Designer	S22
		Music generator	Suno, Udio	S22
		Audio editor	Voice AI	S22
4.	Supporting tools for teachers	Preparing an interactive presentation	Class Point AI	S30
5.	No details	-	DuoLingo ChatGPT	S11; S28

Appendix D: The challenges when using AI tools

No.	Themes	Challenges	Codes
1.	Language/ content generated by AI	Non-realistic language	S05; S11
		Clarity, accuracy, and consistency issues	S03; S14; S18; S19; S20; S25; S30; S32
		Bad feedback/ scoring system	S02; S13; S14; S20; S33
		AI hallucination	S05
		Only generated predicted patterns	S16; S25
		AI interjection frequency	S18
		Lack of originality and creativity	S22
2.	AI biases	Non-native accents and low levels of language cannot be recognised	S05; S27; S29; S32
		Lack of cultural context and relevance	S22
		Absence of emotional nuances	S22; S17
		Being too focused on grammar	S32
3.	Security risk	Safety of learners' data	S33
4.	Technical limitation	Words spoken are not transcribed	S02
		Bad audio quality	S11
		Operation glitches (e.g., login, forced exit)	S25
		Audio environment sensitivity	S18
		Other technical issues	S04
5.	App design	Device compatibility	S05; S07; S19; S22
		Learners' message restriction to 45 mins	S32
		Limitation on free version	S03
		Need for large amount of data	S33
6.	Learners' AI literacy	Learners' over-reliance on AI	S15; S16
		Learners' ineffective prompts	S17; S22
		Ethical concerns	S22
7.	Instructors limitation	Teachers' inadequate technical and pedagogical knowledge	S16
8.	Learners' perspective	Learners' infrastructure and Internet access issues	S19; S30

Dr Dian Toar Y. G. Sumakul (corresponding author) is a senior lecturer at Universitas Kristen Satya Wacana. He is also a teacher trainer and the co-founder of Indonesia Technology Enhanced Language Learning (iTELL). His primary research interest is on the use of technology in English language teaching and learning.
ORCID: https://orcid.org/0000-0002-6744-0196
Email: toar.sumakul@uksw.edu

Ms Virna Margetan is a recipient of an Indonesian Ministry of Finance and Australia Awards Scholarship in the Master of Education in Digital Learning at Monash University, Australia. Her interests include technology enhanced-language learning, teacher professional development, and higher-order thinking skills.
ORCID: https://orcid.org/0009-0005-6654-6115
Email: vmar0031@student.monash.edu

Dr Yustinus Calvin Gai Mali is an associate professor in the Masters in English Language Education Program in the Faculty of Language and Arts at Universitas Kristen Satya Wacana in Salatiga, Indonesia. Calvin earned his PhD in Language, Literacy and Technology Education from Washington State University, USA.
ORCID: https://orcid.org/0000-0001-9075-783X
Email: yustinus.mali@uksw.edu

Ms Novia Cristiany Susetyo is a fourth-year student in the English Language Education Program at Universitas Kristen Satya Wacana (UKSW), Salatiga, Indonesia. Through her academic journey and organisational involvement, she has developed her knowledge, strengthened her teaching practices, and built a foundation that continues to support her future professional career.
Email: noviasusetyo@gmail.com

Ms Karolina O. Hitokdana is a fourth-year student in the English Department at Universitas Kristen Satya Wacana (UKSW), Salatiga, Indonesia. She is involved in various organisational activities to expand her knowledge and continuously grow her skills as she progresses in her academic journey and prepares her future career.
Email: olinhitokdana@gmail.com

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