Asian Journal of Scientific Research and Innovations
ISSN: 2715-xxxx (online) | IF: 10.23 | Vol: 1, issue 1
Available: http://asiansciencejournal.org

INTEGRATING GENERATIVE AI INTO PRIMARY EFL CURRICULA: ENHANCING SPONTANEOUS SPEAKING SKILLS THROUGH HUMAN–AI DIALOGIC PRACTICE

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Annotation: English proficiency is now required outside of the classroom due to its widespread importance in several sectors of the global economy. In order to improve students' spontaneous speaking abilities, this paper investigates the incorporation of generative artificial intelligence (AI) techniques into elementary English as a Foreign Language (EFL) curriculum. For young language learners, contemporary generative AI technologies offer interactive dialogue-based learning environments that replicate real-world communication scenarios. The study discusses theoretical foundations of AI-assisted language learning, pedagogical opportunities of human–AI dialogic practice, and practical strategies for implementing generative AI tools in primary classrooms. The findings suggest that AI-supported dialogue practice increases learners' speaking confidence, improves vocabulary use, and supports communicative competence by offering continuous feedback and adaptive interaction.

Keywords: Generative artificial intelligence, EFL education, primary education, spontaneous speaking skills.

Introduction

In recent years, the introduction of artificial intelligence technologies, in particular generative artificial intelligence systems, into the educational process has significantly expanded the possibilities of updating the didactic foundations of teaching, strengthening the interaction between educational subjects, and implementing person-centered education. One of the main tasks in educating students is to teach foreign languages, in addition to teaching their native language, and in this regard, to teach English. To interest students in English, to develop their speech in English, to teach them professional communication.

In particular, generative AI tools have opened new opportunities for language learning by enabling interactive communication between learners and intelligent systems. English as a Foreign Language (EFL) education increasingly integrates digital technologies to improve communicative competence, especially speaking skills.

The integration of Artificial Intelligence (AI) into educational settings has offered innovative tools to support and enhance communicative competence. Within English as a Foreign Language (EFL) instruction, Al technologies such as intelligent tutoring systems, speech recognition applications, and virtual conversation agents have emerged as valuable resources to improve speaking fluency with their capacity to provide immediate feedback, simulate authentic dialogues, and personalize learning experiences, presenting new opportunities to address the persistent challenges associated with oral language development.

Speaking is one of the most challenging skills for primary school learners to develop because it requires immediate language processing, vocabulary recall, and confidence in communication. Traditional classroom methods often provide limited opportunities for individual speaking practice due to time constraints and large class sizes. As a result, students may lack sufficient exposure to authentic communication situations.

Generative AI systems, capable of producing natural language responses and maintaining dialogue with users, offer new possibilities for addressing this challenge. Through human–AI dialogic practice, learners can engage in interactive conversations, simulate real-life communication scenarios, and receive immediate feedback. This article examines the pedagogical value of integrating generative AI tools into primary EFL curricula to enhance spontaneous speaking skills among young learners.

Methodology

Language becomes an essential component of human communication and engagement with the outside world from birth and throughout life. Because of its significance, language has been the subject of many studies and theoretical research aimed at comprehending the process of learning, creating, and refining these communication tools. Because of this, a wide range of theories, hypotheses, and viewpoints about the process of language learning and acquisition have been put forth by many theorists; nevertheless, these viewpoints have changed and evolved with time.

Speaking is a crucial ability in today's globalized world, as Xiao and Huang (2022) confirm, as it is one of the most significant ways to gauge a person's performance in learning a new language. In this way, spoken English ability is essential for both a person's language achievement and fulfilling social expectations.

Because of this importance, educators have talked about teaching oral skills in relation to teaching and learning languages. To encourage the development of these abilities, a variety of classroom pedagogies, exercises, and tactics have been used (Lazaraton, 2001). However, the challenges faced by English as a Foreign Language (EFL) learners in developing their speaking abilities frequently undermine these educational initiatives. Salvador and Oye (2022) pointed out that "the lack of opportunities to interact in the target language, in and out of the English classrooms, prevents students from acquiring fluency and confidence" (p.155).

Speaking, in contrast to writing, reading, and listening, requires instantaneous output during the interaction, making it one of the most difficult abilities for language learners. Bailey (2003) categorized these abilities based on whether they are productive or receptive. In light of this, speaking has the ability to produce language and convey ideas and thoughts orally, in contrast to writing, which is productive but differs in its presentation and associated subskills. Consequently, the methods used in speaking add to the difficulties in acquiring and developing it. Language components including discourse, syntax, morphology, phonology, fluency, and correctness that conform to this skill must be taken into account in order to comprehend the processes involved in speech.

Generative AI. In recent years, educators and students in the academic world have been debating and debating artificial intelligence (AI). Although GPT-4 is currently the most recent version available, the "waves" of technological changes can be traced from the Industrial Revolution to the most recent updated version of GPT up to that time. Pratschke (2024) explores the reasons behind its rise in popularity, which can be attributed to new launches and updated versions of these tools as well as their accessibility. Al is therefore not a new concept but rather one that is always altering and evolving. In actuality, John McCarthy's 1956 Dartmouth workshop is where the name "AI" was initially used. After that, "Symbolic AI" became well-known and was used in many academic disciplines and educational contexts. This demonstrates the evolution of Al from simple machine learning techniques to more complex deep learning models, such as predictive AI with speech and image-based assistants (Pratschke, 2024).

Generative Al in education. It is crucial to investigate the possible integration of these tools in educational environments as well as the consequences they have brought to these

settings after learning about Generative AI and its definition. GAI is gradually turning into a very useful instrument in education since it may enhance teaching, learning, and assessment procedures, according to Cambridge University Press & Assessment (2023). For example, teachers have discovered that time reduction, lesson material development, and ongoing personalized feedback are some of the advantages of using generative Al technologies in language learning classes. Additionally, Romero et al. (2024) point out important benefits of using GAI technologies in higher education. The authors list a number of advantages, such as providing scaffolding and customizing learning experiences, as well as promoting interactive learning settings and being more engaging because of its adaptive nature.

Crucially, Romero et al. (2024) also recognise some drawbacks in the current state of Al application. These include privacy issues, academic dishonesty, ethical issues, technological misunderstandings, and a lack of human interaction. Regarding the latter, the Cambridge University Press & Assessment (2023) asserts that rather than acting as a substitute for instructors, generative Al systems should enhance their function in the classroom. Due to ChatGPT's recent influence on education, these benefits and drawbacks have also been examined from specific GAI platforms.

Literature Review

For EFI learners, learning and using English continues to be difficult, especially when it comes to oral language skills. Simultaneously, the area of English as a Foreign Language (EFL) has included innovative technologies due to the growing popularity of Generative Artificial Intelligence (GenAI) in educational contexts. This section examines a number of studies, including those by López-Minotta et al. (2025), Makhlouf (2021), Yang et al. (2024), Qiao and Zhao (2023), and Fathi et al. (2024), to gain a better understanding of the possible impact of GenAl in improving EFL students' speaking abilities. The study carried out in the Colombian setting serves as an introduction to the review because its design and research methodology are quite similar to those employed in the current study. Future research will take a worldwide view, providing insightful information about potential classroom integration strategies, attitudes of language learners, and implementation issues.

First, using a 16-week intervention, López-Minotta et al. (2025), one of the few local research, investigated the potential of Al apps to improve oral communication skills in 40 fifth-grade children at a private school in Colombia. The researchers used surveys and questionnaires, pre/post assessments, field diaries, and customized Al applications as data collection methods, all of which were verified by experts, to combine quantitative and qualitative data in their study titled "Implementation of Artificial Intelligence to Improve English Oral Expression".

The results demonstrate that incorporating AI apps can significantly increase students' accuracy and fluency. Additionally, AI-driven applications were proven to boost students' motivation and engagement by providing a contextualized learning environment that encourages real-world interactions. Additionally, the study demonstrated that AI's customized feedback effectively satisfied students' learning needs, assisting those who initially had difficulty and reducing disparities between them. our study is highly relevant to our project because it was conducted in Colombia and employed a Design-Based Research approach, which is closely related to the reflective cycles used in our project. Furthermore, one of the study's objectives is comparable to the first objective of the current project, highlighting the significance of looking at this issue in EFL contexts.

Lastly, this study provides insightful information on the possible effects and constraints of comparable programs, especially with regard to the number of participants, the length of the intervention, and the sole emphasis on speaking ability.

Conversely, Makhlouf (2021) investigated the effectiveness of the AI-based program known as ELSA for the enhancement of speaking abilities, specifically vocabulary, grammar, and pronunciation accuracy and fluency, in a study titled "Effect of Artificial Intelligence-Based Application on Saudi Preparatory-Year Students' EFL Speaking Skills at Albaha University". Using a mixed-method research design and a quasi-experimental one-group design, the researcher collected data from twenty engineering non-English language learners at Albaha University's preparatory year in Saudi Arabia. The data was analysed using pre- and post-assessments, statistical analysis, and student self-reflections.

The students' speaking abilities were positively impacted by the AI-based application, according to the results, and the treatment group's speaking ability significantly improved after the intervention compared to before. Additionally, students' self-reflections showed an increase in their sense of individual differences, personal responsibility, and motivation in their learning process as a result of the application's friendly and open environment and the continuous feedback that helped them refine their oral texts. This study will support our extension project on the value of improving students' speaking abilities and fostering their independence during the learning process. Additionally, it is directly related to our project because it highlights how technology can improve students' speaking accuracy and fluency, which was the main focus of both our study and this one. It also highlights the necessity of supplementing AI integration with various tactics and exercises.

All things considered, the aforementioned studies have made a significant contribution to our comprehension of the need to assist EFL students in developing their speaking abilities and to pinpoint potential solutions for this problem through the incorporation of AI technologies in language learning settings. According to studies by López-Minotta et al. (2025), Makhlouf (2021), Yang et al. (2024), Qiao and Zhao (2023), and Fathi et al. (2024), artificial intelligence improves the speaking abilities of EFL students. The first two studies look at how Al affects oral performance, showing positive results and taking learners' opinions of using AI-assisted learning into account. In a similar vein, but with a different emphasis, subsequent research focused on emotional aspects like motivation and fear in order to enhance speaking performance.

Results and discussion

In order to provide more individualized, effective, and interesting learning experiences, the use of artificial intelligence (AI) in English as a foreign language (FFI) instruction has increased dramatically in recent years. The combination of Natural Language Processing (NLP), Machine Learning (ML), Artificial Neural Networks (ANNs), and Affective Computing (AC) is what propels these developments (Jiang, 2022).

The most widely utilized tools seem to be AI-Powered Chatbots. These conversational agents, which can mimic natural language processing (NLP), speech recognition, and multimodal feedback systems, are frequently utilized in mobile applications or incorporated into educational platforms to assist students with both structured and unstructured speaking tasks.

ChatGPT. Among generative AI models, ChatGPT is unique in that it can sustain long, cohesive conversations that resemble actual conversation patterns. It is a versatile tool for students looking for structured or unstructured speaking practice because of its multimodal characteristics, which include text-based engagement and optional audio integration. Learners can engage in scaffolded conversations with ChatGPT, which also offers feedback on pronunciation, coherence, and delivery.

Replika. This conversational AI, which offers both text and speech interaction modes, was created to be a sympathetic companion. In order to facilitate spontaneity and turn-taking,

the tool uses automated speech recognition (ASR) to process student input and participate in real-time voice-based interactions. By incorporating visual cues and bodily interaction, the avatar mode also improves engagement, assisting students in speaking more confidently and with less hesitancy.

Lora. Through systematic exercises, this mobile-based AI speaking coach aims to enhance oral fluency and pronunciation. It is a powerful tool for academic EFL environments since it offers real-time correction, fluency scores, and adaptive feedback. Learners can track their progress with its automated scoring system, and iterative improvement is supported by tailored recommendations.

English Bot. It is a task-specific chatbot created to mimic academic speaking exercises, especially those encountered in TOEFL and other standardised tests. By leading students through structured prompts like summaries, descriptions, and arguments, it promotes fluency. The tool helps create coherent and fluid oral output by providing feedback on lexical richness, response length, and semantic significance.

Andy. It is a chatbot designed for beginners that promotes basic speaking practice through pre-written chats and vocabulary guidance. It is appropriate for developing fundamental fluency but insufficient for higher order speaking skills like argumentation or narrative composition because it gives early-stage learners a safe area to practise language forms without worrying about being judged.

Google Assistant. Google Assistant has been used for spontaneous speaking practice in EFL courses. By posing queries, requesting clarifications, or acting out brief conversations, students participate in voice-based interactions. Its real-time audio responses helped students practise pronunciation and made oral communication more comfortable.

Table 1. Al tools to promote speaking fluency [1]

Speaking competence plays a central role in language acquisition. According to communicative language teaching principles, learners should actively use the target language in meaningful contexts. In primary education, developing speaking skills helps learners build confidence, improve pronunciation, and internalize vocabulary and grammar structures.

However, several factors limit effective speaking practice in traditional classrooms:

- limited teacher–student interaction time
- students' fear of making mistakes
- lack of authentic communication environments
- insufficient individualized feedback

These challenges highlight the need for innovative approaches that encourage more frequent and natural communication practice.

Generative AI refers to artificial intelligence systems capable of generating text, speech, and other forms of content based on learned patterns from large datasets. In language education, generative AI can function as a conversational partner, tutor, or language assistant.

Main features of generative AI for language learning include:

- real-time dialogue interaction
- personalized responses to learners' input
- unlimited practice opportunities
- immediate corrective feedback
- simulation of real-life communication scenarios

These capabilities create a flexible learning environment where students can practice speaking without fear of judgment, which is especially important for young learners.

Human–AI dialogic practice involves interactive conversations between students and AI systems designed to simulate authentic communication. In primary EFL education, this approach can be implemented through various activities:

Role-play conversations

Students engage in simulated dialogues such as ordering food, introducing themselves, or asking for directions.

Question-and-answer practice

AI systems ask questions related to daily life topics, encouraging learners to produce spontaneous responses.

Story-based interaction

Children interact with AI characters within storytelling contexts, responding to prompts and continuing the narrative.

Pronunciation and speaking exercises

AI tools analyze speech patterns and provide suggestions for improving pronunciation and fluency.

These activities help learners practice speaking in a dynamic and supportive environment while reinforcing vocabulary and grammar knowledge.

Integrating generative AI into EFL teaching offers several educational benefits:

1. Increased speaking opportunities. Students can practice speaking anytime without waiting for classroom interaction.

2. Reduced language anxiety. AI interaction provides a low-pressure environment where learners feel more comfortable experimenting with language.

3. Immediate feedback. AI systems can identify mistakes and offer corrections instantly.

4. Personalized learning. AI adapts dialogue difficulty based on students' language proficiency.

5. Enhanced engagement. Interactive AI conversations make language learning more motivating and enjoyable for young learners.

Conclusion

Lastly, it is vital to develop students' critical awareness of the potential and constraints of AI. They should understand that although AI technologies are useful for practice and quick feedback, they cannot replace in-depth, human-mediated instruction and dialogue. This knowledge will enable students to employ AI in their language development process in a supporting rather than dependent manner.

In conclusion, even if AI has the potential to revolutionise EFL speaking instruction, its effects will rely on careful application, teacher mediation, and continuous innovation. To guarantee that AI-based technologies genuinely complement rather than replace human-centered, communicative language learning, educators and developers must place a high priority on pedagogical alignment, equity of access, and ethical protections.

The integration of generative artificial intelligence into primary EFL curricula represents a promising innovation for enhancing spontaneous speaking skills among young learners. Human–AI dialogic practice creates interactive language learning environments where students can engage in authentic conversations, receive immediate feedback, and practice speaking without anxiety.

By providing personalized and continuous communication opportunities, generative AI can significantly improve learners' confidence, fluency, and communicative competence. However, successful implementation requires careful pedagogical planning, teacher training, and ethical considerations.

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