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Chatbot as a Speaking Partner: an Applied Linguistics Study on AI Interaction in Enhancing English Speaking Ability

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ABSTRACT

This study investigates the role of ChatGPT Voice as an AI-mediated speaking partner in enhancing English speaking ability among EFL learners from an Applied Linguistics perspective. The research employed a descriptive qualitative approach involving undergraduate students who experienced difficulties in spontaneous oral communication, low speaking confidence, and limited access to speaking partners. Data were collected through classroom observation, transcript documentation, and semi-structured interviews during several chatbot-assisted speaking sessions. The findings revealed significant improvement in five major indicators: fluency improvement, confidence increase, vocabulary expansion, response length, and speaking anxiety reduction. Learners gradually produced more continuous speech, longer responses, richer vocabulary, and greater interactional participation during human–AI conversation. The study also found that ChatGPT created a low-pressure communicative environment that encouraged learners to speak more freely without fear of negative judgment. In addition, AI-generated follow-up questions and conversational prompts stimulated discourse continuity and lexical development. The findings support communicative interaction theory, technology-mediated language learning, and AI-assisted willingness to communicate frameworks, which emphasize that oral proficiency develops through sustained and meaningful interaction. This study contributes a new perspective by positioning chatbot not merely as instructional technology, but as an autonomous communicative scaffold that facilitates human–AI interaction in speaking development. Therefore, chatbot-assisted communication can serve as an effective alternative for English speaking rehearsal in contexts where learners have limited opportunities for authentic conversational practice with native speakers.

Key Word *ChatGPT Voice, AI-Mediated Learning, Speaking Ability, EFL Learners, Applied Linguistics, Chatbot Interaction.*

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INTRODUCTION

The integration of artificial intelligence into language education has introduced a new paradigm in English as a Foreign Language (EFL) learning,

particularly in the development of speaking skills. Among the four language competencies, speaking remains the most demanding productive skill because learners are required to formulate ideas, retrieve vocabulary, construct grammatically acceptable utterances, and respond spontaneously in real-time interaction. Speaking is not only a matter of linguistic accuracy but also a reflection of communicative participation and interactional competence. In contemporary Applied Linguistics, oral proficiency is increasingly associated with learners' willingness to communicate, confidence to initiate speech, and ability to sustain meaningful dialogue in authentic settings. (MacIntyre et al., 2011) argues that successful second language acquisition is closely linked to how often learners engage in communication opportunities, since language develops more effectively when learners actively use it rather than merely study its forms.

Based on this perspective, the object of discussion in this study is the role of chatbot as an artificial speaking partner that facilitates English oral interaction through human–AI conversation (Jakesch et al., 2023). Unlike conventional language learning applications that only provide drills or static exercises, AI chatbots are capable of generating contextual responses, asking follow-up questions, sustaining turn-taking, and simulating conversational exchange. This means that chatbot technology does not simply function as instructional media, but as an interactional interlocutor that enables learners to practice speaking in an ongoing communicative environment. Such technology aligns with the concept of technology-mediated language learning proposed by (Hockly, 2015), who states that digital platforms can extend language interaction beyond classroom limitations and provide autonomous speaking opportunities adapted to learner needs.

The facts in the field reveal that speaking English continues to be a serious challenge for EFL learners. Many students still demonstrate low oral fluency, fragmented sentence production, hesitation, poor pronunciation confidence, and fear of spontaneous communication (Liu et al., 2021). In many formal educational contexts, speaking activities are frequently constrained by limited classroom time, teacher-centered instruction, and examination-oriented learning. Students often spend more time completing written assignments than engaging in actual oral interaction. Consequently, they may acquire grammatical knowledge, but remain unable to communicate effectively in authentic speech situations (Crompton et al., 2024).

In addition to pedagogical limitations, affective barriers strongly contribute to weak speaking performance. Learners often report fear of making mistakes, embarrassment when mispronouncing words, anxiety about peer judgment, and low confidence when asked to speak publicly. Contemporary studies confirm

that speaking anxiety remains one of the strongest predictors of learners' oral avoidance. A recent mixed-method investigation by (Ding & Yusof, 2025) found that EFL students commonly avoid speaking tasks because traditional classroom speaking creates evaluative pressure, whereas AI conversational environments provide a psychologically safer communication space that reduces anxiety and increases verbal participation (Woo & Choi, 2021).

Another field reality is the insufficient availability of speaking partners. Oral language proficiency requires repeated interaction, immediate response, and sustained communicative rehearsal. Yet many EFL learners have minimal access to native speakers, limited peer interaction, and short teacher feedback duration (Wang et al., 2024). As a result, speaking practice becomes occasional rather than continuous. This condition creates a substantial mismatch between curriculum expectations that require communicative competence and the actual interactional exposure received by learners. Modern studies in digital language pedagogy emphasize that without frequent conversational engagement, oral fluency cannot develop optimally because learners lack opportunities to test, repair, and extend their utterances in meaningful discourse (Kessler, 2018).

Considering these challenges, the solution offered in this research is the utilization of chatbot as a speaking partner in AI-mediated language practice. AI chatbots possess several pedagogical advantages that make them highly compatible with speaking instruction. First, they are accessible anytime and anywhere, allowing unlimited conversational rehearsal. Second, they provide instant responses, which sustain interactional continuity. Third, they create a low-judgment communication environment where learners can speak freely without fear of social embarrassment. Fourth, they can encourage longer verbal production by asking clarifying questions, prompting elaboration, and maintaining topic development.

This pedagogical potential is strongly supported by recent findings in AI-mediated communicative frameworks. (Waluyo & Pratiwi, 2025) explain that AI chatbot-assisted communication significantly enhances learners' willingness to communicate because students perceive AI as patient, non-critical, and always available for practice. This perception leads to more frequent speech attempts, greater confidence, and reduced hesitation during oral tasks. Likewise, a systematic review of studies from 2020 to 2025 concludes that AI chatbots positively influence vocabulary use, pronunciation accuracy, speaking fluency, and motivation, while also lowering foreign language speaking anxiety among EFL learners (Surden, 2023).

Although previous studies have generally reported positive impacts of chatbot integration in English learning, an important research gap still remains.

Most prior researchers tend to focus on measuring the effectiveness of AI chatbots quantitatively through pre-test and post-test speaking scores, learner satisfaction surveys, or motivational scales (Bylieva, 2022). The majority conclude that chatbots improve speaking confidence and oral participation, yet they largely discuss chatbot as educational technology rather than as an applied linguistic speaking partner. In other words, earlier studies have not sufficiently explored the interactional linguistic dimension of learner–AI communication, such as how turn-taking, follow-up questioning, utterance expansion, self-repair, and discourse continuity contribute to oral language development. Furthermore, recent qualitative evidence suggests that AI conversation may influence not only linguistic performance but also learners' communicative behavior and psychological readiness. (Agustina et al., 2025) reports that students using ChatGPT as a conversational rehearsal partner became more willing to speak in formal classroom interaction, although the study did not deeply analyze the linguistic mechanisms occurring during AI dialogue. This indicates that there is still insufficient applied linguistic explanation regarding how chatbot-mediated interaction functions as a communicative scaffold in speaking acquisition.

This study seeks to fill that gap by examining chatbot not merely as technological assistance, but as an artificial interlocutor that facilitates speaking practice through AI-generated interaction. This research is grounded in modern communicative interaction theory, technology-mediated language learning, and AI-assisted willingness to communicate frameworks, all of which emphasize that oral proficiency grows through sustained, low-anxiety, and responsive conversation. By investigating how learners interact with chatbot as a speaking partner, this study is expected to contribute a deeper applied linguistic understanding of AI-mediated speaking development in contemporary English learning.

RESEARCH METHOD

This study employed a descriptive qualitative approach within the field of Applied Linguistics to examine how chatbot interaction functions as a speaking partner in enhancing learners' English speaking ability (Yin, 2018). This approach was considered appropriate because the research focused not only on speaking outcomes but also on the communicative processes, linguistic patterns, and learner experiences occurring during human AI interaction. Qualitative inquiry is widely used in AI-mediated language learning studies to explore discourse behavior, confidence development, and communication readiness that cannot be fully measured by numerical scores alone.

The participants of this study were undergraduate English learners selected purposively based on several criteria: they had difficulties in spontaneous oral communication, limited confidence in speaking English, and minimal access to regular speaking partners. Such participants were chosen because they could provide rich information regarding the use of chatbot as an alternative interlocutor in speaking practice. The main instrument of this research was an AI generative chatbot capable of producing contextual responses, follow-up questions, and conversational prompts. The chatbot was used as an interactive speaking partner during several speaking sessions in which learners practiced communicative topics such as self-introduction, daily activities, opinions, and future plans. Recent studies indicate that repeated interaction with AI chatbots can reduce anxiety and encourage longer verbal responses because learners feel less judged during conversation.

The data were collected through observation, transcript documentation, and semi-structured interviews. Observation was conducted to record learners' speaking participation, hesitation, confidence, and turn-taking behavior during chatbot interaction. In addition, all learner–chatbot conversations were documented and transcribed to analyze linguistic indicators such as response length, vocabulary use, sentence development, and self-correction. Transcript-based analysis is considered effective in human AI communication research because it reveals how chatbot prompts stimulate learners' oral production and sustain dialogue (Creswell & Poth, 2016). Semi-structured interviews were also conducted to explore learners' perceptions of comfort, motivation, and speaking confidence after using chatbot. The collected data were analyzed using the interactive qualitative analysis model of (Huberman & Miles, 2002), which includes data reduction, data display, and conclusion drawing. Relevant utterances and interactional episodes were selected, categorized, and interpreted to identify patterns of speaking improvement. To ensure validity, methodological triangulation was applied by comparing observation notes, transcript findings, and interview responses. Through this method, the study was expected to provide a deeper understanding of chatbot as an AI-mediated speaking partner that supports communicative development in English learning.

RESULT AND DISCUSSION

The findings of this study reveal that the use of ChatGPT Voice as an AI-powered speaking partner provided significant communicative improvement among the participants. Based on classroom observation, transcript analysis, and interview data, learners demonstrated noticeable development in five major indicators: speaking fluency, self-confidence, vocabulary expansion, response

length, and reduction of speaking anxiety. These findings support the communicative interaction framework proposed by (MacIntyre et al., 2011), who emphasizes that second language speaking competence grows when learners are given frequent opportunities to communicate in low-pressure situations.

The findings in this study is grounded in the modern grand theories underlying AI-mediated language learning, particularly (MacIntyre et al., 2011) communicative interaction theory. These theories collectively emphasize that learners' speaking ability develops through sustained communicative exposure, low-pressure interaction, and continuous verbal engagement supported by digital interlocutors. Therefore, the indicators used to analyze the research findings were not selected arbitrarily, but were derived directly from the theoretical assumptions that speaking improvement in AI-based interaction is reflected in learners' fluency improvement, confidence increase, vocabulary expansion, response length, and speaking anxiety reduction. Fluency and response length represent the learners' growing ability to sustain oral communication, confidence increase and anxiety reduction reflect the psychological readiness to participate in speaking, while vocabulary expansion indicates linguistic enrichment resulting from repeated conversational exposure.

Table 1.
Learners' Speaking Development Before and After ChatGPT Interaction

No	Speaking Indicators	Before AI Interaction	After AI Interaction	Improvement Level
1	Fluency in delivering ideas	Low (2.1)	High (4.0)	Significant
2	Confidence in speaking English	Low (2.3)	Very High (4.2)	Significant
3	Vocabulary expansion	Moderate (2.4)	High (3.9)	Improved
4	Response length in conversation	Low (2.0)	High (4.1)	Significant
5	Speaking anxiety reduction	Very Low (1.8)	Very High (4.3)	Highly Significant

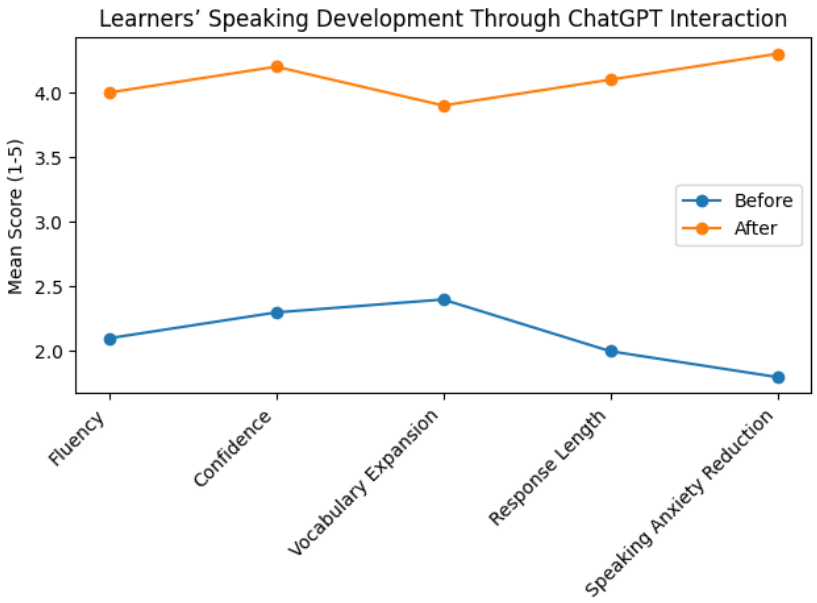
The table shows that all communicative indicators increased after learners conducted regular speaking sessions with ChatGPT. The most dominant improvement appeared in speaking anxiety reduction and confidence enhancement. Before using the AI chatbot, most participants tended to answer briefly, hesitate frequently, and stop speaking after producing one or two sentences. However, after repeated interaction with ChatGPT, learners became

more willing to continue the conversation, elaborate their answers, and initiate questions independently.

This finding strongly confirms (MacIntyre et al., 2011) view that willingness to communicate is a central predictor of oral language development. Learners who feel psychologically safe tend to speak more often, and the more they speak, the more fluent they become. Since ChatGPT does not criticize, laugh, or interrupt negatively, students perceived it as a non-threatening interlocutor. As stated by one participant during the interview:

"I feel braver speaking with ChatGPT because it always waits for my answer and never makes me embarrassed."

This response indicates that AI interaction successfully reduced the emotional barriers usually found in face-to-face classroom speaking.



Picture 1.
Visual Representation of Learners' Improvement

The graph illustrates a consistent upward trend across all five indicators after the implementation of ChatGPT speaking sessions. The steepest increase occurred in confidence and anxiety reduction, suggesting that the psychological effect of AI-mediated interaction played a crucial role in stimulating verbal participation. This is highly relevant to the AI-assisted communication model of (Waluyo & Pratiwi, 2025) who argue that learners tend to communicate more actively when interacting with non-judgmental artificial partners because AI creates a patient and repetitive communicative space.

In terms of linguistic production, transcript documentation also revealed substantial changes in learners' utterance complexity. Before the treatment, learners commonly produced short and fragmented answers such as:
"My hobby is cooking."
"I go to campus."
"I like English but difficult."

After several ChatGPT interaction sessions, their responses became longer and more elaborative:
"My hobby is cooking because I enjoy trying new recipes with my mother every weekend."
"Usually I go to campus in the morning, and after class I spend time reading or practicing English with ChatGPT."

This indicates that learners were no longer producing isolated sentences, but beginning to sustain discourse continuity. Such findings support (Hockly, 2015)theory that technology-mediated language learning environments allow autonomous language rehearsal, enabling learners to repeatedly test and expand their utterances without time limitation.

Another important finding concerns vocabulary retrieval. Through AI conversation, ChatGPT frequently introduced follow-up questions and contextual prompts, forcing learners to search for additional words to maintain the topic. During early sessions, students often paused for long periods or switched to Indonesian. Yet by the fourth and fifth sessions, the number of lexical pauses decreased, and learners began incorporating descriptive adjectives, connectors, and opinion markers such as *actually, usually, because, in my opinion,* and *for example*. This demonstrates that AI conversation did not only improve confidence, but also encouraged richer lexical performance.

The observation data showed that learners became progressively more active in turn-taking behavior. Initially, participants waited passively for prompts and tended to give minimal answers. Later, they started asking return questions, requesting clarification, and voluntarily extending topics. This shift indicates that chatbot interaction functioned as a communicative scaffold rather than a one-way response machine. The learners were not merely answering software prompts; they were engaging in actual dialogue construction.

The findings prove that ChatGPT Voice serves effectively as an AI-mediated speaking partner that enhances both linguistic competence and communicative readiness. In line with modern Applied Linguistics perspectives, speaking development in this study did not occur solely because learners learned new vocabulary, but because they participated in sustained, low-anxiety, technology-supported interaction. Therefore, the results suggest that human–AI conversation can be considered a practical alternative for English speaking

rehearsal, particularly in contexts where learners have limited access to natural speaking partners.

Discussion

Fluency Improvement

One of the most visible findings in this study was the improvement of learners' speaking fluency after repeated interaction with ChatGPT Voice. Before the implementation, most participants produced interrupted utterances, long pauses, and fragmented responses due to hesitation and lack of spontaneous expression. However, after several speaking sessions with AI, learners were able to deliver ideas more continuously with fewer pauses and less dependence on memorized sentence patterns. This happened because ChatGPT created a sustained conversational environment in which learners were repeatedly exposed to question-response sequences. Continuous interaction trained them to think and respond in English more automatically.

This finding is closely related to (MacIntyre et al., 2011)communicative interaction theory which states that fluency develops when learners are consistently involved in real communicative performance rather than isolated language drills. The more opportunities learners have to speak in meaningful interaction, the more natural their speech production becomes. Therefore, the fluency improvement in this study indicates that ChatGPT successfully functioned as a communicative rehearsal partner that stimulated automatic oral production.

Confidence Increase

Another significant result was the substantial increase in learners' confidence when speaking English. At the beginning of the study, participants showed signs of nervousness, uncertainty, and fear of making mistakes. Many learners tended to answer with very short responses because they were worried about grammatical errors or incorrect pronunciation. After using ChatGPT regularly, learners reported feeling braver, more comfortable, and less ashamed to express ideas in English.

This result supports (Waluyo & Pratiwi, 2025) AI-assisted communication framework which explains that learners become more willing to communicate when they interact with a non-judgmental artificial listener. Unlike human classmates or teachers, ChatGPT does not criticize, laugh, or create social embarrassment. This safe atmosphere psychologically encourages learners to take more speaking risks. As confidence increased, learners no longer focused excessively on making perfect sentences, but on keeping the conversation flowing. Thus, AI interaction contributed to confidence building through emotional safety and repetitive communicative exposure.

Vocabulary Expansion

The findings also demonstrated that learners experienced noticeable vocabulary expansion during the chatbot speaking sessions. In the initial interactions, participants often repeated the same simple words, used limited descriptive expressions, and frequently stopped speaking because they could not find appropriate vocabulary. Nevertheless, as the sessions progressed, learners began to use broader lexical items, transition signals, and opinion phrases to maintain their conversations.

This happened because ChatGPT continuously introduced new contextual prompts and follow-up questions that required learners to search for additional words. In many cases, the AI also modeled richer vocabulary through its responses, which indirectly provided learners with lexical input. This phenomenon aligns with (Hockly, 2015) technology-mediated language learning theory, which argues that digital interaction offers learners immediate language exposure and autonomous opportunities to recycle newly encountered words. Through repeated contact with AI-generated language, learners gradually absorbed and reused more varied vocabulary in their speaking.

Response Length

A further important finding was the increase in learners' response length. Before the treatment, participants typically answered in one short sentence such as "Yes, I do," "I like it," or "My hobby is cooking." Their utterances were minimal and did not show elaboration. After repeated interaction with ChatGPT, learners began to provide longer answers consisting of explanations, reasons, examples, and personal opinions. They were able to sustain dialogue instead of simply responding to isolated questions.

This improvement occurred because ChatGPT naturally maintained conversational continuity by asking follow-up questions such as "Why?", "Can you explain more?", or "What do you mean by that?". Such prompts pushed learners to elaborate their thoughts. According to (MacIntyre et al., 2011) communicative competence grows when learners are placed in extended speaking situations that require message development, not just message delivery. Therefore, the longer responses found in this study indicate that learners were becoming active discourse participants rather than passive question-answer respondents.

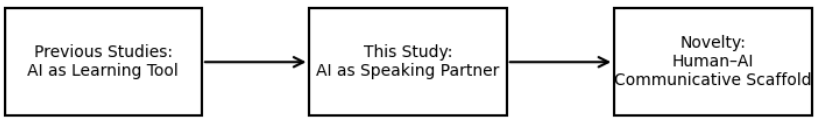
Speaking Anxiety Reduction

The most dominant finding of this research was the strong reduction of speaking anxiety. Before using ChatGPT, many learners admitted that they felt tense, embarrassed, and mentally blocked when speaking English in front of other people. This anxiety often caused silence, whispering, code-switching, or

refusal to continue speaking. However, after interacting with AI regularly, participants reported feeling calmer and more relaxed because they knew the chatbot would patiently wait and continue the conversation without negative judgment.

This result strongly supports (Waluyo & Pratiwi, 2025), who note that AI-mediated communication lowers the social pressure that often prevents learners from speaking. Since learners do not fear humiliation from AI, they can focus on idea delivery rather than error avoidance. The reduction of anxiety also indirectly influenced all other indicators: when anxiety decreased, fluency increased, confidence rose, responses became longer, and vocabulary retrieval improved. In this sense, speaking anxiety reduction can be seen as the central psychological factor behind the success of chatbot-assisted speaking practice.

Beyond the measurable improvement in learners' speaking performance, the present study also reveals an important research novelty in the field of Applied Linguistics and AI-mediated communication. Unlike most previous studies that positioned chatbot merely as a technological learning aid or score-improvement tool, this research found that ChatGPT Voice functioned as a communicative scaffold that actively shaped learners' speaking behavior through sustained human–AI dialogue. The novelty lies in the finding that learners did not simply practice answering questions, but gradually developed interactional competence through AI-generated turn-taking, follow-up prompting, lexical stimulation, and non-judgmental feedback. This means that the contribution of ChatGPT in this study is not limited to improving fluency, confidence, vocabulary, response length, and anxiety reduction as separate variables, but extends to constructing a new model of speaking rehearsal in which artificial intelligence acts as an autonomous speaking partner capable of replacing the absence of human interlocutors. Therefore, the present research offers a new perspective that AI in language learning should be viewed not only as instructional technology, but as a human–AI communicative mechanism that facilitates linguistic growth through continuous conversational negotiation.



The figure illustrates the conceptual shift offered by this study. Previous investigations generally examined AI as a learning tool focusing on effectiveness

measurement, learner satisfaction, or score enhancement. In contrast, the current study repositions AI as a speaking partner within human–AI communicative interaction. As a result, the novelty generated by this research is the identification of chatbot as a communicative scaffold that facilitates interactional linguistic development, not merely technological assistance.

CONCLUSION

Based on the findings and discussion, it can be concluded that the use of ChatGPT Voice as an AI-powered speaking partner has a substantial contribution to enhancing learners' English speaking ability within the framework of Applied Linguistics. The results demonstrate that human–AI interaction is not merely a form of technological assistance, but a communicative practice that provides learners with continuous opportunities to produce language, negotiate meaning, and sustain oral conversation in a low-pressure environment. Through repeated interaction with ChatGPT, learners were able to engage more actively in speaking tasks and gradually shift from passive respondents into more confident communicative participants.

The study specifically identified five major areas of improvement that emerged during the implementation of chatbot-assisted speaking practice. First, learners showed clear fluency improvement as they became more capable of delivering ideas continuously with fewer pauses and less hesitation. Second, there was a strong increase in speaking confidence, indicated by learners' willingness to express opinions more freely without excessive fear of making mistakes. Third, the repeated exposure to AI-generated prompts contributed to vocabulary expansion, enabling students to use more varied lexical choices and richer expressions during conversation. Fourth, learners' response length became significantly longer, which means they were no longer limited to short and fragmented answers but were able to elaborate their thoughts in more extended discourse. Fifth, and most importantly, the use of ChatGPT reduced speaking anxiety because the learners perceived the AI as a patient, non-judgmental, and always-available interlocutor. These five indicators collectively confirm that AI-mediated speaking interaction supports both linguistic growth and psychological readiness in oral English communication.

From a theoretical perspective, the findings validate the modern grand theories employed in this study. In line with MacIntyre's (2007) communicative interaction theory, learners developed oral proficiency because they were given repeated opportunities to communicate in meaningful situations. Hockly's (2015) technology-mediated language learning framework is also reflected in the finding that digital conversational platforms can extend speaking practice

beyond classroom limitations and create autonomous language rehearsal. Furthermore, Waluyo and Pratiwi's (2025) AI-assisted communication confidence model is strongly supported by the evidence that learners became more willing to communicate when interacting with an artificial listener free from social judgment. Thus, the study confirms that sustained AI-based conversation can function as an effective communicative ecosystem for speaking development.

In addition to confirming previous claims about the usefulness of AI in language learning, this study also offers a significant novelty. Unlike earlier studies that generally positioned chatbot as a supplementary educational tool, the present research demonstrates that ChatGPT Voice can be reconceptualized as a communicative scaffold and autonomous speaking partner. The novelty lies in the shift from viewing AI as simple instructional media toward understanding AI as a human–AI interaction mechanism that actively shapes learners' speaking behavior through turn-taking, prompting, lexical stimulation, and emotional support. This indicates that the role of artificial intelligence in language education is becoming increasingly dialogic rather than merely assistive.

REFERENCES

Agustina, L., Handoyo, F., & Damaryanti, R. (2025). English Partnering Efl Students With Chatgpt To Enhance Students' Skills In Oral Communication. *Ethical Lingua: Journal of Language Teaching and Literature*, *12*(2), 309–327.

Bylieva, D. (2022). Language of AI. *Technology and Language*, *3*(1), 111–126.

Creswell, J. W., & Poth, C. N. (2016). *Qualitative inquiry and research design: Choosing among five approaches*. Sage publications.

Crompton, H., Edmett, A., Ichaporia, N., & Burke, D. (2024). AI and English language teaching: Affordances and challenges. *British Journal of Educational Technology*, *55*(6), 2503–2529.

Ding, D., & Yusof, M. B. (2025). Investigating the role of AI-powered conversation bots in enhancing L2 speaking skills and reducing speaking anxiety: a mixed methods study. *Humanities and Social Sciences Communications*, *12*(1), 1–16.

Hockly, N. (2015). Developments in online language learning. *Elt Journal*, *69*(3), 308–313.

Huberman, M., & Miles, M. B. (2002). *The qualitative researcher's companion*. sage.

Jakesch, M., Hancock, J. T., & Naaman, M. (2023). Human heuristics for AI-generated language are flawed. *Proceedings of the National Academy of Sciences*, *120*(11), e2208839120.

Kessler, G. (2018). Technology and the future of language teaching. *Foreign Language Annals*, *51*(1), 205–218.

Liu, Z., Roberts, R. A., Lal-Nag, M., Chen, X., Huang, R., & Tong, W. (2021). AI-based language models powering drug discovery and development. *Drug Discovery Today*, *26*(11), 2593–2607.

MacIntyre, P. D., Burns, C., & Jessome, A. (2011). Ambivalence about communicating in a second language: A qualitative study of French immersion students' willingness to communicate. *The Modern Language Journal*, *95*(1), 81–96.

Surden, H. (2023). ChatGPT, AI large language models, and law. *Fordham L. Rev.*, *92*, 1941.

Waluyo, B., & Pratiwi, D. I. (2025). AI chatbot-assisted English learning and willingness to communicate: A narrative meta-synthesis of evidence from Asian English as a foreign language contexts. *The JALT CALL Journal*, *21*(3), 102884.

Wang, X., Pang, H., Wallace, M. P., Wang, Q., & Chen, W. (2024). Learners' perceived AI presences in AI-supported language learning: A study of AI as a humanized agent from community of inquiry. *Computer Assisted Language Learning*, *37*(4), 814–840.

Woo, J. H., & Choi, H. (2021). Systematic review for AI-based language learning tools. *ArXiv Preprint ArXiv:2111.04455*.

Yin, R. K. (2018). *Case study research and applications* (Vol. 6). Sage Thousand Oaks, CA.