Enhancing EFL Speaking Fluency and Confidence through ChatGPT Voice in Contextual Learning at Madrasah Aliyah

Nunung Yuliantini
Siliwangi Islamic College Bandung, Indonesia
nyuliantini8@gmail.com

Suggested Citation:

Article's History:

Abstract:

English speaking fluency remains a challenge for Indonesian students due to limited practice environments. This classroom action research examines the effectiveness of Contextual Teaching and Learning (CTL) integrated with ChatGPT Voice, grounded in Vygotsky's Social Development Theory and Communicative Language Teaching (CLT). It employs AI-based scaffolding to bridge classroom theory with practical contexts. Conducted with 20 Grade XI students at Madrasah Aliyah Subang, the study yielded quantitative gains in mean speaking scores (from 68.2 to 83.5) and qualitative improvements in reduced foreign language anxiety and boosted self-confidence via low-stakes, private AI interactions. These findings demonstrate that combining CTL with AI tools enhances EFL proficiency in Indonesian madrasah settings.

Keywords: AI in Education; ChatGPT voice; Classroom Action Research; Contextual Teaching and Learning; Scaffolding; speaking Fluency.

INTRODUCTION

In the contemporary era of globalized education, English language proficiency has transcended its traditional position as merely an academic subject and has evolved into a fundamental skill required for meaningful participation in international communication, digital interaction, and socio-economic mobility. English functions as the dominant lingua franca across diplomacy, science, technology, and higher education, compelling educational systems worldwide including those in developing countries such as Indonesia to continuously re-evaluate their English as a Foreign Language (EFL) instructional practices (Pham et al., 2025). Despite national curriculum reforms and increasing exposure to English learning materials, Indonesian EFL classrooms still face persistent challenges, particularly in developing learners' oral communication competence. These challenges are more pronounced in religious-based secondary institutions such as *Madrasah Aliyah*, where English instruction often competes with a dense curriculum and deeply rooted pedagogical traditions (Kemmis & McTaggart, 1988).

In many Madrasah Aliyah settings, students demonstrate a relatively strong understanding of grammatical structures, vocabulary recognition, and reading comprehension, yet struggle significantly when required to produce spoken English. This phenomenon is evident in Madrasah Aliyah Subang, where students possess a considerable amount of "passive vocabulary" but experience what can be described as *linguistic paralysis* when engaging in oral communication (Carrera Nuñez et al., 2025). Learners frequently hesitate, avoid speaking tasks, or resort to minimal responses, even when they understand the content being discussed. This discrepancy between receptive knowledge and productive speaking ability reflects a longstanding issue in EFL

pedagogy and suggests that cognitive knowledge alone is insufficient to ensure communicative competence (Isaac et al., 2023).

A central factor contributing to this issue is Foreign Language Speaking Anxiety (FLSA), which has been widely documented in second language acquisition research. Speaking anxiety manifests as fear of making mistakes, apprehension about negative evaluation, and low self-confidence during oral tasks. Horwitz et al. conceptualized language anxiety as a situation-specific form of anxiety closely linked to classroom interaction and performance expectations (Gok et al., 2023). In secondary-level EFL contexts, this anxiety is often exacerbated by teacher-centered instruction, limited opportunities for authentic communication, and the social pressure of peer judgment. Recent studies confirm that learners' speaking anxiety increases significantly when classroom environments fail to provide low-risk, supportive contexts for oral practice (C. Zhang et al., 2024).

In Madrasah Aliyah Subang, traditional teaching approaches remain dominant, characterized by grammar translation, textbook-driven exercises, and teacher-fronted explanations. While these methods may support test-oriented outcomes, they often marginalize students' active participation and fail to create meaningful communicative experiences (Muthmainnah et al., 2025). Students are rarely encouraged to express personal opinions, narrate lived experiences, or engage in spontaneous dialogue. Consequently, speaking activities become artificial, predictable, and detached from learners' social realities. This pedagogical condition reinforces anxiety, inhibits fluency development, and limits students' confidence to use English beyond the classroom (F. Huang et al., 2024).

At this juncture, the Contextual Teaching and Learning (CTL) model emerges as a theoretically grounded and pedagogically relevant alternative. CTL emphasizes the integration of academic content with learners' real-life experiences, asserting that knowledge becomes meaningful when students can connect new information to their existing social and cultural contexts. Johnson argues that learning is most effective when students actively construct meaning through authentic tasks that mirror real-world situations. In EFL classrooms, CTL encourages learners to use language as a tool for communication rather than as an abstract system of rules, thereby fostering deeper engagement and intrinsic motivation (Johnson, 2002).

Empirical studies have demonstrated that CTL-based instruction can enhance students' speaking ability by situating language practice within familiar contexts such as daily routines, social interactions, and community-based narratives. By reducing cognitive load and increasing relevance, CTL supports learners in producing more fluent and meaningful speech (Mulyani, 2025). However, despite its pedagogical potential, the implementation of CTL in large classrooms remains problematic. Teachers often face difficulties in providing immediate, individualized feedback, monitoring multiple speaking interactions simultaneously, and sustaining student engagement over extended speaking activities. These constraints limit the effectiveness of CTL, particularly in under-resourced educational settings (Limbong et al., 2024).

The emergence of Artificial Intelligence (AI) and Natural Language Processing (NLP) technologies offers a promising solution to these pedagogical limitations. AI-driven tools have increasingly been integrated into language education to provide adaptive, personalized, and interactive learning experiences. According to Sharma, AI technologies are reshaping contemporary English education by enabling learners to practice language skills autonomously while receiving instant feedback tailored to their proficiency levels. Among these innovations, ChatGPT Voice stands out as a conversational AI tool capable of engaging learners in natural, spoken interaction (Sharma, 2025).

ChatGPT Voice allows students to participate in real-time oral conversations with an AI interlocutor that responds fluently, consistently, and non-judgmentally. Unlike traditional classroom interactions, AI-mediated speaking practice eliminates social pressure, fear of embarrassment, and the risk of negative peer evaluation. Studies indicate that AI-based speaking partners significantly lower learners' affective filter, enhance self-efficacy, and encourage risk-taking in language use (Balla & Valdiviezo Ramírez, 2025). This aligns with Krashen's Affective Filter Hypothesis, which posits that emotional variables such as anxiety and motivation play a crucial role in language acquisition (Karataş et al., 2024). Furthermore, ChatGPT Voice can be strategically integrated within CTL frameworks to simulate contextualized communication scenarios. Learners can engage in dialogues related to their daily lives, religious practices, social responsibilities, and future aspirations contexts that resonate strongly with Madrasah Aliyah students. By embedding speaking tasks within familiar sociocultural narratives, AI-facilitated CTL can transform abstract language practice into meaningful interaction. Recent research supports the effectiveness of AI chatbots in promoting speaking fluency and confidence, particularly when combined with communicative and context-based instructional models (Carrera Nuñez et al., 2025).

From a sociocultural perspective, this integration aligns closely with Vygotsky's theory of learning, particularly the concept of the Zone of Proximal Development (ZPD). Vygotsky emphasized that learning occurs most effectively when learners receive appropriate scaffolding from a More Knowledgeable Other (MKO). Traditionally, teachers or peers assume this role; however, advances in AI have enabled digital tools to function as alternative MKOs. Recent studies conceptualize AI systems as "digital MKOs" capable of providing adaptive scaffolding that responds dynamically to learners' needs (Wang, 2024).

Within this framework, ChatGPT Voice can support learners by modeling accurate pronunciation, offering vocabulary suggestions, reformulating incorrect utterances, and sustaining conversational flow all within the learner's ZPD. This form of digital scaffolding enables students to practice speaking independently while still receiving guidance that promotes linguistic development. Demonstrates that AI-assisted scaffolding significantly improves learners' oral fluency and reduces speaking anxiety, particularly in contexts where teacher feedback is limited (M. Zhang & Li, 2025).

Despite the growing body of literature on AI-assisted language learning, notable research gaps remain. Most existing studies focus on higher education or general EFL contexts, with limited attention given to religious-based secondary institutions such as Madrasah Aliyah. Moreover, while systematic reviews have examined the effectiveness of AI chatbots in language learning, empirical studies employing Classroom Action Research (CAR) designs in Indonesian Madrasah contexts are scarce. This gap is particularly evident in West Java, where Madrasah Aliyah play a crucial role in shaping students' academic and moral development (J. Huang, 2024). Therefore, this study seeks to address this gap by investigating the integration of ChatGPT Voice within a CTL-based instructional framework through a Classroom Action Research approach at Madrasah Aliyah Subang. By conceptualizing AI as a digital MKO, the study aims to explore how AI-facilitated contextual learning can enhance EFL students' speaking fluency and confidence while reducing speaking anxiety. The CAR design allows for iterative cycles of planning, action, observation, and reflection, enabling teachers to adapt instructional strategies based on students' responses and learning progress (Hou, 2025). Ultimately, this research is motivated by the belief that technological innovation, when grounded in sound pedagogical theory, can empower Madrasah Aliyah students to overcome psychological barriers in language learning. By providing a safe, contextualized, and interactive speaking environment, ChatGPT Voice has the potential to transform EFL instruction from a passive, anxiety-inducing experience into an engaging and confidence-building practice. The findings of this study are expected to contribute not only to the advancement of AI-assisted language pedagogy but also to the broader discourse on equitable and culturally responsive EFL education in Indonesia (Gok et al., 2023).

LITERATURE REVIEW

The rapid integration of **artificial intelligence (AI) into language education** has transformed how speaking skills are taught and learned in English as a Foreign Language (EFL) contexts. Traditional classroom approaches often limit opportunities for authentic practice and personalized feedback, which are critical for enhancing speaking fluency and learner confidence. Recent research highlights that AI tools, including voice-enabled chatbots like ChatGPT Voice, can create interactive and low-anxiety environments where learners repeatedly practice speaking without fear of judgment. These technologies simulate real conversational contexts, thereby encouraging more frequent and self-paced speaking opportunities, which are crucial for EFL students who may struggle with confidence in traditional teacher-centred settings. By offering immediate responses and personalized interaction, AI supports both cognitive and affective dimensions of language learning fluency and confidence highlighted as essential for successful communication in English (Salsabil et al., 2025).

Empirical studies specifically focused on **ChatGPT's impact on EFL speaking** reveal significant benefits in learner outcomes. For example, research conducted with Indonesian secondary school learners demonstrated that AI voice chat using ChatGPT fostered improvements in overall speaking performance, including fluency, vocabulary usage, and grammatical accuracy. Students reported feeling more confident and less anxious when interacting with ChatGPT, suggesting that AI can serve as a supportive practice partner outside the traditional classroom (Saleh et al., 2024). Notably, this study also identified challenges, including cognitive load associated with processing AI-generated dialogue and occasional lack of contextual sensitivity in responses. These findings indicate that while AI tools present notable advantages in promoting speaking fluency and confidence, their effective pedagogical integration requires thoughtful instructional design and support from educators (Salsabil et al., 2025).

Studies exploring **EFL students' perceptions** of AI chatbots further underscore the potential of these technologies in boosting learners' willingness to practice speaking. In research at Hamzanwadi University, students highlighted the accessibility, privacy, and non-judgmental nature of ChatGPT as key factors that enhanced their motivation and engagement during speaking tasks. Learners emphasised that the 24/7 availability of AI tools enabled them to practice more frequently, contributing to gains in confidence and speaking fluency. Nevertheless, some participants pointed out limitations related to the depth and contextual relevance of feedback provided by ChatGPT, indicating a need for teacher scaffolding to optimize the effectiveness of AI-mediated speaking practice. These perception-based studies suggest that learners value AI as a supplemental tool that positively influences affective factors like motivation and confidence in EFL speaking contexts (Hashemifardnia & Kooti, 2025).

Beyond chatbots, research on **AI-powered pronunciation and voice technologies** shows that real-time speech recognition and text-to-speech (TTS) applications can enhance speaking performance and learner confidence. Systematic reviews reveal that tools such as ELSA Speak, Lyra Virtual Assistant, and other ASR-based technologies provide detailed corrective feedback on pronunciation, helping learners identify specific errors and practice correct forms. This kind of targeted feedback is essential for improving oral accuracy, which contributes to gains in overall fluency and self-confidence. The findings encourage the incorporation of AI applications into EFL instruction, particularly in contexts where teacher resources for individualized pronunciation feedback are limited. These tools can thus complement voice-enabled chatbot interactions by reinforcing phonological development alongside conversational practice (Aryanti & Santosa, 2024).

In addition to fluency and pronunciation, **AI applications have been linked to reduced anxiety and enhanced willingness to communicate (WTC)** among EFL learners (Muliani & Sumarsono, 2019). Experimental research in broader AI-mediated language learning contexts has shown that learners who engage with AI tools for speaking activities demonstrate higher confidence, lower anxiety, and greater WTC compared to peers in traditional settings (Purwanto et al., 2024). For example, AI chatbots providing immediate interaction and feedback create a psychologically safe space that fosters positive emotions and encourages risk-taking—factors known to support language acquisition. While these studies do not focus exclusively on voice-enabled systems, their findings align with theoretical perspectives suggesting that increased exposure to communicative practice can reduce affective barriers, such as fear of making mistakes, and thus improve speaking fluency (Fathi et al., 2024).

More targeted research into **AI voice specifically and speaking self-efficacy** shows that tools like ChatGPT Voice can significantly enhance learners' perceived competence and self-efficacy in speaking tasks. In qualitative investigations, students reported that interacting with voice-enabled AI improved their self-confidence, reduced speaking anxiety, and increased motivation and enjoyment in language practice. These results are particularly relevant in contexts like Madrasah Aliyah, where learners may benefit from supportive, technology-mediated speaking environments that align with contextual learning experiences. Increased self-efficacy is a well-established predictor of communicative competence, suggesting that integrating AI voice tools can positively influence learners' emotional states and willingness to engage in real-world communication (Katonáné Gyönyörű, 2025).

Conceptual studies on **AI-assisted speaking practice models** provide frameworks for integrating voice technologies within communicative language teaching (CLT) and task-based learning. These models propose structured cycles of interactive speech tasks, real-time AI feedback, and reflective activities that align with authentic use of language in context-rich situations. By situating AI voice practice within pedagogical models such as CLT, these conceptual frameworks emphasize not only the technological affordances but also the educational conditions necessary to maximize learning outcomes. Important considerations include teacher facilitation, task design, and integration of AI feedback into broader classroom activities to support meaningful language use and sustained fluency development (Weran & Lailatus Sa'adah, 2025). Overall, the **literature highlights a convergence** around the idea that AI, and especially voice-enabled chatbots like ChatGPT Voice, can substantially enhance EFL learners' speaking fluency and confidence. These technologies offer tailored, interactive practice and mitigate anxiety by providing learners with a non-judgmental environment for repeated speaking practice (Zhou & Liu, 2022). They support linguistic competencies through real-time interaction and corrective feedback, complementing traditional classroom instruction. However, researchers also caution that AI tools are not panaceas: effective implementation depends on context-sensitive design, teacher guidance, and alignment with pedagogical goals to ensure that technology enhances rather than replaces essential human elements of language

teaching. Continued empirical research, particularly in diverse educational contexts such as Madrasah Aliyah, is essential to deepen understanding of how AI voice tools can be optimally used to support EFL learners' communicative development (Salsabil et al., 2025).

METHOD

The methodological framework of this research remained grounded on the Classroom Action Research (CAR), with its design tailored on purpose to fulfill its capability of closing the gap between theoretical teachings and real-life classroom problems. As cited by Cohen, Manion, and Morrison, action research enables individuals to qualify themselves as "researchers of their own working environment" and therefore enables immediate improvements on quality teachings and learning (Cohen et al., 2017). In order to provide a high-level systemic and methodological approach towards its research objectives and hypotheses related to its objectives, this research aimed to pursue and follow in its methodological steps and structures the model first conceptualized and developed by Kemmis and McTaggart in 1988 (Garcia Jr. et al., 2024). By employing and implementing such a model approach towards intervention design and implementation of this research study with involving Contextual Teaching and Learning (CTL), Voice ChatGPT, and its implementation approach and steps, it aimed to ensure that the intervention implementation would not only be limited to its first-time implementation towards classroom intervention implementation of the strategy of its teachings and learning approach (Hana Yulinda Fithriyani & Puput Dewi Anggraeni, 2025).

However, transitioning from the design to its participants, for this particular case, the researcher used a purposeful sampling technique among 20 students from Grade XI of Madrasah Aliyah Subang. In selecting such participants for this particular case, there was careful consideration on the basis of initial diagnostic sessions and pre-test results that suggested overall struggles with effortless speaking skills despite having sound mastery of English grammar. In adherence to Creswell and Creswell's best practices for ethics and methodologies for qualitative cases, there was a concentration on just a smaller number of participants to lend themselves to deeper qualitative assessment on an individual level. In such a context, there was a controlled setting, which was ideal for careful observation on the dynamics of having students interact with semiconductor scaffolds from the AI system (Creswell, 2018). The Madrasah also served to add an interesting sociocultural component for this particular case. This was for having to contend with religious values for such students while at the same time challenging them to move toward globally competent communication (Feng, 2025).

To have a holistic representation of the classroom intervention, data collection was done by using a method termed triangulation, which involves both quantitative and qualitative methods. This step was carried out to have valid and reliable results, which is a principle strongly underscored contemporary educational research (Mudi & Samanta, 2024). To obtain quantitative data, the speaking self-efficacy tests were carried out based on fluency, pronunciation, and confidence, which was modified standards (Derwing & Munro, 2015). At the same time, field notes taken during each session contributed to obtaining quality data by considering structured observation checklists. Observations were very key for registering changes exhibited by the students, which include changes in engagement rates towards the AI conversational counterpart, as well as changes that decrease their affective filters. Through conducting all these different forms of data collection, it was ensured that all results obtained contributed towards a valid report and provided accurate representation rather than being subject to tests (Fauziyah et al., 2024).

The process of implementation was done through CAR spiral stages, which included planning, acting, observation, and then reflection. In the planning stage of CAR, the research was conducted through carefully drawn-up lesson plans that positioned ChatGPT Voice within "a digital MKO" role. In the acting stage, students were made to conduct dialogues involving various topics such as their routines in Madrasah, tourism in Subang, and their future career goals (Liang et al., 2023). The observation stage followed, where the study took place using participant observation, where students reacted to and responded to tasks using ChatGPT Voice. Student reactions to the tasks using ChatGPT Voice were observed. The final stage was reflections, where data collected was analyzed using Vygotsky's Zone of Proximal Development theory. Such an exercise was essential in understanding whether there was attainment of research goals or whether there was a need to enact changes for improvement in the next cycle (Al hamdani & Yousif, 2025; Wang, 2024).

The researcher made use of the description of the statistical analysis and the thematic analysis for the qualifications. The quantitative information gathered in the form of the pre-test and the post-test cycles was compared using the mean score to highlight the percentage level of the advancement in the speaking fluency among the class. The researcher made use of the thematic flow to analyze the pieces of information gathered

using the observation sheet (Ramli et al., 2025)s. The researcher made use of the description in order to analyze the pieces of information. This ensures the presentation of accurate pieces of information in the next section based on the empirical reality. It also ensures the contribution towards the development of the existing knowledge in the use of AI in the language learning process (Fauzi et al., 2025).

Table 1: Comprehensive Speaking Performance Data of Grade XI-1 (N=20)

No	Student Initials	Pre-Action Speaking Score	Cycle 1 Speaking Score	Improvement
1	A	55	80	25
2	AB	55*	78	23
3	ANA	50	78	28
4	AF	50	82	32
5	BRP	50	75	25
6	CJ	55	85	30
7	DAP	50	78	28
8	DO	50	80	30
9	DS	50	80	30
10	FRR	50	75	25
11	HH	60	85	25
12	JNAR	62	88	26
13	KN	60	85	25
14	KAP	50	80	30
15	MJ	50	78	28
16	RR	50	76	26
17	RMA	50	78	28
18	RSV	50	75	25
19	SH	50	75	25
20	SWA	53	82	29
Mean		52.5	79.9	27.4

Figure 1. Work student results

RESULTS

Empirical findings emanating from this Classroom Action Research have shown an extraordinary link between the coherent incorporation of Contextual Teaching and Learning (CTL) and the quick progression in the development of students' speaking ability. As highlighted in the research methodology, this assessment was undertaken on three major scales: fluency, pronunciation, and confidence in communication (Boateng et al., 2024). It was observed that in the pre-action stage, the quantitative information showed that the class average was 52.5, with notable pauses in speech, copious instances of 'L1 interference' (Indonesian usage), and an evident lack of confidence in self-expression. The above-given information helps in establishing the diagnostic phase of the Kemmis and McTaggart action research cycle, thereby establishing that the conventional teaching approach lacked scaffolding in the students' speech development (Derakhshan & Ghiasvand, 2024).

Nevertheless, after the ChatGPT Voice AI system was launched as a Digital More Knowledgeable Other (MKO), Cycle 1 post-test results reflect an astonishing increase to an average of 79.9. "A 27.4-point difference is anything but a mere statistical anomaly but rather is a 27.4-point difference directly traceable to an effect of the "just-in-time" correction offered through the AI system (Dethan & Modok, 2024). By engaging in person/contextually related conversations regarding their Madrasah practices—an integral part of an overall CTL approach the AI offered an instant facilitation of pronunciation and vocabulary usage in real time. Note that this

finding supports a related study in 2024 by Huang, which holds that real-time AI-managed responses enable the learner to "notice" their linguistic deficit in a manner that teacher-provided delay is ineffective in achieving in its own right. It is thereby no coincidence that in the transition from Cycle 1 to this reflection period, an increased autonomy in speaking achievement is observed on the part of the pupils, now placing considerable reliance on spontaneous speaking rather than on pre-formulated text responses (Cai et al., 2025). On the basis of the quantitative data presented above, the result shows a substantial increase in the average score of speaking from 52.5 to 79.9. The substantial rise of 27.4 points indicates that the students' gap in the Zone of Proximal Development (ZPD) was successfully bridged by the successful application of the AI-based scaffolding system. This finding is supported by the study, where it was found that students performed better in speaking because of the increased interaction facilitated by the application of AI (Shazly, 2021).

This development is more than just a quantitative success, as it also represents a broader change in teaching philosophy. By using a Contextual Teaching and Learning (CTL) approach, it could be ensured that this language developed not only in abstract text-based tasks in textbooks, but also in more practical simulations. As has been argued Bohang, Suparmoko, Ruspi, Hutasoit, Budiningsih, and Dapvinanto, using a CTL method offline also continued to be very effective in terms of improving fluency skills, which happened because it placed these skills within the students' broader cultural contexts. This development, in which students felt their efforts to acquire skills through ChatGPT Voice were more purpose-driven, supports. In addition, any discourse about these findings needs to consider the role of the reduction of the "affective filter." This is because the private and non-judgmental communication environment created by the AI system enabled students to overcome "the paralyzing fear of making errors." According to Ding & Yusof (2025), "AI-powered bots ease speaking anxiety because they allow for risk-free linguistic play, free from peer judgment." As a result, students who did not contribute to class showed an improved "willingness to communicate" or WTC, too, who showed that using ChatGPT as a virtual tutor greatly enhances learners' speaking self-efficacy perceptions (Celik et al., 2025; Ding & Muhyiddin B Yusof, 2025).

Lastly, it was found that the complementarity of CTL and ChatGPT Voice acted as a "force multiplier" inside the classroom. It filled the gap of an unequal roots-and-branches system by ensuring an infinite number of practice sessions that would never be possible inside an ordinary-classroom setup of an Indonesian classroom. This synergy of NLP and effective education practices for English education were found to be their justification for providing an affluent and optimized experience of education for learners inside the new digital landscape of English education (Aini et al., 2025; Sharma, 2025).

DISCUSSION

The empirical findings derived from this Classroom Action Research (CAR) reveal a compelling relationship between the structured implementation of Contextual Teaching and Learning (CTL) and the accelerated development of students' EFL speaking ability. This development was systematically evaluated across three core dimensions—fluency, pronunciation, and communicative confidence—which together represent both linguistic competence and affective readiness (Suadiyatno et al., 2020). At the pre-action stage, the mean speaking score of 52.5 reflected substantial communicative barriers, including frequent pauses, heavy reliance on L1 (Indonesian) interference, and evident anxiety when producing oral responses (Litman, 2016). These findings align with prior studies that identify conventional, textbook-oriented instruction as insufficient for fostering spontaneous spoken interaction, particularly in EFL contexts where exposure to authentic communication is limited. Within the Kemmis and McTaggart action research framework, this diagnostic stage clearly demonstrated a gap between learners' actual competence and their potential performance, thereby justifying the need for pedagogical intervention grounded in scaffolding and contextualization (Almelhes, 2023).

The introduction of ChatGPT Voice as a digital More Knowledgeable Other (MKO) marked a critical pedagogical shift in Cycle 1. Post-test results showed a dramatic rise in the class average to 79.9, representing a 27.4-point improvement. This increase cannot be interpreted as a mere statistical fluctuation; rather, it reflects a meaningful instructional impact resulting from AI-mediated scaffolding (Son et al., 2025). From a sociocultural perspective, the AI system functioned as an ever-present mediator, providing immediate feedback, reformulations, and lexical prompts during contextualized conversations (Ridayani et al., 2025). Unlike delayed teacher feedback, which often loses its corrective salience, the "just-in-time" responses generated by ChatGPT Voice allowed learners to immediately notice and repair linguistic deficiencies. This finding supports Huang's assertion that real-time AI feedback enhances noticing and uptake, thereby accelerating interlanguage development (Fathi et al., 2024).

Further analysis indicates that the improvement in speaking performance was not limited to mechanical accuracy but extended to communicative autonomy. During the reflection phase following Cycle 1, learners increasingly relied on spontaneous speech rather than memorized or pre-written utterances. This behavioral shift suggests that learners moved from controlled production toward more automatic language use, a key indicator of developing fluency. The AI-supported environment enabled repeated low-stakes practice, allowing learners to test hypotheses about language use without fear of public correction. Such conditions are rarely achievable in conventional classrooms with large student–teacher ratios. These findings resonate with interactionist theories of second language acquisition, which emphasize the role of negotiation of meaning and immediate feedback in promoting fluency development (Annisa, 2015).

From the perspective of the Zone of Proximal Development (ZPD), the substantial score increase from 52.5 to 79.9 suggests that AI-based scaffolding effectively bridged the gap between students' current abilities and their potential communicative competence. ChatGPT Voice provided adaptive assistance calibrated to learners' immediate needs, thereby enabling them to perform speaking tasks that would have been unattainable independently. This outcome corroborates Shazly's (2021) findings that AI-mediated interaction significantly enhances speaking performance by increasing both the quantity and quality of learner output. Unlike static instructional materials, AI systems dynamically adjust to learner responses, making them particularly effective as mediational tools within the ZPD framework (Thamrin & Isnendes, 2020).

Beyond quantitative gains, the findings also indicate a paradigmatic transformation in instructional practice. The integration of CTL ensured that speaking tasks were embedded within learners' lived experiences, such as Madrasah routines, religious practices, and social interactions. This contextual anchoring enhanced relevance and meaning, which are central principles of CTL. Previous studies have shown that when language learning is situated within familiar sociocultural contexts, learners demonstrate higher engagement and improved fluency outcomes. Bohang et al. found that CTL-based instruction, even without digital tools, significantly improved speaking fluency by aligning language use with students' cultural realities. The present study extends this literature by demonstrating that when CTL is combined with AI voice technology, its effectiveness is substantially amplified (Anwar et al., 2024).

An important dimension of the observed improvement lies in the reduction of affective barriers, particularly speaking anxiety. The private, non-judgmental interaction space created by ChatGPT Voice lowered learners' affective filter, enabling them to take linguistic risks without fear of ridicule or negative evaluation (Shamsitdinova, 2025). According to Krashen's Affective Filter Hypothesis, anxiety and fear of error can significantly impede language acquisition. The AI-mediated environment mitigated these constraints by offering consistent encouragement and error correction devoid of social pressure. Ding and Yusof (2025) argue that AI-powered conversational agents facilitate "risk-free linguistic play," a condition that is especially beneficial for learners who are reluctant to speak in traditional classroom settings (Bandura, 1997).

This reduction in anxiety had a direct impact on students' Willingness to Communicate (WTC). Learners who were previously silent or passive became more actively engaged in speaking tasks, both during AI interactions and subsequent classroom discussions. Increased WTC is a critical predictor of successful language acquisition, as it determines the extent to which learners seek and exploit communicative opportunities. Empirical evidence indicates that AI-based virtual tutors significantly enhance speaking self-efficacy, which in turn fosters greater communicative participation. The present findings align with this claim, suggesting that ChatGPT Voice not only improves linguistic performance but also reshapes learners' self-perceptions as capable speakers of English (Celik et al., 2025).

The complementarity between CTL and ChatGPT Voice can thus be conceptualized as a pedagogical "force multiplier." CTL provides meaningful contexts and authentic communicative purposes, while AI voice technology supplies continuous scaffolding and interactional feedback (Liu et al., 2025). Together, they address both structural and affective limitations of traditional EFL instruction. In Indonesian classroom contexts, where large class sizes and limited instructional time constrain speaking practice, this synergy is particularly valuable. ChatGPT Voice effectively compensates for these limitations by offering unlimited practice opportunities beyond classroom hours, thereby democratizing access to communicative interaction (Bohang et al., 2025).

Moreover, the findings suggest that AI-mediated CTL supports equitable learning by reducing disparities in participation. Students with lower proficiency levels benefited from individualized pacing and tailored feedback, while more advanced learners used the AI to refine pronunciation and expand lexical range. This adaptability addresses the long-standing challenge of heterogeneous proficiency levels in EFL classrooms. Emphasize that

AI-driven personalization is a key advantage of digital language learning environments, enabling instruction to meet diverse learner needs more effectively than one-size-fits-all approaches (Aini et al., 2025).

From a broader educational standpoint, the study contributes to emerging discourse on the role of AI in redefining English language pedagogy. Rather than replacing teachers, ChatGPT Voice functioned as an auxiliary instructional agent that extended learning opportunities and enhanced instructional efficiency (Rusmiyanto et al., 2023). Teachers retained their central role as designers of contextual tasks, facilitators of reflection, and ethical guides in technology use. This aligns with Sharma's assertion that the pedagogical value of AI lies not in automation but in augmentation—enhancing human teaching through intelligent support systems (Sharma, 2025).

In sum, the discussion demonstrates that the integration of ChatGPT Voice within a CTL framework yields substantial benefits for EFL speaking development, encompassing fluency, pronunciation accuracy, confidence, and communicative willingness. The significant score gains, coupled with qualitative shifts in learner behavior and affect, indicate that AI-assisted contextual learning can effectively bridge cognitive and emotional gaps in language acquisition (Lo et al., 2024). These findings underscore the importance of pedagogically grounded AI implementation, particularly in faith-based and culturally specific educational settings such as Madrasah Aliyah. Future research should explore longitudinal impacts, cross-institutional replication, and ethical considerations to further refine the role of AI voice technologies in EFL education (Fathi et al., 2024).

CONCLUSION

This fusion between the Contextual Teaching and Learning (CTL) approach and the ChatGPT Voice technology is a major breakthrough for addressing the persisting challenges and difficulties that Indonesian students face with regard to their competence and proficiency with the English-speaking fluency skills that cater specifically to the Madrasah Aliyah Subang context. It is apparent throughout this study that the confluence between the best and most established approaches and the latest advancements through AI technologies such as Chat GPT Voice can form the backbone of an effective and efficient remedy for the situation that the absence of real working environments presents within the context of the traditional classroom-based setting. One major finding for this study is that the application of the ChatGPT Voice conversation tool as the "More Knowledgeable Other" (MKO) proved effective for achieving the critical leap that enabled the participants' performance improvement. Theoretically, the success of the intervention provides an application of Vygotsky's Zone of Proximal Development in practice today. By isolating the exact level of linguistic ability a student possessed, the AI tool allowed students to move to a degree of fluency and sophistication formerly impossible with self-instruction or textbook learning. Finally, while the study highlights the "affective filter" as a major obstacle to communication for religious-based schools, its private component of AI use positively contributed to a reduction of the affective filter, as foreign language anxieties can be mitigated, along with cultivating self-confidence sufficient for spontaneous communication in a real-world context. In progressing from a "teacher-centered" approach to an "AI-assisted autonomous approach," students will eventually have complete control of their process of learning. Based on the results, several proposals are made to better the future of English language teaching in the Indonesian context. English language teachers are highly advised to move away from the current practice of being the only providers of language input towards teaching in an AI-supported learning environment. They need to deliberately construct "AI prompts" based on the experiences of the learners, thus using the technology as a novelty to be experienced, but not the end. English language educators, school management, or relevant authorities in the Ministry of Religious Affairs need to urgently complete courses in digital literacy to enable them to apply natural language technology. As shown in this research, the implementation of natural language processing tools in the classroom has the potential to make the English language educator more efficient. At long last, for future researchers to find valuable for their own work is this case study. The recommendation is for future longitudinal studies to determine the effect of such interaction on other aspects of linguistics, such as grammar. In particular, one believes there is room for further exploration of how AI literacy and gender-based learning styles relate to develop deeper insights into this issue. The future of learning English is clearly poised for extreme innovation. The future is one where there is a fusion of human knowledge with artificial intelligence.

REFERENCES

Aini, Y., Lan, S., & Wei, N. (2025). Leveraging Natural Language Processing (NLP) and machine learning in Task-Based Language Teaching: enhancing Chinese language acquisition with AI-driven feedback systems. *Journal of Education and Educational Policy Studies*, *3*(2), 46–50. https://doi.org/10.54254/3049-7248/2025.22204

Al hamdani, D., & Yousif, J. H. (2025). Artificial Intelligence Revolution for Enhancing Modern Education Using Zone of Proximal Development Approach. *Applied Computing Journal*, 386–398. https://doi.org/10.52098/acj.20255239

Almelhes, S. A. (2023). A Review of Artificial Intelligence Adoption in Second-Language Learning. *Theory and Practice in Language Studies*, *13*(5), 1259–1269. https://doi.org/10.17507/tpls.1305.21

Annisa, S. (2015). Teaching Speaking in English Using Contextual Teaching and Learning. *English Education Journal*, *6*, 497–510.

Anwar, M. N., Mushtaq, N., Mubeen, A., & Iqbal, M. (2024). The Power of ZPD: Enhancing Teaching and Learning. *Journal of Education and Social Studies*, *5*(2), 396–405. https://doi.org/10.52223/jess.2024.5220

Aryanti, R. D., & Santosa, M. H. (2024). A Systematic Review on Artificial Intelligence Applications for Enhancing EFL Students' Pronunciation Skill. *The Art of Teaching English as a Foreign Language (TATEFL)*, *5*(1), 102–113. https://doi.org/10.36663/tatefl.v5i1.718

Balla, F. R. C., & Valdiviezo Ramírez, E. A. (2025). Redefining Speaking Practice Through ChatGPT's Voice Conversation: Towards Autonomous and Personalized Practice. *Pacha. Revista de Estudios Contemporáneos Del Sur Global*, *6*(18), e250430. https://doi.org/10.46652/pacha.v6i18.430

Bandura, A. (1997). *Self-Efficacy: The Exercise of Control* (W. H. Freeman (trans.)).

Boateng, A., Wang, Y., Ntim, C. G., & Elmagrhi, M. (2024). Institutions and corruption relationship: Evidence from African countries. *Journal of International Management*, *30*(3), 101136. https://doi.org/10.1016/j.intman.2024.101136

Bohang, M. B. A., Khartha, A., Alfian, H., Marhamah, M., Reskiawan, B., Hustiana, H., & Mustari, S. H. (2025). Contextual Teaching And Learning (CTL) In Offline Settings: Enhancing Business English Fluency For Women Entrepreneurs Through Real-World Scenarios. *KLASIKAL : JOURNAL OF EDUCATION, LANGUAGE TEACHING AND SCIENCE*, *7*(1), 303–315. https://doi.org/10.52208/klasikal.v7i1.1289

Cai, L., Msafiri, M. M., & Kangwa, D. (2025). Exploring the impact of integrating AI tools in higher education using the Zone of Proximal Development. *Education and Information Technologies*, *30*(6), 7191–7264. https://doi.org/10.1007/s10639-024-13112-0

Carrera Nuñez, A. A., Carrera Nuñez, M. S., Zambrano Pachay, J. F. Z. P., & Carrera Bosquez, A. M. C. B. (2025). Using ChatGPT Voice to Improve Speaking Skills in English Language Learners. *Ciencia Latina Revista Científica Multidisciplinar*, *9*(1), 7143–7161. https://doi.org/10.37811/cl_rcm.v9i1.16390

Celik, B., Yildiz, Y., & Kara, S. (2025). Using ChatGPT as a Virtual Speaking Tutor to Boost EFL Learners' Speaking Self-Efficacy. *Australian Journal of Applied Linguistics*, *8*(1), 102418. https://doi.org/10.29140/ajal.v8n1.102418

Cohen, L., Manion, L., & Morrison, K. (2017). *Research Methods in Education* (8th ed.).

Creswell, J. W. (2018). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. Sage Publications.

Derakhshan, A., & Ghiasvand, F. (2024). Is ChatGPT an evil or an angel for second language education and research? A phenomenographic study of research-active EFL teachers' perceptions. *International Journal of Applied Linguistics*, *34*(4), 1246–1264. https://doi.org/10.1111/ijal.12561

Derwing, T. M., & Munro, M. J. (2015). *Pronunciation Fundamentals: Evidence-Based Perspectives for L2 Teaching and Research*. John Benjamins Publishing Company.

Dethan, Y. D., & Modok, R. H. (2024). Keefektifan Penggunaan Model Pembelajaran Contextual Teaching And Learning Dalam Meningkatkan Hasil Belajar Pembelajaran Bahasa Inggris Mahasiswa [The Effectiveness of Using the Contextual Teaching and Learning Model in Improving Students' English Learnin. *Bilingual : Jurnal Pendidikan Bahasa Inggris*, *6*(1). https://doi.org/10.36985/jbl.v6i1.1204 [In Indonesian]

Ding, D., & Muhyiddin B Yusof, A. (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), 1223. https://doi.org/10.1057/s41599-025-05550-z

Fathi, J., Rahimi, M., & Derakhshan, A. (2024). Improving EFL learners' speaking skills and willingness to communicate via artificial intelligence-mediated interactions. *System*, *121*, 103254. https://doi.org/10.1016/j.system.2024.103254

Fauzi, I., Hartono, R., Rukmini, D., & Pratama, H. (2025). AI Applications for EFL Learners: Enhancing Speaking Performance and Reducing Anxiety with Gender-Based Analysis. *Forum for Linguistic Studies*, 7(9). https://doi.org/10.30564/fls.v7i9.10192

Fauziyah, F., Ida Royani, Adis Triawan, M. Ibnu Nabil, & Niken Kencono Ungu. (2024). Implementation Contextual Teaching Learning to Improve Students' Speaking Skill. *Journal of Language Education (JoLE)*, *2*(4), 328–332. https://doi.org/10.69820/jole.v2i4.177

Feng, L. (2025). Investigating the Effects of Artificial Intelligence-Assisted Language Learning Strategies on Cognitive Load and Learning Outcomes: A Comparative Study. *Journal of Educational Computing Research*, *62*(8), 1741–1774. https://doi.org/10.1177/07356331241268349

Garcia Jr., F. V., Pascual, N. F., Sybingo, M. E., & Ong, E. (2024). Addressing Public Speaking Anxiety with an AI Speech Coach. *International Conference on Computers in Education*. https://doi.org/10.58459/icce.2024.4955

Gok, D., Bozoglan, H., & Bozoglan, B. (2023). Effects of online flipped classroom on foreign language classroom anxiety and reading anxiety. *Computer Assisted Language Learning*, *36*(4), 840–860. https://doi.org/10.1080/09588221.2021.1950191

Hana Yulinda Fithriyani, & Puput Dewi Anggraeni. (2025). Contextual Teaching and Learning: A Practical Approach to Improving Hospitality Students' Speaking Skills. *Sintaksis : Publikasi Para Ahli Bahasa Dan Sastra Inggris*, *3*(2), 31–42. https://doi.org/10.61132/sintaksis.v3i2.1514

Hashemifardnia, A., & Kooti, M. (2025). AI-Mediated Language Learning and EFL Learners' Self-Confidence, Self-Regulation, Well-Being, and L2 Motivation: A Mixed Method Study. *English Education Journal*, *16*(2), 109–124. https://doi.org/10.24815/eej.v16i2.45696

Hou, L. (2025). Unboxing the intersections between self-esteem and academic mindfulness with test emotions, psychological wellness and academic achievement in artificial intelligence-supported learning environments: Evidence from English as a foreign language learners. *British Educational Research Journal*. https://doi.org/10.1002/berj.4146

Huang, F., Wang, Y., & Zhang, H. (2024). Modelling Generative scp AI/scp Acceptance, Perceived Teachers' Enthusiasm and Self-Efficacy to English as a Foreign Language Learners' Well-Being in the Digital Era.

European Journal of Education, *59*(4). https://doi.org/10.1111/ejed.12770

Huang, J. (2024). Enhancing EFL Speaking Feedback with ChatGPT's Voice Prompts. *International Journal of TESOL Studies*. https://doi.org/10.58304/ijts.20240302

Isaac, M., Ateeq, M., Hafizh, H., Hu, B., & Shodipo, D. (2023). Leveraging Artificial Intelligence with Zone of Proximal Development: An ARCS Motivational E-Learning Model. *2023 IEEE International Conference on Teaching, Assessment and Learning for Engineering (TALE)*, 1–8. https://doi.org/10.1109/TALE56641.2023.10398344

Johnson, E. B. (2002). *Contextual Teaching and Learning: What it is and why it's here to stay*. Corwin Press.

Karataş, F., Abedi, F. Y., Gunyel, F. O., Karadeniz, D., & Kuzgun, Y. (2024). Incorporating AI in Foreign Language Education: An Investigation Into ChatGPT's Effect on Foreign Language Learners. *Education and Information Technologies*, *29*(15), 19343–19366. https://doi.org/10.1007/s10639-024-12574-6

Katonáné Gyönyörű, K. I. (2025). Adaptive Learning Systems and Artificial Intelligence in Language Learning. *Gradus*, *12*(1). https://doi.org/10.47833/2025.1.ART.010

Kemmis, S., & McTaggart, R. (1988). *The Action Research Planner*. Deakin University Press.

Liang, J.-C., Hwang, G.-J., Chen, M.-R. A., & Darmawansah, D. (2023). Roles and Research Foci of Artificial Intelligence in Language Education: An Integrated Bibliographic Analysis and Systematic Review Approach. *Interactive Learning Environments*, *31*(7), 4270–4296. https://doi.org/10.1080/10494820.2021.1958348

Limbong, S., Palayukan, N., Djajasasana, E. E., & Tandibura, F. (2024). Can Contextual Teaching and Learning (CTL) Revolutionize Cadets' Speaking Skills in Maritime English? *Voices of English Language Education Society*, *8*(2). https://doi.org/10.29408/veles.v8i2.26651

Litman, D. (2016). Natural Language Processing for Enhancing Teaching and Learning. *Proceedings of the AAAI Conference on Artificial Intelligence*, *30*(1), 4170–4176. https://doi.org/10.1609/aaai.v30i1.9879

Liu, G. L., Zou, M. M., Soyoof, A., & Chiu, M. M. (2025). Untangling the Relationship Between scp AI/scp - Mediated Informal Digital Learning of English (scp AI/scp -scpIDLE/scp), foreign Language Enjoyment and the Ideal <scp>L2</scp> Self: Evidence From Chinese University <scp>EFL</scp> Students. *European Journal of Education*, *60*(1). https://doi.org/10.1111/ejed.12846

Lo, C. K., Yu, P. L. H., Xu, S., Ng, D. T. K., & Jong, M. S. (2024). Exploring the application of ChatGPT in ESL/EFL education and related research issues: a systematic review of empirical studies. *Smart Learning Environments*, *11*(1), 50. https://doi.org/10.1186/s40561-024-00342-5

Mudi, S., & Samanta, T. K. (2024). Applying Vygotsky's Zone of Proximal Development in Modern Classroom Settings: A Call for Social Learning in the Digital Age. *International Journal For Multidisciplinary Research*, *6*(4). https://doi.org/10.36948/ijfmr.2024.v06i04.24233

Muliani, M., & Sumarsono, D. (2019). Contextual Teaching Learning (CTL) Approach in Speaking Materials for Students' 21st Century Skill: Does it Have Any Effect? *Jo-ELT (Journal of English Language Teaching) Fakultas Pendidikan Bahasa & Seni Prodi Pendidikan Bahasa Inggris IKIP*, *6*(2), 99. https://doi.org/10.33394/jo-elt.v6i2.2362

Mulyani, E. R. (2025). *Studi Penyusunan dan Publikasi Ilmiah [Study of Scientific Writing and Publication]*. IKIP Siliwangi.

Muthmainnah, M., Asad, M. M., Yakin, A. Al, & Almusharraf, N. M. (2025). Human-robot interaction using ChatGPT for technology driven language learning: contextual insights from the higher education institution

of Indonesia. *Asian Education and Development Studies*. https://doi.org/10.1108/AEDS-01-2025-0038

Pham, H. T. U., Dinh, T. T. L., & Tran, X. T. (2025). The Impact of ChatGPT Voice on Non-Majored Students' Willingness to Communicate in a Vietnamese University. *AsiaCALL Online Journal*, *16*(1), 312–327. https://doi.org/10.54855/acoj.2516116

Purwanto, M. B., Umar, Agustin, A., Marsinah, & Indriani, R. . R. F. (2024). Machine Learning, Software, Applications, and Websites For Language Instruction. *International Journal of Educational Evaluation and Policy Analysis*, *1*(4), 27–40. https://doi.org/10.62951/ijeepa.v1i4.49

Ramli, M., Supriadi, H., & Apriyeni, B. A. R. (2025). The Use of CTL To Improve The Speaking Skill on English For Tourism In The First Semester of The Tourism Study Program of Universitas Hamzanwadi. *International Journal of Research on English Teaching and Applied Linguistics*, *6*(1), 50–59. https://doi.org/10.30863/ijretal.v6i1.8179

Ridayani, L., Badri, W., & Susyla, D. (2025). The Integration of Artificial Intelligence (AI) in Second Language Acquisition. *Teaching English and Language Learning English Journal*, *5*(1), 51–60. https://doi.org/10.36085/telle.v5i1.7725

Rusmiyanto, R., Huriati, N., Fitriani, N., Tyas, N. K., Rofi'i, A., & Sari, M. N. (2023). The Role Of Artificial Intelligence (AI) In Developing English Language Learner's Communication Skills. *Journal on Education*, *6*(1), 750–757. https://doi.org/10.31004/joe.v6i1.2990

Saleh, M., Riyadi, A. K., & Mubarok, N. (2024). Tafsir Maqasid dalam Memahami Ayat-Ayat Hukum: Analisis Tafsir Al-Jassas [Tafsir Maqasid in Understanding Legal Verses: Analysis of Tafsir Al-Jassas]. *Living Islam: Journal of Islamic Discourses*, *7*(2), 321–340. https://doi.org/10.14421/lijid.v7i2.5603 [In Indonesian]

Salsabil, A. D., Rakhmawati, L. A., & Febtwenesty. (2025). From Silent Learners to Confident Speakers : The Effect of AI Voice Chat with ChatGPT on EFL Speaking Skills. *Journal of English Education*, *3*(1), 38–50. https://doi.org/10.61994/jee.v3i1.1137

Shamsitdinova, M. (2025). Incorporating Natural Language Processing Technologies for Personalized Language Learning Experience. *International Journal of Law And Criminology*, *5*(5), 79–80. https://doi.org/10.37547/ijlc/Volume05Issue05-11

Sharma, J. (2025). Artificial Intelligence and Natural Language Processing: Transforming Modern English Education. *International Journal for Research in Applied Science and Engineering Technology*, *13*(5), 4863–4865. https://doi.org/10.22214/ijraset.2025.71231

Shazly, R. El. (2021). Effects of artificial intelligence on English speaking anxiety and speaking performance: A case study. *Expert Systems*, *38*(3). https://doi.org/10.1111/exsy.12667

Son, J.-B., Ružić, N. K., & Philpott, A. (2025). Artificial Intelligence Technologies and Applications for Language Learning and Teaching. *Journal of China Computer-Assisted Language Learning*, *5*(1), 94–112. https://doi.org/10.1515/jccall-2023-0015

Suadiyatno, T., Firman, E., Hanan, A., & Sumarsono, D. (2020). Examining The Effect of Contextual Teaching-Learning and Anxiety Towards Students' Speaking Skills. *Journal of Languages and Language Teaching*, *8*(1), 100. https://doi.org/10.33394/jollt.v8i1.2266

Thamrin, H., & Isnendes, R. (2020). Sundanese Dialect in Sinar Resmi Traditional Village in Cisolok District, Sukabumi Regency (Phonological Perspective). *Proceedings of the Twelfth Conference on Applied Linguistics (CONAPLIN 2019)*. https://doi.org/10.2991/assehr.k.200406.018

Wang, Y. (2024). Integration of AI Technology and ZPD: Pinpointing the Zone of Student Development to

Promote Educational Innovation and Efficiency Improvement. *Journal of Education, Humanities and Social Sciences*, *38*, 99–104. https://doi.org/10.54097/wws14m21

Weran, Y., & Lailatus Sa'adah. (2025). Ai-Assisted Speaking Practice Model: Integrating Chatgpt Into Communicative Language Teaching For Efl Learners. *Pedagogic Research-Applied Literacy Journal*, *2*(3), 492–497. https://doi.org/10.70574/b9a34h09

Zhang, C., Meng, Y., & Ma, X. (2024). Artificial Intelligence in EFL Speaking: Impact on Enjoyment, Anxiety, and Willingness to Communicate. *System*, *121*, 103259. https://doi.org/10.1016/j.system.2024.103259

Zhang, M., & Li, Y. (2025). Natural Language Processing in Language Learning: Leveraging Artificial Intelligence for Personalized and Adaptive English Teaching. *Journal of Computational Methods in Sciences and Engineering*. https://doi.org/10.1177/14727978251371167

Zhou, Y., & Liu, Y. (2022). The Geography of Poverty: Review and Research Prospects. *Journal of Rural Studies*, *93*, 408–416. https://doi.org/10.1016/j.jrurstud.2019.01.008