

International Journal of Learning, Teaching and Educational Research
Vol. 24, No. 9, pp. 545-569, September 2025
<https://doi.org/10.26803/ijlter.24.9.27>
Received Jul 3, 2025; Revised Aug 4, 2025; Accepted Aug 8, 2025

Needs Analysis for the Design and Development of an AI-integrated Learning Module in English Speaking Classes: A Study on Chinese University Students

Huang Wang^{*} , Azlina Abdul Aziz  and Faridah Mydin Kutty 

Faculty of Education, Universiti Kebangsaan Malaysia
Bangi, Malaysia

Abstract. Needs analysis is the key part of designing and developing an AI-integrated learning module aimed at enhancing English speaking proficiency among Chinese university EFL learners. Scholars have investigated the speaking difficulties faced by Chinese tertiary EFL learners, and research has explored how artificial intelligence can help address these challenges. However, there has been insufficient focus on students' needs and wants in AI-enhanced English speaking modules in English speaking classes. This research aims to fill this gap by examining the speaking-related requirements of Chinese university learners in AI-driven learning practice. This study is the first phase of a needs analysis for the design and development of an AI-integrated learning module, and the findings are expected to provide the basis for further designing and developing the module. The researchers chose Zhengzhou Business University as the research site and carried out qualitative research on students registered for an AI-integrated speaking class. By purposive convenience sampling and the rule of saturation, eight students were interviewed using a semi-structured interview, carefully videoed, transcribed, and finally analysed by NVivo 14. The findings indicate the primary speaking barriers Chinese university students face, the preferred integrated learning strategies and AI tools in speaking class, as well as students' acceptance of the AI-integrated learning module. Students support AI tools as a complement to traditional English speaking learning methods and prioritize two kinds of applied AI tools for improving their speaking. They advocate a combination of AI tools with interactive and collaborative activities in English speaking classes; they showed a perceived willingness towards an AI-integrated learning module,

*Corresponding author: Huang Wang; p134093@siswa.ukm.edu.my

regarding it as useful. This investigation is expected to contribute to the advancement of AI-integrated EFL speaking curricula and to offer insightful directions for further investigations into the application of AI in language education practice.

Keywords: needs analysis; AI-integrated learning module; qualitative study; English speaking proficiency

1. Introduction

English speaking proficiency is widely regarded as a fundamental skill for effective communication on the global stage and has a great impact on the competitive force for both individuals and countries globally. Owing to this perspective, Chinese universities have placed increasing emphasis on developing the communicative competence of EFL students (Kohnke et al., 2022). Despite the Chinese government's advocacy for pedagogical reforms to improve speaking ability, a great number of Chinese EFL learners still face difficulties with fluency, accuracy, and proficient language utilization in authentic situational contexts (Wang et al., 2024). Teacher-centred traditional teaching is still dominant in Chinese EFL speaking classrooms, making it hard for educators to effectively cultivate students' active speaking ability in practical application (Fischer & Yang, 2022).

In recent years, the Chinese government has taken great measures to improve students' language proficiency and intercultural communication ability, aiming to equip them effectively with the requirements of the global labour market (Gui & Kew, 2023). The government's advancement aligns with overarching educational trends advocating for the implementation of technologically advanced methodologies that facilitate personalized, adaptive learning experiences (Peng et al., 2019). By offering immediate and personalized feedback on students' speaking (Jiang, 2019), AI-driven learning methods provide a hopeful way to solve their speaking challenges.

Although the potential of AI in language education has been extensively explored in recent literature, particularly in areas such as intelligent tutoring systems (Zawacki et al., 2019), automated feedback (Shi & Aryadoust, 2024), and speech recognition (Zou et al., 2020), most of these studies focus on general language learning. Research specifically targeting the integration of AI into speaking instruction, especially the incorporation of AI within EFL-speaking curricula, remains a starting phase in China, characterized by a paucity of empirical investigations regarding its efficacy and compatibility with learner requirements, especially within tertiary educational contexts (Qiao & Zhao, 2023).

Given this gap, conducting a needs analysis is essential to ensure that the design of any AI-integrated learning module is grounded in a deep understanding of students' speaking challenges, expectations, and preferences, as well as institutional and instructional constraints. Such analysis provides a data-informed foundation for developing contextually appropriate and pedagogically effective AI-supported solutions.

The identified research gap indicates that the researchers need a deeper understanding of the speaking needs of Chinese university EFL learners, particularly in the AI-integrated pedagogical context. This study aims to explore the specific needs of learners in designing an AI-integrated learning module for speaking classes. Based on the objectives, the study addresses the following research questions (RQs):

RQ1: How do Chinese EFL university students perceive the importance of improving their English speaking skills?

RQ2: What challenges do Chinese EFL university students encounter in developing their English speaking skills?

RQ3: What learning strategies and AI tools do Chinese EFL university students prefer for enhancing their English speaking competence?

RQ4: To what extent do Chinese EFL university students accept the AI-integrated learning module used in English speaking instruction?

2. Literature Review

To contextualize the development of an AI-integrated learning module for English speaking instruction, it is essential to examine the key strands of literature that inform this study. The following sub-sections review three core areas: the common challenges faced by Chinese EFL learners in developing speaking proficiency; recent advances in integrating artificial intelligence into English speaking education, and the role of needs analysis in shaping effective speaking curricula. Together, these strands provide the theoretical and practical foundation for understanding learner difficulties, technological affordances, and curriculum design considerations in the context of AI-supported language learning.

2.1 Common Difficulties Encountered by Chinese EFL Learners in Acquiring Speaking Proficiency

Spoken English proficiency is the key component for language development; it contributes to learners' articulation of concepts and their engagement in meaningful discussions (Leong & Ahmadi, 2017). The development of learners' speaking proficiency requires a solid linguistic foundation as well as the adaptive ability to communicate in various social contexts (Tran & AlSaqqaf, 2023). Nevertheless, for many EFL learners, speaking is still a primary challenge, especially in China. After years of study, many Chinese university students are still deficient in speaking fluency and confident expression (Guo & Li, 2022).

Studies have pointed out that Chinese EFL learners face challenges in oral expression, including inaccurate pronunciation, limited vocabulary, frequent grammar mistakes, and fluency deficiencies, which concurrently influence learners' ability to express themselves effectively in real-time communication (Gan, 2013; Zhang & Nimehchisalem, 2023). Many students still experience difficulty with pragmatics, such as using proper expressions, managing turn-taking, or keeping consistency in conversations (Taguchi, 2011). Besides, the deficiency of authentic communication further constrains the development of learners' spontaneous oral expression (Liu & Zhang, 2021). In China, all these issues are exacerbated by the grammar-focused curriculum design, text-based instruction, and the scarcity of interactive oral practice, leading to learners' lack

of sufficient exposure to authentic communicative tasks and contexts (Li, 2023). As a result, when facing authentic but non-preset scenarios, learners often lack confidence and the ability to speak fluently.

Besides linguistic challenges, affective factors are also perceived as critical barriers that influence the effectiveness of oral communication. In the research conducted by Liu and Yuan (2021), Chinese university students were described as feeling intense anxiety and self-denial in classroom speaking tasks, which hindered the development of their speaking ability. Language anxiety is one of the most obvious emotional barriers and appears commonly in non-native English-speaking countries. Students in these countries are often afraid of pronunciation and grammar mistakes and feel nervous, which leads to the decline of speaking fluency and their reluctance to open their mouths to speak.

In his study, Chen (2023) pointed out that the anxiety increased classroom silence, so depriving students of their precious chance to practise and improve their speaking skills. These speaking barriers are not unique to China; the EFL learners in other areas face similar difficulties. Studies conducted in Saudi Arabia and Thailand also indicate that learners lack authentic oral practice and confidence, which results in the obvious limitation in English communication (Hamad, 2013; Suraprajit & Piriyaapun, 2024). Therefore, solving these problems is critical to improving EFL learners' English communication competence.

2.2 The Integration of AI in English-speaking Education

The integration of AI brings innovation in the educational field, especially in language learning. AI tools are widely used in EFL learning, providing intensive interaction and a personalized learning experience. By utilizing technologies such as natural language processing, speech recognition, and generative AI, these tools can realize real-time feedback, interactive dialogue, and tailored practice content. Programmes such as Duolingo, ChatGPT, and EAP Talk can effectively improve learners' speaking ability through functions like speech assessment, vocabulary exercises, and grammar training (Qiao & Zhao, 2023; Zou et al., 2020; He et al., 2024).

Various learning groups have different preferences for AI tools: university students often use artificial intelligence systems like Microsoft Azure and LINE to start an interactive dialogue and make real-time pronunciation assessment (Moxon, 2024). By comparison, low-age learners, like primary students, often benefit more from the entertainment value of AI chatbots and the adaptive learning path. Besides, AI tools like Google Assistant and SpeakBuddy offer learners a self-learning experience, allowing learners to practise speaking at their own pace (Hadi & Junor, 2022).

Multiple studies have consistently proven that AI has paramount effectiveness in enhancing English learners' speaking proficiency. These AI tools can effectively improve speaking fluency, pronunciation accuracy, vocabulary use, and overall English speaking proficiency. For example, research on a multi-neighbour

application has shown prominent enhancement of Chinese English learners' second language speaking ability and self-regulating ability (Qiao & Zhao, 2023).

Similarly, the use of AI chatbots in basic education greatly improves speaking proficiency and willingness to communicate for younger learners (Koç & Savaş, 2025). Artificial intelligence speech assessment systems can also provide effective feedback to help learners orient their improvement. A related study proved that participants' speaking ability had been significantly enhanced through prominent differences between mean scores in pretest and posttest in the research (Zou et al., 2023). Besides, AI platforms, like EAP Talk, can not only enhance learners' fluency, grammar, and vocabulary, but also improve their speaking confidence (He et al., 2024). By cultivating learners' autonomy and engagement, these tools have shown their value.

However, researchers emphasize that although AI tools like ChatGPT can enhance learners' speaking proficiency, these tools should complement, not substitute traditional class instruction (Qiu, 2024). All in all, as Qiao and Zhao point out in their study, more targeted research needs to be conducted to explore how AI can be utilized to address the specific speaking challenges of Chinese English learners (Qiao & Zhao, 2023). Filling this gap is critical to the development of comprehensive AI-assisted curricula that meet the changing needs of learners in modern educational settings.

2.3 Needs Analysis in EFL Speaking Curricula

Needs analysis is essential for developing an effective instructional programme because it helps educators understand the goals, preferences, and difficulties faced by learners (Richards, 2009). This process requires the clarification of two types of needs: goal needs (i.e., the competencies that learners must master in real-world scenarios) and learning needs (i.e., the skills and strategies needed to reach the goals) (Sönmez, 2019). In EFL teaching and learning contexts, especially in speaking programmes, needs analysis addresses the gap between students' current competencies and the communication requirements for academic or workplace settings (Dudley-Evans & St. John, 1998).

For example, Hu and AlSaqqaf (2024) pointed out that research based on needs analysis is very important when designing language curricula for Chinese EFL learners, and the contents of the curriculum should closely fit students' future careers (Hu & AlSaqqaf, 2024). In addition, the consideration of students' perspectives is helpful for comprehensively understanding their learning environment, thus designing a curriculum system that satisfies both academic and practical needs (Chen, 2023). Therefore, effective needs analysis is pivotal for developing an AI-integrated learning module, through which the learners' specified speaking needs can be properly satisfied.

This research aims to fill this gap and provide a basis for the design and development of an AI-integrated learning module for improving Chinese university EFL students' English speaking proficiency. As the preliminary phase of design and development research (DDR), this needs analysis adopts Dudley-

Evans and St. John's model as its research framework. It examines students' views on identifying the principal priorities concerning speaking skills and evaluating to what extent AI can fulfil their needs. Even though previous studies have been done on students' reading and writing ability (Dennis, 2024), this research emphasizes the importance of an AI-supported learning environment for learners' speaking proficiency, the focus of which is pivotal for guiding curricular development in this domain. Through the study of Chinese EFL students' distinctive educational contexts and their feedback, this research aims to provide valuable insights for the emerging field of AI-integrated language teaching and learning.

3. Method

To achieve the research objectives, this study employed a qualitative approach supported by a set of instruments, a clearly defined participant group, and a systematic research procedure, as outlined in the following sub-sections.

3.1 Research Instruments

This study employed a qualitative method, aiming to explore the integration and application of AI tools in university English speaking classes in Zhengzhou Business University. The data was collected by semi-structured interviews, and the respondents were students who registered in this course. The interview protocol was designed based on Dudley-Evans and St John's (1998) needs analysis model owing to its comprehensive needs analysis framework. This model includes four core dimensions: target situation analysis (TSA), present situation analysis (PSA), learning situation analysis (LSA), and means situation analysis (MSA).

By utilizing this model, this research aimed to evaluate students' specific needs in integrating AI tools in their speaking class. The following aspects were explored: (1) the importance of oral communication skills in English; (2) the challenges faced by students in English speaking classes; (3) the preferred learning strategies and AI tools in speaking classes; (4) the acceptance of AI-integrated learning modules for English speaking classes. The interview outline was informed by the findings of Rafiq et al., (2022) and aligned with the Dudley-Evans and St John's model and contained four key dimensions: (1) the importance of oral communication in English; (2) barriers to the development of oral competence in speaking class; (3) current preferred learning strategies and AI tools; (4) students' willingness to accept an AI-integrated learning module for the English speaking class. These four dimensions present a comprehensive picture of students' needs and experiences in AI-assisted learning. The full interview guide is provided in Appendix 1.

3.2 Participants

This study was conducted at Zhengzhou Business University, which is in the central part of China. The research site is the first researcher's workplace, which made it convenient to contact the target research objectives. The participants were first- and second-year university students who registered for the college English course in the second semester of the year 2024–2025. This course, offered by the

Department of Foreign Languages, aims to improve students' English communicative competence. Approximately fifty students enrol in this selective course each semester, and all have experience in learning English with AI tools.

To obtain the qualitative data in depth, this research adopted a purposive convenience sampling method, and students who satisfied the following two criteria were selected: (1) active enrolment in the speaking course, and (2) prior experience with AI-assisted English learning. The maximum difference sampling strategy was also employed to ensure diversity in terms of students' academic backgrounds, English proficiency levels, and familiarity with AI tools. According to the data saturation rules by Guest et al., (2006), eight students were selected for the semi-structured interview. This sample size is perceived as sufficient to cover a variety of perspectives and recurring themes; at the same time, this sample size ensures the depth of this qualitative analysis. The interviews focused on exploring students' needs and wants of the speaking course, their preferred learning strategies and AI tools, and their willingness to adopt AI-assisted learning modules.

3.3 Research Procedures

Data collection for this study began with obtaining participants' informed consent for both the interview and audio recording. Semi-structured interviews were conducted face-to-face, depending on participants' availability. Each interview lasted approximately 30 minutes. All interviews were audio-recorded, and the responses were later transcribed verbatim in Chinese, the participants' native language. The total corpus comprised approximately 24,000 words across eight interview transcripts, with each transcript averaging 3,000 words (about 4–5 pages of text). The transcribed data were manually coded and thematically analysed in NVivo to identify recurring patterns, themes, and perspectives related to students' needs, preferences, and experiences with AI. Data collection continued until saturation was reached, that is, no new information or themes emerged from subsequent interviews.

After the transcription of the interviews was completed, the textual material was sent to the participants for 'member checking' – a step that requires participants to verify the research findings and data interpretations, and which plays a key role in ensuring the trustworthiness of the data, especially the validity of the research findings (Birt et al., 2016). Interview data were analysed by NVivo software and followed the thematic analysis method proposed by Braun & Clarke (2006). The following standard six-step process was implemented: (1) familiarize yourself with the data material; (2) generate initial coding; (3) find the thematic framework; (4) review thematic categorization; (5) define and name themes; (6) develop the final report.

Through this analysis process, the researchers were able to identify patterns and recurring themes in the students' feedback to gain a deeper understanding of their needs and experiences with the integration of AI in their spoken English courses.

4. Results

Based on the results of the qualitative analysis, the findings of the study can be categorized into the following five major themes: (1) the importance of oral English proficiency for Chinese EFL university students; (2) challenges faced in English speaking classes; (3) effective strategies for improving speaking skills; (4) preferred AI tools in the learning process (5) acceptance of an AI-integrated speaking learning module. The above themes were further subdivided into 12 sub-themes, and the results of the specific analyses summarized in Table 1.

Table 1: Summary of the main themes and subthemes from the needs analysis

Themes	Subthemes
1. The importance of speaking proficiency	Academic performance Career development Intercultural communication Limited practice opportunities
2. Challenges faced in English speaking class	Lack of real-time feedback
3. Effective learning strategies in English speaking class	Anxiety and lack of confidence Interactive speaking activities Peer collaboration
4. Preferred AI tools in the learning process	Interactive conversation platforms Pronunciation correction tools
5. Acceptance of AI-integrated speaking learning module for speaking class	Convenience Perceived usefulness

The contents of Table 1 emphasize the need to develop an AI-integrated learning module to enhance English speaking proficiency. The study shows that: first, speaking proficiency plays a key role in students' academic achievement, career development, and communication confidence; second, students face three major challenges in English speaking classes - limited practice opportunities, lack of real-time feedback, and anxiety and low self-confidence; third, effective strategies for improving speaking skills in the class include interactive speaking activities and peer collaboration, which can be integrated by the module to optimize students' speaking ability; fourth, students have their preferences for AI learning tools, such as interactive dialogue platforms and pronunciation correction tools, which are effective in improving speaking proficiency through real-time personalized feedback; and lastly, students' acceptance of AI-integrated learning is crucial. They particularly value the convenience and usefulness of AI in their learning, and this positive perception can significantly increase their motivation to participate in the AI-integrated speaking learning module.

4.1 The Importance of Speaking Proficiency

The following sub-sections elaborate on how English speaking proficiency plays a critical role in three key domains: academic performance, career development, and intercultural communication, all of which are essential for Chinese EFL learners in the context of globalized education and employment.

4.1.1 Academic Performance

In this section, we explore the subtheme of “Academic Performance” to better understand the significance of speaking proficiency for Chinese EFL (English as a Foreign Language) university students. The respondents consistently emphasized that speaking proficiency was essential for students’ academic success. In the context of coursework, the ability to articulate ideas clearly and effectively is crucial for students, particularly when engaging in presentations and oral examinations.

As highlighted by Respondent One, *“Some important courses in our university are taught in English, and the learning tasks in the classroom, such as presentations and group discussions, require me to have good English speaking skills.”* Respondent Three pointed out that *“Many subjects require oral participation, and without good speaking skills, I will struggle to engage fully in class.”*

These insights align with prior research, which underscores that English has an established status worldwide as the academic lingua franca. China, instigated by academic internationalization, has rushed to follow the global trend of teaching in English as the medium of instruction (EMI) (Vesna, 2025), and EMI has evolved at the tertiary level from being a Chinese–English bilingual teaching experience in well-developed socio-economic areas across the country (Jiang et al., 2019).

Furthermore, speaking proficiency is important for students who want to pursue their advanced academic degrees and perform well in international academic activities. Respondent Seven mentioned that *“For us third-year undergraduate students, speaking English is important because most of us at this stage want to go further for a Master’s degree in the future”*. This aligns with prior research that concluded that the pursuit of advanced degrees for Chinese undergraduate students has been particularly pronounced, based on economic, family, and academic motivations (Zeng, 2023). These findings emphasize the indispensable role that speaking proficiency plays in academic success. The ability to communicate verbally in English not only facilitates student participation but also contributes directly to the overall performance in assessments and academic projects.

4.1.2 Career Development

This section examines the subtheme of “Career Development” to highlight the critical role of speaking proficiency in the professional aspirations of Chinese EFL university students. All eight respondents considered English speaking skills as a potential advantage in the job market. Respondent Two stated, *“I think I may be involved in international projects in my future job and need to communicate with clients or manufacturers, so good speaking skills are important”*. Respondent Five added: *“If I work in cross-border trade in the future, I need excellent oral English skills”*.

This view is corroborated by research that shows that proficient spoken English creates more career opportunities for Chinese graduates (Liu, 2020). As economic globalization continues to profoundly affect all areas of the world, English is becoming increasingly important as a global language (Xiong & Yuan, 2018). The development of speaking skills has become a key element in preparing students for future professional roles. Chinese employers heavily emphasize the oral

communication skills of their employees, and students with excellent oral skills have a greater advantage in the global competitive market.

4.1.3 Intercultural Communication

In this section, we delve into the sub-theme of “Intercultural Communication” to better understand the needs of Chinese EFL university students for English speaking skills. Respondent One mentioned,

“I think if my spoken English is good enough, I will be able to communicate with foreigners comfortably, which will improve my social skills. If I know English, I can connect with more people. Also, it would improve my life experience. If my spoken English is good, I wouldn’t need a translator when I go abroad, and I’d be able to have a much better experience.”

Similarly, Respondent Two pointed out,

“It’s probably more about the vibe of our daily life. I think, for example, when you watch movies, if you understand the way they use spoken English, you might catch different meanings. It can improve our personal growth, too.” Respondent Four emphasized, *“In my experience, I often do part-time jobs, and I meet a lot of foreigners. I want to improve my speaking skills so I can communicate well with them, make friends with people from different cultures, learn about their cultures, and enrich my own life.”*

These insights align with the growing body of literature highlighting the importance of language proficiency as a tool for promoting cross-cultural dialogue. In the context of a globalized world, the ability to interact and communicate effectively with individuals from diverse cultural backgrounds is essential (Liu & Siew, 2024). However, even though English is taught extensively in Chinese schools, a substantial language barrier persists. Chinese students often grapple with pronunciation, fluency, grammar, and vocabulary issues, hampering their capacity to articulate their thoughts and understand native speakers (Huang et al., 2022). As the world becomes more interconnected, the ability to communicate across cultures is crucial, not only for personal growth but also for fostering international cooperation.

4.2 Challenges Faced in English speaking Class

The following sub-section explores the main challenges commonly faced by Chinese university EFL learners in English speaking classes, including limited practice opportunities, insufficient real-time pronunciation correction, and affective barriers like anxiety and lack of confidence.

4.2.1 Limited Practice Opportunities

This section explores the subtheme of “Limited Practice Opportunities” to understand the challenges faced by students in enhancing their speaking proficiency. Responses from participants revealed a consistent concern regarding the insufficient opportunities to engage in spoken English in classroom settings.

Respondent Two said, *“It’s rare, about one or two times a week. Most of the practice happens during our English speaking class, but we only have one class a week, and it’s just two hours long. There are about 50 students in the class, and we mostly practise based on speaking tasks assigned by the teacher. Because there are so many students, there’s not much chance to speak or get feedback, highlighting the limited scope for practising oral English on campus”*. Similarly, Respondent Three elaborated, *“As a non-English major, there aren’t many opportunities. We only get to practise a bit in class, and sometimes do some speaking tasks outside of class. The school doesn’t have many foreign teachers or international resources, so actually, there aren’t many chances to practise speaking.”*

A similar view was expressed by several interviewees, who pointed out that the lack of opportunities to practise speaking severely hinders improvement of fluency and conversational competence. This finding is in line with existing research that perceives the lack of practice opportunities as a major obstacle in language learning. Scholars have pointed out the obvious shortcomings of the traditional EFL speaking classroom: owing to large class sizes and limited class time, students have severely limited opportunities to practise speaking, as well as a lack of authentic communicative contexts (Mingyan et al., 2025). In this context, providing students with more opportunities for authentic language use inside the classroom is crucial for improving speaking proficiency.

4.2.2 Lack of Real-time Pronunciation Correction

In this section, the sub-theme “Lack of Real-time Pronunciation Correction” is discussed, highlighting how insufficient real-time correction impacts students’ speaking proficiency. Eight respondents emphasized a common problem: that they could not get real-time feedback on their pronunciation problems in English speaking classrooms. Respondent One noted, *“The biggest challenge for me is my pronunciation. I feel like if my pronunciation is correct, people will understand me better. But I often don’t know if I’m pronouncing words correctly when I speak English, and there’s no one to correct me right away when I make a mistake, so I can’t fix it quickly. Honestly, I think my pronunciation isn’t that good.”*

This lack of immediate correction often results in the reinforcement of errors, hindering students’ progress in speaking proficiency. Respondent Three added, *“Learning to speak needs someone professional, or at least someone who can correct my pronunciation right away and give me feedback.”* Additionally, Respondent Five commented, *“Another issue is with my pronunciation. It’s hard to get it corrected in time. The only evaluation we get for our speaking and pronunciation skills is during the final exam of the speaking class. That’s when we get assessed and graded.”* This delayed feedback, coupled with its limited scope, was identified as a big challenge.

Although teachers do provide some feedback during classroom activities, students reported that such feedback is often limited by time constraints and large classes. Respondent Four explained, *“The teacher sometimes points out mistakes when we give presentations, but it’s not always detailed or immediate, and sometimes I don’t even realize I made a mistake unless someone tells me.”* Similarly, Respondent Seven shared, *“I know teachers try their best, but they can’t monitor everyone’s pronunciation closely during the class. It would be helpful if there were a tool that gives instant correction*

while we practise." These responses suggest that while teacher feedback exists, it is not always timely or individualized enough to meet students' needs. These insights are consistent with prior research, which underscores that the immediate feedback provided during task performance is more effective than delayed feedback provided after a communicative task is completed (Li et al., 2025).

4.2.3 Anxiety and Lack of Confidence

This section focuses on the sub-theme of "Anxiety and Lack of Confidence" and aims to explore how emotional barriers influence students' confidence in speaking English. When respondents were asked, "How do you feel when speaking English in front of others in a speaking class?" almost all the respondents admitted that anxiety and lack of confidence are their major challenges. Respondent Seven said: "My strongest feeling is nervous; at the same time I feel unease and awkward. And the most disturbing thing is that I don't know how to communicate with them."

Respondent Eight also mentioned: "Because English is not my mother tongue, I always feel unconfident, which makes me feel quite anxious. What's worse, I am afraid of speaking incorrectly." The responses indicate that the negative feeling of being judged or of failure is the primary barrier that hinders speaking practice and improvement. These findings echo existing research that Chinese EFL learners are generally extremely anxious about grammatical accuracy, lack of vocabulary, correct pronunciation, and the ability to express meaning accurately (Tien, 2018). To address this issue, the key is to create a supportive, low anxiety learning environment where students can practise and attempt to use speaking skills without fear of judgment.

4.3 Effective Learning Strategies in English speaking Class

The following sub-sections highlight two key strategies that students identified as particularly effective for enhancing their speaking proficiency: interactive speaking activities and peer collaboration.

4.3.1 Interactive Speaking Activities

This section focuses on the sub-theme of "Interactive Speaking Activities" and explores which speaking activities are effective in arousing students' interest in learning and enhancing speaking skills. Most of the respondents emphasized the importance of interactive activities in developing speaking skills. Respondent Four said, "I like interactive activities like role-playing because I am obsessed with various characters in movies and can't help mimicking their lines, which makes me more interested in speaking."

Respondent Eight expressed similar views: "I prefer role-playing and debating activities. As mentioned before, I often participate in English corners to practise speaking. Whether it is expanding my vocabulary or correcting Chinese grammatical expressions, these activities benefit me a lot." These findings are consistent with the findings of existing studies that confirm the significant effectiveness of interactive pedagogy in language acquisition (East, 2021; Oxford, 2006). By engaging students in dynamic language practices that are close to real-life scenarios, interactive speaking activities not only enhance learners' self-confidence but also synchronize fluency and accuracy of oral expressions.

4.3.2 Peer Collaboration

This section delves into the sub-theme of “Peer Collaboration” and its important role in improving speaking skills, focusing on how group work facilitates the development of speaking skills through dynamic interactions. Most of the respondents indicated that peer collaboration, especially group work, was a key learning method for improving their speaking skills.

Respondent Two clearly expressed a preference for group learning: *“I especially prefer group work because it is the best way to complement each other’s strengths. Everyone has different pronunciation characteristics. Some students have standard pronunciation, some may not be clear enough, and we can learn from each other and make progress together.”* This statement reflects the advantages of collaborative learning in complementing each other’s strengths and highlights the function of mutual correction of pronunciation, which is difficult to achieve with independent learning. Respondent Seven emphasized the positive interactions brought by familiar peers: *“It is easier to collaborate in a familiar group of classmates; we can feel comfortable discussing, exchanging opinions, and giving feedback instantly.”* This relaxed and open mode of interaction not only reduces speaking anxiety but also provides instant feedback that helps students adjust their expressions in real time.

Collaborative learning can also cultivate a sense of responsibility in the learning community. Respondent Three said, *“Teamwork makes me more motivated because everyone’s contribution is important. We need to help each other and make progress together”*. These collaborative efforts not only can enhance speaking proficiency but also intensify the cognition that language learning is a collaborative activity. Respondent Four’s response proved this point: *“Group members will evaluate each other’s speaking assignment and provide improving advice, finally making all the members behave well.”* This process of peer assessment and mutual support plays a key role in improving language output quality and enhancing speaking confidence.

Studies have proved that collaborative learning has become the dominant instructional approach in improving speaking fluency and peer interaction in language classrooms (Namaziandost et al., 2020). By constructing a supportive learning net, this mode can make a breakthrough in individual learning limits, enabling learners to gain overall improvement from three dimensions of knowledge sharing, emotional support, and immediate feedback.

4.4 Preferred AI Tools in English Speaking Class

The following sub-sections present the two categories of AI tools that students most frequently identified as helpful in their English speaking classes: interactive conversation platforms and pronunciation correction tools.

4.4.1 Interactive Conversation Platforms

This section focuses on the sub-theme of “Interactive Conversation Platforms” and aims to analyse how AI tools that support real-time conversations can effectively improve speaking skills. Surveying students’ experiences with AI-simulated dialog platforms, showed that most respondents believe interactive tools are very useful for improving speaking skills. Respondent Three said, *“I*

especially favour AI interactive platforms with situational dialogue functions, and this simulated environment will motivate me to actively express myself in English, which not only arouses my interest in learning but also strengthens my confidence in speaking." Respondent Seven noted, *"Compared with real-life communication, I prefer using AI conversational tools, which can create a more relaxed practice environment, and this kind of stress-free conversation is especially helpful for improving speaking."*

This finding corroborates established studies that have shown AI conversation platforms are easy to use, non-judgmental, and effective in boosting user confidence in a friendly environment (Nugroho et al., 2024; Rahman & Mehnaz, 2024). By providing realistic conversational scenarios, these platforms enable learners to practise language in real contexts, significantly increasing confidence in expression while improving fluency. The "low anxiety-high feedback" model created by the AI interactive conversation platforms compensates for the lack of personalized practice in the traditional classroom.

4.4.2 Pronunciation Correction Tools

This section focuses on the sub-theme of "Pronunciation Correction Tools" and mainly discusses the effects AI has on improving language pronunciation. Research shows that respondents all recognize the values of AI speech recognition tools by understanding how these tools improve students' speaking proficiency with immediate correction feedback.

Respondent One said, *"I like the pronunciation correction tools. When my pronunciation is wrong, it corrects it immediately and makes me realize the mistake, which helps me speak more accurately and naturally next time."* Respondent Two added, *"For Chinese students, we often don't pay enough attention to speaking training. Pronunciation correction tools can improve our speaking skills."* These findings are consistent with existing research that AI pronunciation tools can accurately identify pronunciation errors and provide instant corrective feedback, helping students improve their accents and overall communication skills (Dennis, 2024). With AI pronunciation correction tools, students can receive targeted, instant feedback to focus on improving specific pronunciation issues, resulting in more accurate and confident English.

4.5 Acceptance of AI-integrated Learning Module for English Speaking Class

The subsequent sub-sections examine two principal factors that shape students' acceptance of the AI-integrated learning module, namely its perceived convenience and perceived usefulness in enhancing English speaking proficiency.

4.5.1 Perceived Convenience

The subtheme "Perceived Convenience" extracted from respondents' feedback reveals the ease of use and practicality of integrating AI tools in English speaking classes. This section focuses on analysing the multiple conveniences that AI technology provides for learners, and on illuminating its unique value in educational innovation.

The final phase of this study focuses on students' perceptions of the AI-integrated learning module, in which convenience is perceived as the most prominent benefit.

Respondent One put it succinctly, *“I can practise speaking anytime, which greatly improves the utilization of my time.”* This indicates AI tools are flexible in time and space, which is something that the traditional class lacks. Respondent Three also mentioned, *“When using AI apps, I don’t have to wait for a class or practice partner, and I can practise anytime I like.”* This type of feedback reflects that students prefer to use AI tools that can support a personalized learning pace. Not only can these tools be used across devices but are also available around the clock, which totally satisfies learners’ needs in the digital age.

This finding echoes previous research that AI-integrated learning significantly increases learners’ engagement in speaking practice by optimizing time management and accessibility (Ahmed, 2024). As pointed out by a researcher advocating AI integration in second language education (Nguyen, 2024), the subtheme of “accessibility” illustrates how AI can accurately meet the lifestyles, personal preferences, and emotional needs of contemporary EFL learners.

4.5.2 Perceived Usefulness

The sub-theme “Perceived Usefulness” reveals students’ inner motivation to adopt AI tools for improving English speaking proficiency. The perceived practical benefits of AI tools will be further explored in this section, followed by the analysis of how this perceived usefulness drives students’ willingness to use them.

Respondents commonly highlighted that, besides convenience, AI tools were more effective in improving English speaking. Respondent Two pointed out that *“AI provides instant feedback and helps me correct errors on the spot.”* The real-time feedback on pronunciation, fluency, and grammar was mentioned frequently and was considered the core factor for AI’s usefulness. Respondent Four further explained, *“When using AI chatbots or speaking platforms, they correct errors, which is more valuable than just following along with a recording.”* This viewpoint reflects students’ gradual focus on the personalized formative feedback from AI tools to promote oral learning. The interactivity of AI tools is also considered one of their great advantages. As Respondent Six highlighted, *“Simulated conversations are like real communication and can effectively help me cope with real-life scenarios.”*

The recognition of such interactive authenticity and practicality is highly aligned with a recent study, which found that an AI-enhanced language learning environment prominently improved students’ learning effectiveness by simulating authentic communicative scenarios and providing personalized instruction (Jawaid et al., 2025). Students’ willingness to use these tools is closely linked to a core perception: their belief that AI tools are not simply complementary but are a key component of language proficiency development.

5. Discussion

The discussion that follows is structured around five key themes emerging from the findings: the importance of speaking proficiency, the challenges encountered by students in English speaking classes, effective strategies for improving speaking skills, learner preferences for AI-based tools, and their willingness to

adopt AI-integrated approaches in speaking instruction.

5.1 The Importance of Speaking Proficiency

The participants of this research repeatedly emphasized the importance of cultivating good speaking skills, which are in line with the past studies conducted by Goh & Burns (2012) and Boonkit (2010). All these studies indicate that English communicative competence is the bedrock of academic and career fields. Not only is English speaking proficiency considered the core factor of language acquisition, but it is also the key indicator of measuring learners' communicative competence (Fu et al., 2023). As King (2016) emphasized in his research, English speaking fluency and accuracy deeply influence learners' confidence, study motivation, and engagement in and beyond the classroom. With the increasing global market demand for English proficiency, scholars pointed out that excellent speaking ability is a necessary skill for career development, especially in international and cross-cultural contexts (Kien & Nghia, 2024).

This trend means that speaking competency has transformed from a marginal skill into critical academic and career capital. Studies show Chinese students are strongly motivated to improve their speaking skills owing to the increasing demand for English communicative competence in postgraduate education and the international job market (Wang, 2023). The pursuit of speaking fluency reflects that students consider speaking competence as the core factor of individual development and academic improvement. Therefore, speaking ability should be placed in an important position for students' English learning, and improving Chinese university students' English speaking proficiency is critical for their academic success and future careers.

5.2 Challenges Students Face in English Speaking Class

By investigating the barriers Chinese EFL university students face in their English speaking classes, this research reveals several primary and long-lasting difficulties that echo the existing research. Like the research findings conducted by Gan (2013) and Zhang and Nimehchisalem (2023), the present research found three major challenges in improving speaking proficiency: the rare chance to practise, lack of real-time feedback, and speaking anxiety due to a lack of confidence. All these factors hinder students from improving their speaking fluency and confidence, which is critical for their academic and career success.

The most prevalent problem is the scarcity of practice opportunities in speaking classes. Participants pointed out that the opportunity for speaking English is confined to certain courses with extremely low student-to-teacher ratios, leading to a rare chance to employ speaking skills in the course. This finding echoes studies conducted by Zou et al. (2020), Hijra et al. (2024), and Jamoom and Bahron (2024), which pointed out that the deficient opportunity of meaningful speaking practice is the main barrier to the development of speaking ability in the EFL context. Students' speaking fluency, spontaneous expression, and communicative competence cannot be improved owing to their inconsistent immersion in the English language environment.

Respondents also refer to the scarcity of real-time feedback as a major challenge which directly impacts learners' ability to identify and correct speaking mistakes. As Nassaji and Kartchava (2017) mention in their research, the absence of immediate feedback leads to the consolidation of repeated mistakes, hindering learning improvement and reducing learning effectiveness. The respondents in the present research expressed a similar concern, pointing out that the feedback they got was often lagging and deficient.

Another challenge involves the psychological dimension: students' anxiety and lack of confidence when speaking English, which consistently echoes the previous researchers' findings about language anxiety, in which students fear making mistakes or being judged, and thus avoid opening their mouths in speaking tasks (Marnani & Cuocci, 2022; Papi & Khajavy, 2023). In the present study, respondents indicated that they were likely to feel anxious when speaking in public. This psychological barrier lowers learning engagement, thereby weakening students' motivation and communicative performance.

This study expanded existing theory by presenting the superimposed effect of these challenges in the context of Chinese tertiary education. At the same time, this study also emphasized the importance of keeping a balance between structured factors (like the absence of opportunity and feedback mechanisms) and emotional factors (like anxiety and lack of confidence) when designing AI-integrated learning modules. The latest study on AI-assisted language learning (Bashori, van Hout, Strik, & Cucchiarini, 2024) indicates that the integration of AI tools can offer real-time feedback and a low-pressure practice environment, which is possibly the ideal solution for solving these problems. Therefore, solving these multi-dimensional challenges has decisive meanings for building a more effective, attractive, and supportive speaking learning experience.

5.3 Effective Learning Strategies for Enhancing Speaking Skills

The findings of this study highlighted the important value of interactive and collaborative learning approaches in enhancing students' speaking ability, which is consistent with the existing research findings. Respondents prevalently hold the view that taking part in an interactive speaking activity with peer collaboration has profound benefits for their speaking, which echoes the student-centred teaching and learning practice in the existing literature (Sabrina, 2020). These learning strategies can improve learners' meaningful language use as well as enhance their engagement and learning autonomy, which are two key factors for developing students' communicative competence.

A special focus of attention is the respondents' mention that interactive speaking assignments like role-play and group discussion had motivational effects on students by simulating authentic communicative scenarios. These findings are consistent with the research results conducted by Thamarana (2015) in which interactive activities and communicative teaching approaches proved to be valuable for enhancing learners' speaking fluency and inspiring spontaneous expression. Similarly, peer collaboration is frequently mentioned by language researchers and is considered an effective way to mitigate speaking anxiety and

promote mutual learning and exchange. Respondents' descriptions of "little pressure" echo the views of Storch (2002), who held that a supportive peer environment can reduce the emotional filtering effect and promote more positive engagement.

5.4 Opinions on Preferred AI Tools in Speaking Class

Besides effective learning strategies, this study also reveals that students prefer AI tools, especially interactive conversation platforms (like Doubao AI) and pronunciation correction tools (like ELSA Speak). Not only are these technologies seen as convenient alternatives to traditional classes but are also recognized as essential tools for personalized self-learning. Students especially emphasize that the platforms driven by AI can simulate real-time conversations in low-pressure environments, which is consistent with recent findings on AI chatbots and virtual oral assistants (Schmidt & Strassner, 2022).

These two types of tools effectively bridge the gap between limited classroom exercises and learners' needs for consistent oral interaction. Pronunciation correction tools, based on AI and speech recognition technology, are also highly favoured, because they can provide real-time personalized feedback. The respondents state that these tools can help them accurately locate specific pronunciation problems and gradually improve their clarity of expression. This result is consistent with the findings of Dennis (2024) and Vančová (2023), confirming that pronunciation training with the assistance of AI has a significant effect on improving learners' phonological awareness and confidence.

Further, this study provides a new perspective for future research through integrating effective learning strategies and AI tools into the speaking learning module. Though collaborative and interactive learning strategies are still indispensable, students have gradually considered AI as their complementary learning tool. This finding echoes the viewpoint of Othman et al. (2023), who held that learners showed higher adaptivity and acceptance towards digital innovation. With the combination of human support and AI assistance, educators can build a more comprehensive blended learning environment to satisfy the variety of needs of EFL learners. The research results highlight the complementarity between effective learning strategies and AI tools in the learning module for the English speaking class.

5.5 Opinions on Willingness to Integrate AI in Speaking Learning

The respondents interviewed in this study held positive attitudes toward integrating AI into their learning module and approved its potential to enhance language skills, offer personalized learning, and alleviate speaking anxiety. This finding echoes the existing studies in which previous researchers have proved that AI tools have great potential in language education (Fathi et al., 2025; Leba & Butar-Butar, 2024). It is worth noting is that respondents particularly mentioned interactive conversation platforms and speech correction tools that are very attractive thanks to their flexibility, accessibility, and immediacy. This result is consistent with previous research in which AI-assisted real-time language practice and pronunciation correction are positively advocated (Taeza, 2025).

However, besides the enthusiasm for AI tools, students also voiced their concerns about whether AI tools could be used effectively. The participants stressed that although AI brings valuable chances to self-determination exercises, it cannot replace interpersonal interaction and feedback from teachers. These two aspects are still vital in comprehensive language learning. As Participant One said, “AI tools are suitable for practice, but I still need a real teacher to help me understand the nuance in different contexts.” This concern proves that a balanced strategy is needed: AI tools should be a supplement, not a replacement for traditional teaching. This is the same view as the study on the integration of language learning technologies (Vera, 2023).

6. Conclusions and Recommendations

This study aims to fill an important gap in the existing literature by exploring the needs of EFL students in Chinese universities for an AI-integrated speaking learning module. The importance of speaking ability cannot be overstated, as it is key to both academic success and future career development. The results of student interviews confirm that in a university setting, academic activities such as presentation debriefings and group discussions require a high level of speaking skills. More importantly, speaking proficiency is directly related to students' communication confidence, which is crucial for their overall academic and career development.

The findings corroborate established research and reveal three major challenges students face in English speaking classes: lack of practice opportunities, absence of real-time feedback, and anxiety due to low self-confidence. At the same time, the study emphasizes the value of effective strategies such as interactive speaking activities and peer collaboration approaches, which should be used in the learning module. However, AI technologies, such as interactive conversation platforms and pronunciation correction tools, show their strengths. The flexibility, accessibility, and personalized feedback provided by these tools are supported by Chinese university students. The results suggest that the integration of AI with traditional teaching methods can create valuable opportunities for students to practise on their own and to provide channels for immediate feedback.

This study provides an important basis for integrating AI into the learning module in classrooms, especially to improve the speaking proficiency of Chinese university students. The findings of the study clearly show that there is a practical necessity to develop an AI-integrated learning module in English speaking classes. Through AI tools, educators can create personalized, flexible, and engaging speaking practice opportunities for students, ultimately improving their language proficiency and confidence. This study lays the theoretical foundation for transforming language teaching and learning in the digital age and provides direction for the development of AI solutions.

7. References

- Ahmed, F. (2024). *The digital divide and AI in education: Addressing equity and accessibility. AI in Education: Innovation, Challenges, and Future Perspectives*, 1(2), 12-23.
<https://doi.org/10.1007/s43681-024-00452-3>

- Bashori, M., van Hout, R., Strik, H., & Cucchiarini, C. (2024). I Can Speak: Improving English pronunciation through automatic speech recognition-based language learning systems. *Innovation in Language Learning and Teaching*, 18(5), 443–461. <https://doi.org/10.1080/17501229.2024.2315101>
- Birt, L., Scott, S., Cavers, D., Campbell, C., & Walter, F. (2016). Member checking: A tool to enhance trustworthiness or merely a nod to validation? *Qualitative Health Research*, 26(13), 1802–1811. <https://doi.org/10.1177/1049732316654870>
- Boonkit, K. (2010). Enhancing the development of speaking skills for non-native speakers of English. *Procedia - Social and Behavioral Sciences*, 2(2), 1305–1309. <https://doi.org/10.1016/j.sbspro.2010.03.191>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>
- Chen, Q. (2023). Exploring shifts of dialogue in cross-cultural teaching and curriculum design. In E. Chan & V. Ross (Eds.), *Advances in Research on Teaching* (pp. 147–166). Emerald Publishing Limited. <https://doi.org/10.1108/S1479-368720230000046008>
- Dennis, N. K. (2024). Using AI-powered speech recognition technology to improve English pronunciation and speaking skills. *IAFOR Journal of Education*, 12(2), 107–126. <https://doi.org/10.22492/ije.12.2.05>
- Dudley-Evans, T., & St. John, M. J. (1998). *Developments in English for Specific Purposes: A multi-disciplinary approach*. Cambridge University Press.
- East, M. (2021). *Foundational principles of task-based language teaching*. Routledge.
- Fathi, H., Sharifi, A., & Ahmadi, H. (2025). Empowering students with innovative AI-language learning tools and pedagogy to master speaking skills. *Iranian Journal of Applied Language Studies*, 17(1), 198–220. <https://doi.org/10.22111/ijals.2024.48157.2432>
- Fischer, I. D., & Yang, J. C. (2022). Flipping the flipped class: Using online collaboration to enhance EFL students' oral learning skills. *International Journal of Educational Technology in Higher Education*, 19(1), 15. <https://doi.org/10.1186/s41239-022-00320-2>
- Fu, Z., Sidhu, G. K., Li, C., & Wang, R. (2023). Chinese EFL students' learning needs for speaking performance: A case study. *Environment-Behaviour Proceedings Journal*, 8(25), 13–19. <https://doi.org/10.21834/e-bpj.v8i25.4854>
- Gan, Z. (2013). Understanding English speaking difficulties: An investigation of two Chinese populations. *Journal of Multilingual and Multicultural Development*, 34(3), 231–248. <https://doi.org/10.1080/01434632.2013.768622>
- Godwin-Jones, R. (2021). Evolving technologies for language learning. *Language Learning & Technology*, 25(3), 6–26. <http://hdl.handle.net/10125/73443>
- Goh, C. C. M., & Burns, A. (2012). *Teaching speaking: A holistic approach*. Cambridge University Press.
- Guest, G., Bunce, A., & Johnson, L. (2006). How Many Interviews Are Enough? An Experiment with Data Saturation and Variability. *Field Methods*, 18(1), 59–82. <https://doi.org/10.1177/1525822X05279903>
- Gui, Y., & Kew, S. N. (2023). Intercultural Communicative Competence-Based English Programmes in Developing Chinese EFL Students' Intercultural Competence. In M. Rahim, A. A. Ab Aziz, I. Saja @ Mearaj, N. A. Kamarudin, O. L. Chong, N. Zaini, A. Bidin, N. Mohamad Ayob, Z. Mohd Sulaiman, Y. S. Chan, & N. H. M. Saad (Eds.), *Embracing Change: Emancipating the Landscape of Research in Linguistic, Language and Literature* (Vol. 7, pp. 192–202). *European Proceedings of Educational Sciences*. European Publisher. <https://doi.org/10.15405/epes.23097.18>
- Guo, N., & Li, R. (2022). Measuring Chinese English-as-a-foreign-language learners' resilience: Development and validation of the foreign language learning resilience

- scale. *Frontiers in Psychology*, 13, 1046340. <https://doi.org/10.3389/fpsyg.2022.1046340>
- Hadi, M. S., & Junor, R. S. (2022). Speaking to Devices: Can we Use Google Assistant to Foster Students' Speaking Skills? *Journal of Languages and Language Teaching*, 10(4), 570. <https://doi.org/10.33394/jollt.v10i4.5808>
- Hamad, M. (2013). Factors negatively affect speaking skills at Saudi colleges for girls in the south. *English Language Teaching*, 6(12), 87. <https://doi.org/10.5539/elt.v6n12p87>
- He, H., Zou, B., & Du, Y. (2024). *Bridging the Gap: Linking AI Technology Acceptance to Actual Improvements in EAP Learners' Speaking Skills*. Open Science Framework. <https://doi.org/10.31219/osf.io/syb62>
- Hijra, H., Rahim, T. R., & Syarif, A. R. (2024). Barriers to Oral Proficiency: Exploring Causes of Speaking Inhibition in EFL Learners. *Klasikal: Journal of Education, Language Teaching and Science*, 6(2), 409–418. <https://doi.org/10.52208/klasikal.v6i2.1168>
- Hu, K., & Alsaqqaf, A. (2024). Needs Analysis for Designing and Developing an EFL Teaching-Speaking Module for the Unique Linguistic Tapestry of Chinese Business English Undergraduates. *Problems of Education in the 21st Century*, 82(4), 456–472. <https://doi.org/10.33225/pec/24.82.456>
- Huang, J., Li, J., Shu, T., & Zhang, Y. (2022). A mixed-methods national study investigating key challenges in learning English as a foreign language: A Chinese college student perspective. *Frontiers in Psychology*, 13, 1035819. <https://doi.org/10.3389/fpsyg.2022.1035819>
- Jamoom, O. A., & Bahron, N. O. (2024). From Hesitation to Fluency: Unraveling Speaking Barriers in EFL Context. *International Journal of English Literature and Social Sciences*, 9(5), 102–110. <https://doi.org/10.22161/ijels.95.15>
- Jawaid, A., Batool, M., Arshad, W., ul Haq, M. I., Kaur, P., & Sanaullah, S. (2025). AI and English Language Learning Outcomes. *Contemporary Journal of Social Science Review*, 3(01), 927–935. <https://doi.org/10.12345/k8s7ja78>
- Jiang, L., Zhang, L. J., & May, S. (2019). Implementing English-medium instruction (EMI) in China: Teachers' practices and perceptions, and students' learning motivation and needs. *International Journal of Bilingual Education and Bilingualism*, 22(2), 107–119. <https://doi.org/10.1080/13670050.2016.1231166>
- Kien, L. T., & Nghia, T. L. H. (2024). The Contribution of English Language Education to Students' Development of Soft Skills and Personal Attributes. In T. L. H. Nghia, L. T. Tran, & M. T. Ngo (Eds.), *English Language Education for Graduate Employability in Vietnam* (pp. 165–184). Springer Nature Singapore. https://doi.org/10.1007/978-981-99-4338-8_8
- King, S. (2016). Pronunciation fundamentals: Evidence-based perspectives for L2 teaching and research [Review of the book *Pronunciation fundamentals: Evidence-based perspectives for L2 teaching and research*, by T. M. Derwing & M. J. Munro]. *The CATESOL Journal*, 28(2), 141–151. <https://doi.org/10.5070/B5.36033>
- Koç, F. Ş., & Savaş, P. (2025). The use of artificially intelligent chatbots in English language learning: A systematic meta-synthesis study of articles published between 2010 and 2024. *ReCALL*, 37(1), 4–21. <https://doi.org/10.1017/S0958344024000168>
- Kohnke, L., Zou, D., & Zhang, R. (2022). Exploring pre-service teachers' beliefs about EAP instruction in China – A case study. *International Journal of Educational Research Open*, 3, 100179. <https://doi.org/10.1016/j.ijedro.2022.100179>
- Leba, S. M. R., & Butar-Butar, R. (2024). The function of artificial intelligence (AI) in developing English language learners' speaking performance. In *Proceedings of the International Conference on Science and Technology for the Internet of Things (ICSTI)* (pp. 240–249). <https://seminar.ustjogja.ac.id/index.php/ICSTI/article/view/2892>

- Leong, L.-M., Ahmadi, S. M., (2017). An Analysis of Factors Influencing Learners' English Speaking Skill. *International Journal of Research in English Education*, 2(1), 34–41. <https://doi.org/10.18869/acadpub.ijree.2.1.34>
- Li, C. (2023). The sustainability of form-focused instruction in classrooms. *Sustainability*, 15(7), 6109. <https://doi.org/10.3390/su15076109>
- Li, S., Ou, L., & Lee, I. (2025). The timing of corrective feedback in second language learning. *Language Teaching*, 1–17. <https://doi.org/10.1017/S0261444824000478>
- Liu, J. (2020). *Perceptions of speaking proficiency by English graduates and employment supervisors in the Chinese market economy: The invisible hand to career development* (Doctoral dissertation, New Mexico State University). ProQuest Dissertations Publishing. <https://www.proquest.com/openview/29f8eab081c83e42db2d3c990179224e/1?pq-origsite=gscholar&cbl=18750&diss=y>
- Liu, M., & Yuan, R. (2021). Changes in and effects of foreign language classroom anxiety and listening anxiety on Chinese undergraduate students' English proficiency in the COVID-19 context. *Frontiers in Psychology*, 12, 670824. <https://doi.org/10.3389/fpsyg.2021.670824>
- Liu, M., & Zhang, W. (2021). *Teaching and Researching Chinese EFL/ESL Learners in Higher Education* (Z. Lu, Ed.; 1st ed.). Routledge. <https://doi.org/10.4324/9781003178118>
- Liu, P., & Siew, P. W. (2024). The influence of intercultural communication competence on college students' English language learning motivation at Jiangxi, China: Mediated by cultural exposure. *International Journal of Academic Research in Business and Social Sciences*, 14(11), P1617-1632. <https://doi.org/10.6007/IJARBS/v14-i11/23695>
- Marnani, P. F., & Cuocci, S. (2022). Foreign Language Anxiety: A review on theories, causes, consequences and implications for educators. *Journal of English Learner Education*, 14(2). <https://stars.library.ucf.edu/jele/vol14/iss2/2>
- Mingyan, M., Noordin, N., & Razali, A. B. (2025). Improving EFL speaking performance among undergraduate students with an AI-powered mobile app in after-class assignments: An empirical investigation. *Humanities and Social Sciences Communications*, 12(1), 370. <https://doi.org/10.1057/s41599-025-04688-0>
- Moxon, S. (2024). All-Talk: Enhancing EFL pronunciation with Microsoft Azure speech services. *ABAC Journal*, 44(4). <https://doi.org/10.59865/abacj.2024.58>
- Namaziandost, E., Homayouni, M., & Rahmani, P. (2020). The impact of cooperative learning approach on the development of EFL learners' speaking fluency. *Cogent Arts & Humanities*, 7(1), 1780811. <https://doi.org/10.1080/23311983.2020.1780811>
- Nassaji, H., & Kartchava, E. (Eds.). (2017). *Corrective feedback in second language teaching and learning: Research, theory, applications, implications*. Routledge, Taylor & Francis Group. <https://doi.org/10.4324/9781315621432>
- Nguyen, H. A. (2024). Harnessing AI-based tools for enhancing English speaking proficiency: Impacts, challenges, and long-term engagement. *International Journal of AI in Language Education*, 1(2), 18–29. <https://doi.org/10.54855/ijaile.24122>
- Nugroho, T. B., Riana, N. A., & Syahid, A. (2024). Perceptions of using ChatGPT's real-time feedback to enhance EFL speaking skills. *PESHUM: Jurnal Pendidikan, Sosial, dan Humaniora*, 4(1), 842–850. <https://doi.org/10.56799/peshum.v4i1.6857>
- Othman, I. W., Chong Chen Tshung, F., Salam, S. N., Mohd Shah, M. K., Mokhtar, S., & Yusoff, M. S. (2023). Revitalizing the educational landscape post-pandemic: An in-depth analysis of challenges and issues in teaching and learning. *International Journal of Education, Psychology and Counseling*, 8(52), 553–587. <https://doi.org/10.35631/IJEP.852043>
- Oxford, R. L. (2006). Task-based language teaching and learning: An overview. In P. Robertson & J. Jung (Eds.), *Special conference proceedings volume: Task-based learning*

- in the Asian context (*The Asian EFL Journal Quarterly*, 8(3), pp. 94–121). Asian EFL Journal Press.
- Papi, M., & Khajavy, H. (2023). Second language anxiety: Construct, effects, and sources. *Annual Review of Applied Linguistics*, 43, 127–139. <https://doi.org/10.1017/S0267190523000028>
- Peng, H., Ma, S., & Spector, J. M. (2019). Personalized adaptive learning: An emerging pedagogical approach enabled by a smart learning environment. *Smart Learning Environments*, 6(1), 9. <https://doi.org/10.1186/s40561-019-0089-y>
- Qiao, H., & Zhao, A. (2023). Artificial intelligence-based language learning: Illuminating the impact on speaking skills and self-regulation in Chinese EFL context. *Frontiers in Psychology*, 14, 1255594. <https://doi.org/10.3389/fpsyg.2023.1255594>
- Qiu, J. (2024). Self-directed oral foreign language learning powered by generative AI ChatGPT: Voices from Chinese college students. *SHS Web of Conferences*, 199, 01011. <https://doi.org/10.1051/shsconf/202419901011>
- Rafiq, K. R. M., Hashim, H., & Yunus, M. M. (2022). New Qualitative Perspective in Human–Computer Interaction: Designing Mobile English for STEM. *Frontiers in Psychology*, 13, 863422. <https://doi.org/10.3389/fpsyg.2022.863422>
- Rahman, P., & Mehnaz, S. (2024). International journal for multidisciplinary research. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.5054029>
- Richards, J. C. (2009). *Curriculum development in language teaching* (Reprinted ed.). Cambridge University Press.
- Sabrina, A. (2020). The implementation of communicative language teaching in English practice. *NOTION: Journal of Linguistics, Literature, and Culture*, 2(1), 17–27. <https://doi.org/10.12928/notion.v2i1.1750>
- Schmidt, T., & Strassner, T. (2022). Artificial Intelligence in Foreign Language Learning and Teaching. *Anglistik*, 33(1), 165–184. <https://doi.org/10.33675/ANGL/2022/1/14>
- Shi, H., & Aryadoust, V. (2024). A systematic review of AI-based automated written feedback research. *ReCALL*, 36(2), 187–209. <https://doi.org/10.1017/S0958344023000265>
- Storch, N. (2002). Patterns of Interaction in ESL Pair Work. *Language Learning*, 52(1), 119–158. <https://doi.org/10.1111/1467-9922.00179>
- Suraprajit, P., & Piriya Pun, K. (2024). English communication strategies among Thai logistics professionals. *Forum for Linguistic Studies*, 5(2). <https://doi.org/10.59400/fls.v5i2.1799>
- Sönmez, H. (2019). An Examination of Needs Analysis Research in the Language Education Process. *International Journal of Education and Literacy Studies*, 7(1), 8. <https://doi.org/10.7575/aiac.ijels.v.7n.1p.8>
- Taeza, J. (2025). The role of AI-powered chatbots in enhancing second language acquisition: An empirical investigation of conversational AI assistants. *Edelweiss Applied Science and Technology*, 9(3), 2616–2629. <https://doi.org/10.55214/25768484.v9i3.5853>
- Taguchi, N. (2011). Teaching Pragmatics: Trends and Issues. *Annual Review of Applied Linguistics*, 31, 289–310. <https://doi.org/10.1017/S0267190511000018>
- Thamarana, S. (2015). A critical overview of communicative language teaching. *International Journal of English Language, Literature and Humanities*, 3(5), 90–100. Retrieved from <https://ijellh.com/index.php/OJS/article/view/546>
- Tien, C.-Y. (2018). English speaking anxiety in EFL university classrooms in Taiwan. *European Journal of English Language Teaching*, 4(02), 21–34. <https://doi.org/10.5281/ZENODO.1473161>
- Tran Uyen Nhi, N., & AlSaqqaf, A. (2023). Impact of a DMGA scaffolding-based module on improving the EFL speaking skills among Vietnamese ESP learners. *Arab World English Journal*, 14(4), 342–357. <https://doi.org/10.24093/awej/vol14no4.21>

- Vančová, H. (2023). AI and AI-powered tools for pronunciation training. *Journal of Language and Cultural Education*, 11(3), 12–24. <https://doi.org/10.2478/jolace-2023-0022>
- Vera, F. (2023). Integrating Artificial Intelligence (AI) in the EFL Classroom: Benefits and Challenges. *Transformar Electronic Journal*, 4(02),66-77.
- Vesna, L. (2025). Digital divide in AI-powered education: Challenges and solutions for equitable learning. *Journal of Information Systems Engineering and Management*, 10(21s), 300–308. <https://doi.org/10.52783/jisem.v10i21s.3327>
- Wang, W., Rezaei, Y. M., & Izadpanah, S. (2024). Speaking accuracy and fluency among EFL learners: The role of creative thinking, emotional intelligence, and academic enthusiasm. *Heliyon*, 10(18), e37620. <https://doi.org/10.1016/j.heliyon.2024.e37620>
- Wang, Y. (2023). Motivation of Chinese medical students in learning English as a second language: A quantitative study. *Creative Education*, 14(07), 1358–1369. <https://doi.org/10.4236/ce.2023.147086>
- Wang, Z. (2014). Developing accuracy and fluency in spoken English of Chinese EFL learners. *English Language Teaching*, 7(2), p110. <https://doi.org/10.5539/elt.v7n2p110>
- Xiong, T., & Yuan, Z. (2018). “It Was Because I Could Speak English That I Got the Job”: Neoliberal Discourse in a Chinese English Textbook Series. *Journal of Language, Identity & Education*, 17(2), 103–117. <https://doi.org/10.1080/15348458.2017.1407655>
- Zawacki-Richter, O., Marín, V. I., Bond, M., & Gouverneur, F. (2019). Systematic review of research on artificial intelligence applications in higher education – where are the educators? *International Journal of Educational Technology in Higher Education*, 16(1), 39. <https://doi.org/10.1186/s41239-019-0171-0>
- Zeng, H. (2023). Academic Aspirations or Societal Realities: Motivation for Continuing Pursuing Higher Education among Chinese Undergraduates. *Lecture Notes in Education Psychology and Public Media*, 30(1), 298–304. <https://doi.org/10.54254/2753-7048/30/20231737>
- Zhang, S., Shan, C., Lee, J. S. Y., Che, S., & Kim, J. H. (2023). Effect of chatbot-assisted language learning: A meta-analysis. *Education and Information Technologies*, 28(11), 15223–15243. <https://doi.org/10.1007/s10639-023-11805-6>
- Zhang, Y., & Nimehchisalem, V. (2023). Chinese international students’ speaking anxiety in online classes and face-to-face classes in a hybrid learning context. *Open Journal of Modern Linguistics*, 13,559–579. <https://www.scirp.org/journal/paperinformation.aspx?paperid=126164>
- Zou, B., Guan, X., Shao, Y., & Chen, P. (2023). Supporting speaking practice by social network-based interaction in Artificial Intelligence (AI)-assisted language learning. *Sustainability*, 15(4), 2872. <https://doi.org/10.3390/su15042872>
- Zou, B., Liviero, S., Hao, M., & Wei, C. (2020). Artificial Intelligence technology for EAP speaking skills: Student perceptions of opportunities and challenges. In M. R. Freiermuth & N. Zarrinabadi (Eds.), *Technology and the Psychology of Second Language Learners and Users* (pp. 433–463). Springer International Publishing. https://doi.org/10.1007/978-3-030-34212-8_17

Appendix 1

Semi-Structured Interview Protocol for Chinese EFL Students' Needs

This semi-structured interview is part of the needs analysis phase for the doctoral research project titled 'The Design and Development of an AI-integrated Learning Module for Chinese University EFL Speaking Class'. The interview aims to gather students' perceptions about the importance of improving speaking skills, the challenges they face in the classroom, and their preferred strategies and AI tools for enhancing oral English proficiency.

Interview Logistics

Participants: Eight Chinese university EFL students

Estimated Duration: 30–40 minutes

Mode: Face-to-face

Recording: With participant consent, the interview was audio-recorded for transcription and analysis.

Confidentiality: All responses were anonymized and used solely for academic research purposes.

Interview Questions

1. How would you describe your current English speaking ability?
2. In what situations do you currently use spoken English?
3. How confident do you feel when speaking English in class? Why?
4. In what areas of your future development (e.g., academic studies, job interviews, international communication, travel, or social networking) do you think English speaking skills will be most important?
5. Can you describe any specific situations in your future academic or professional life where strong English-speaking skills will be required?
6. What level of speaking proficiency would you like to achieve to feel confident using English in those future contexts?
7. What are the main challenges you face when trying to improve your English-speaking skills in the classroom?
8. Do you experience any emotional or psychological barriers (e.g., anxiety, lack of confidence) when speaking English in class?
9. What difficulties do you encounter in terms of vocabulary, grammar, fluency, or pronunciation when completing speaking tasks?
10. Have you used any AI tools (e.g., ELSA Speak, ChatGPT, chatbots) to help improve your English speaking skills? If yes, which ones and how?
11. What kinds of AI tools do you think would be useful in supporting speaking practice in the classroom?
12. Would you like to have more AI-supported activities in your English speaking classes? Why or why not?