EnJourMe (English Journal of Merdeka) :
Culture, Language, and Teaching of English
Journal homepage: http://jurnal.unmer.ac.id/index.php/enjourme/index

AI-mediated speaking practice in EFL contexts: Exploring students' perceptions of flow speak

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ARTICLE INFO

Received 20 May 2026
Accepted 22 June 2026
Available online 31 July 2026

Keywords:
AI-Assisted Language Learning, AI-Mediated Speaking Practice, EFL Learners, Flow Speak Application, Learner Autonomy, Speaking Anxiety

DOI:
10.26905/enjourme.v11i1.17196

ABSTRACT

This study explored EFL students' perceptions of using Flow Speak, an artificial intelligence (AI)-based application, for English speaking practice. Using a qualitative descriptive design, data were collected through open-ended questionnaires from 20 students in an English Language Education Program who had used Flow Speak for one to five months. The data were analyzed using thematic analysis. The findings revealed five major themes: speaking difficulties before using Flow Speak, experiences with the application, perceived improvements in speaking skills, benefits for autonomous learning, and challenges encountered. Participants reported that Flow Speak provided real-time feedback, repeated speaking opportunities, and a low-pressure learning environment that supported speaking practice. They also perceived improvements in vocabulary use, pronunciation awareness, confidence, and fluency, particularly among students with longer experience using the application. In addition, participants highlighted the flexibility of independent practice and the role of immediate feedback in supporting learner autonomy. However, challenges related to internet connectivity, speech-recognition accuracy, and the lack of authentic human interaction were also identified. The findings suggest that AI-assisted speaking applications may serve as useful supplementary tools for self-directed speaking practice, while complementing rather than replacing human-mediated language learning experiences.

How to cite this article (APA Style): Azizah, R., Saputri, T., Authar, N. (2026). *AI-Mediated Speaking Practice in EFL Contexts: Exploring Students' Perceptions of Flow Speak. EnJourMe* (English Journal of Merdeka): Culture, Language, and Teaching of English, 11(1) pp. 50-67.
doi: https://doi.org/10.26905/enjourme.v11i1.17196

INTRODUCTION

The ability to communicate effectively in spoken English is widely recognized as a core competency for students enrolled in English Language Education programs, particularly those preparing for future careers as English teachers. As the primary medium through which language knowledge is expressed and negotiated in real-life communication, speaking occupies a central position in language learning and teaching. Despite its importance, speaking remains one of the most challenging skills for learners of English as a Foreign Language (EFL), especially in higher education contexts where opportunities for meaningful oral interaction are often limited. In Indonesia, these challenges are further compounded by structural and pedagogical factors, including large class sizes, limited instructional time, and a long-standing emphasis on receptive language skills, such as reading and listening, rather than on oral communication (Lie, 2007). As a result, many EFL students struggle to develop the confidence, fluency, and communicative competence required for effective spoken English. Additionally, It requires a new revolution in language education, particularly in increasing students' collaboration skills in problem-solving, solution-finding, decision-making, and negotiation to accomplish specific goals in 21st-century learning skills. The ability to communicate effectively in spoken English is widely recognized as a core competency for students enrolled in English Language Education programs. Beyond linguistic proficiency, speaking skills play an important role in supporting learners' participation in collaboration, problem-solving, decision-making, and negotiation, which are considered essential competencies in 21st-century learning (Yustisia et al., 2023).

Among the four language skills, speaking is often regarded as one of the most challenging for EFL learners because it requires the simultaneous integration of vocabulary knowledge, pronunciation accuracy, fluency, and communicative confidence. According to Leong et al. (2017), speaking proficiency is influenced by learners' opportunities to engage in meaningful communication, exposure to the target language, and levels of self-confidence. Consequently, learners frequently find it difficult to develop the automaticity required for spontaneous and confident spoken language production when adequate exposure and practice opportunities are lacking. Beyond linguistic challenges, however, speaking performance is also shaped by affective factors that influence learners' willingness and ability to communicate. Many students experience communication anxiety, fear of making mistakes, and lack confidence when speaking English in front of others (Dewaele & MacIntyre, 2016). Horwitz (2010) further argues that these concerns function as persistent psychological barriers that undermine learners' engagement and communicative performance in

foreign-language contexts, rather than merely representing temporary situational difficulties. As a result, students may become reluctant to participate actively in speaking activities, limiting opportunities for language development. These challenges underscore the importance of creating supportive learning environments that enable learners to practice speaking comfortably, build confidence, and gradually develop their communicative competence.

These affective and experiential barriers can be situated within Krashen's (1982) theory of second language acquisition, particularly the Affective Filter Hypothesis. Krashen (1982) proposes that affective factors such as anxiety, motivation, and self-confidence function as a filter that regulates how much comprehensible input learners are able to process: when anxiety is high, this filter rises and impedes language processing regardless of a learner's underlying competence, whereas a low-anxiety, supportive environment allows input to be processed more freely and converted into acquired language ability. Through the related Input Hypothesis, Krashen (1982) further argues that exposure to comprehensible input delivered under low-stress conditions, rather than explicit grammar instruction alone, is a necessary condition for language acquisition to occur. These principles offer a theoretical rationale for why reducing speaking anxiety and providing learners with repeated, low-stakes opportunities for spoken practice may be central to supporting EFL students' speaking development. This theoretical foundation underlies the present study's interest in AI-based speaking applications as tools specifically positioned to reduce the affective barriers associated with speaking practice while providing learners with repeated opportunities for language input and output.

Building on this theoretical foundation, the use of artificial intelligence (AI) in language instruction has created new avenues for resolving these enduring issues. The rise of AI-powered speaking applications that employ natural language processing (NLP) and automatic speech recognition (ASR) to provide real-time, automated feedback on oral performance is one of the most significant advancements. AI speech evaluation tools with automatic feedback greatly aid EFL learners' speaking ability development, especially in fluency and pronunciation accuracy, as Zou et al., (2023) shown. Similarly, Qiao & Zhao, (2023) discovered that Chinese EFL students' L2 speaking abilities and self-regulation were significantly enhanced by AI-based training using interactive feedback applications. The educational potential of technology-assisted language learning has also been demonstrated in studies of mobile language-learning applications. For example, Ilsanti & Anjarwati (2025) found that using the Duolingo application improved students' grammatical competence in writing, suggesting that digital learning applications can provide meaningful opportunities for

language development through structured practice and feedback. These findings reinforce the potential of AI-assisted speaking applications to support language learning beyond traditional classroom settings. These results highlight the educational potential of AI systems as scalable, easily accessible platforms for speaking practice. Despite these benefits, previous studies have reported concerns regarding limited communicative authenticity and the inability of AI systems to fully replicate human interaction.

Against this backdrop, a growing number of AI-powered speaking applications have emerged to provide learners with accessible opportunities for speaking practice beyond the classroom. One such application is Flow Speak, an AI-based platform specifically designed to support English-speaking development through structured conversation prompts, real-time pronunciation assessment, and iterative feedback. Unlike general-purpose language learning platforms, Flow Speak focuses exclusively on speaking practice and offers scenario-based interactions whose difficulty levels adapt to learners' performance. Given these features, the application has gained growing attention among EFL learners seeking flexible, self-directed opportunities to improve their speaking skills.

Previous research has demonstrated the potential of technology-enhanced and AI-assisted speaking tools to reduce anxiety, support oral performance, and promote autonomous learning. For example, Bashori et al. (2022) found that CALL-based speaking tools helped Indonesian learners reduce speaking anxiety and improve oral performance, while Khulaifiyah et al. (2021) reported that Indonesian EFL students valued flexible and self-directed learning opportunities. Although these studies highlight the educational potential of AI-supported language learning, limited research has explored how learners experience AI-mediated speaking practice in specific learning contexts. In particular, little is known about how Indonesian undergraduate EFL students perceive the role of AI-assisted speaking applications in addressing speaking anxiety, supporting autonomous learning, and shaping their speaking development. Furthermore, the benefits, challenges, and learning mechanisms associated with the use of Flow Speak remain underexplored. Addressing this gap, the present study investigates EFL students' perceptions and experiences of using Flow Speak for English speaking practice.

Addressing this gap, the present study employs a qualitative descriptive approach to explore how undergraduate EFL students in the English Language Education Program at Nahdlatul Ulama University of Surabaya (UNUSA) perceive and experience the use of Flow Speak for English speaking practice. Specifically, the study seeks to answer the following research questions: (1) What speaking difficulties

did students experience before using Flow Speak? (2) How did students experience using Flow Speak for speaking practice? (3) What speaking improvements did students perceive after regularly using the application? (4) What benefits did students perceive for autonomous English language learning? and (5) What challenges did students encounter while using the application? By examining students' experiences, perceptions, and reported learning outcomes, this study contributes to the growing body of research on AI-assisted language learning. In particular, it provides qualitative insights into how AI-mediated speaking environments may support learner confidence, autonomous learning, and speaking development, while also highlighting the technological and pedagogical challenges associated with integrating AI-based speaking tools in higher-education EFL contexts.

METHOD

This study employed a descriptive qualitative design to explore EFL students' perceptions of using Flow Speak for English speaking practice. A qualitative approach was considered appropriate because the study sought to understand participants' subjective experiences, perceived benefits, and challenges associated with using the application. Rather than measuring the effectiveness of Flow Speak through objective performance indicators, the study focused on how learners interpreted and experienced AI-assisted speaking practice within their own learning contexts. A descriptive qualitative design enabled the researchers to capture these perspectives in participants' own words and provide a contextualized understanding of their experiences.

The participants were 20 undergraduate students enrolled in the English Language Education Program at Nahdlatul Ulama University of Surabaya (UNUSA). Participants were selected through purposive sampling because they met the study's inclusion criteria: (1) active enrolment in the program, (2) prior experience using Flow Speak for English speaking practice, and (3) willingness to participate voluntarily. Participants had used the application for approximately one to five months. The sample size was considered appropriate for qualitative inquiry because it enabled the researchers to obtain detailed accounts from individuals with direct experience of the phenomenon under investigation. Data collection and analysis continued until recurring patterns emerged across responses and no substantially new themes were identified, indicating sufficient information power for addressing the research objectives. A summary of participants' demographic characteristics is presented in Table 1.

Table 1: Participant Characteristics (N = 20)

Characteristic	Category	n
Gender	Female	13
	Male	7
Semester	2nd	4
	4th	10
	6th	6
Flow Speak Experience	1–2 months	9
	3–5 months	11

The participants represented different stages of study and varying levels of experience using Flow Speak, allowing the researchers to capture diverse perspectives regarding the application.

Data were collected using an open-ended questionnaire distributed through Google Forms. The questionnaire consisted of 15 open-ended questions organized into five areas corresponding to the research objectives: speaking difficulties, user experiences, perceived improvements in speaking, autonomous learning benefits, and challenges encountered. Data collection was conducted over a two-week period, during which participants completed the questionnaire voluntarily. The questionnaire included questions about students' speaking difficulties before using Flow Speak, their experiences with the application, perceived improvements in speaking, benefits for autonomous learning, and challenges encountered during use. The instrument was reviewed by two experts in EFL pedagogy before distribution. They evaluated the clarity, relevance, language appropriateness, and alignment of each question with the research objectives. Based on their feedback, several questions were revised to use clearer wording, avoid overlapping questions, and encourage participants to provide more detailed responses.

The data were analyzed using thematic analysis following the six-phase framework proposed by Braun & Clarke, (2006). First, the researchers read the participants' responses repeatedly to become familiar with the data. Second, meaningful statements about students' experiences using Flow Speak were identified and assigned initial codes. Third, similar codes were grouped into categories. Fourth, the categories were reviewed and developed into broader themes. Fifth, the themes were defined and named based on the central meaning represented in participants' responses. Finally, the findings were presented using participant quotations and interpretative explanations. Although the broad areas of inquiry were informed by the research questions and questionnaire sections, the initial codes and subthemes were

generated from participants' responses. Both experts had professional backgrounds in English language teaching and EFL pedagogy. Therefore, the analysis combined a structured focus on the research objectives with data-driven coding (Braun & Clarke, 2006; Byrne, 2022).

To enhance the trustworthiness of the findings, the researchers independently reviewed and compared the coded responses before discussing differences in interpretation and reaching consensus on the final themes. The use of participant quotations allowed readers to evaluate the connection between the data and the researchers' interpretations. In addition, transparency was supported by presenting the coding process, including examples of excerpts, codes, categories, and themes (Table 2). These procedures were adopted to strengthen the credibility and dependability of the analysis (Nowell et al., 2017).

RESULTS

The findings of this study are organized around the major themes that emerged from participants' responses regarding their experiences of using Flow Speak for English-speaking practice. Through thematic analysis, the researchers identified recurring patterns related to students' speaking difficulties, experiences with the application, perceived development in speaking, benefits of autonomous learning, and challenges encountered during use. The themes were developed through an inductive coding process that involved identifying meaningful statements, generating initial codes, grouping related codes into categories, and constructing broader thematic patterns. Table 2 provides five major themes and several related subthemes were identified.

Table 2: Overview of Themes and Subthemes

Theme	Description
Speaking Difficulties Before Using Flow Speak	Participants commonly described communication anxiety, limited active vocabulary, pronunciation concerns, and low confidence as barriers to speaking English.
User Experience with the Application	Participants generally perceived Flow Speak as a supportive environment that provided immediate feedback and opportunities for repeated speaking practice.
Perceived Speaking Skill Improvement	Participants reported improvements in vocabulary use, pronunciation accuracy, speaking confidence, and fluency through regular use of the application.
Benefits for Autonomous Learning	Participants valued the flexibility of practicing independently and receiving feedback without direct teacher supervision.

Challenges Encountered	Participants identified limitations related to internet connectivity, speech-recognition accuracy, and the lack of authentic human interaction.

The themes presented in Table 3 form the basis of the findings discussed in the following sections, beginning with participants' speaking difficulties before using Flow Speak and progressing to their experiences, perceived benefits, and challenges associated with the application.

Speaking difficulties before using Flow Speak

Participants described several challenges that hindered their English-speaking performance before using Flow Speak. These challenges were not limited to linguistic difficulties; they also included affective barriers that reduced their willingness to communicate. Two prominent subthemes emerged: (1) communication anxiety and low confidence, and (2) limited active vocabulary and pronunciation hesitancy.

The first subtheme is communication anxiety, which emerged as one of the most prominent barriers to speaking English before participants began using Flow Speak. Many students reported fear of making mistakes, which often reduced their willingness to participate in speaking activities despite possessing sufficient knowledge of the topic. For example, NHA explained that although she knew the necessary vocabulary, anxiety frequently prevented her from expressing her ideas effectively:

> Before using Flow Speak, I was always afraid of making mistakes when asked to speak in class. I knew the vocabulary, but when I tried to speak, everything just disappeared. (Student B)

Similarly, MNA reported that nervousness often interfered with her ability to communicate, stating, "Sometimes I knew what I wanted to say, but I became nervous and forgot the words" (Student F). These accounts suggest that participants' speaking difficulties were not solely attributable to limited linguistic competence. Rather, anxiety appeared to function as an affective barrier that constrained learners' ability to access and utilize language resources they already possessed. As a result, students often hesitated to communicate even when they had an adequate understanding of the subject matter, highlighting the significant role of psychological factors in shaping speaking performance.

In addition to anxiety-related concerns, participants reported difficulties in retrieving vocabulary and producing accurate pronunciation during spontaneous communication. Several students explained that they were often able to recognize or

understand English words but struggled to recall them when speaking. One participant noted, "I often understood the meaning of words, but I could not remember them when speaking" (Student G). This evidence indicates a gap between receptive vocabulary knowledge and productive language use. While others also expressed hesitation due to uncertainty about pronunciation accuracy, with one participant stating, "I worried that my pronunciation was incorrect, so I hesitated to speak" (Student I).

These findings suggest that participants' challenges extended beyond vocabulary knowledge itself. Rather, difficulties with lexical retrieval and confidence in pronunciation appeared to hinder effective language use during real-time communication. Such challenges may contribute to reduced fluency and increased hesitation during spoken interactions.

Use experience while using Flow Speak

Participants generally reported positive experiences while using Flow Speak for English-speaking practice. The application was perceived as a supportive learning tool that enabled learners to practice speaking independently while receiving immediate feedback on their performance. Two subthemes emerged from participants' responses: (1) real-time AI feedback and (2) a pressure-free learning environment. Together, these features contributed to participants' positive perceptions of the application and encouraged more frequent speaking practice.

One of the most frequently appreciated features of Flow Speak was its ability to provide immediate feedback on speaking performance. Participants reported that the feedback helped them identify pronunciation errors, monitor their progress, and refine their responses through repeated practice. For example, Student A explained that, "The feedback helped me recognize my pronunciation mistakes immediately" (Student A). Which highlighting the role of instant corrective feedback in raising awareness of language use. Similarly, another participant noted, "I could repeat my answers and improve them after receiving feedback" (Student D), suggesting that the application encouraged learners to engage in self-correction and continuous improvement.

These responses indicate that immediate feedback supported learners' self-monitoring processes and promoted greater autonomy in speaking practice. Rather than relying solely on teacher evaluation, participants were able to independently identify weaknesses and make adjustments to their spoken production, thereby creating opportunities for ongoing language development.

Perceived improvements in speaking skills

Participants generally reported positive changes in their speaking abilities after regularly using Flow Speak. Although these improvements were based on self-perceptions rather than objective assessments of speaking performance, many participants described increased familiarity with English vocabulary, greater awareness of pronunciation accuracy, enhanced confidence, and improved fluency. Two interrelated subthemes emerged from the data: (1) vocabulary development and pronunciation improvement, and (2) increased confidence and speaking fluency.

Participants frequently associated regular use of Flow Speak with improvements in vocabulary use and pronunciation awareness. They explained that repeated exposure to speaking activities, combined with immediate corrective feedback, helped them become more familiar with commonly used expressions and identify pronunciation errors that previously went unnoticed. For example, Student H, who had used the application for five months, reported that "I learned many new words and improved my pronunciation because I practiced regularly." Similarly, Student D, who had four months of experience with the application, explained that "the feedback helped me notice pronunciation mistakes that I usually ignored." These accounts suggest that participants perceived continuous speaking practice and immediate feedback as important factors supporting vocabulary expansion and pronunciation development. Rather than learning vocabulary in isolation, learners described acquiring and refining language knowledge through repeated communicative use and feedback-supported practice.

In addition to linguistic development, participants frequently described improvements in confidence and speaking fluency. Many reported feeling more comfortable expressing ideas in English and less hesitant when participating in speaking activities. One participant stated, "I became more confident because I practiced speaking every day," while another explained, "I can speak more smoothly now because I am used to speaking English regularly." These comments suggest that regular speaking practice may have helped learners become more accustomed to speaking English, thereby reducing hesitation and increasing their willingness to communicate.

Interestingly, differences emerged according to participants' duration of experience with Flow Speak. Those who had used the application for three to five months generally reported more noticeable improvements in vocabulary use, pronunciation awareness, confidence, and fluency. For example, Student B (five months) and Student D (four months) described sustained progress resulting from

regular practice and repeated exposure to AI-generated feedback. In contrast, participants with one to two months of experience were more likely to emphasize increased motivation, greater willingness to practice, and growing familiarity with the application rather than substantial changes in their speaking abilities. This pattern suggests that participants perceived the benefits of Flow Speak to become more evident over time. Longer engagement with the application appeared to provide learners with additional opportunities to practice consistently, utilize feedback more effectively, and develop greater confidence in speaking English.

In summary, participants perceived Flow Speak as contributing to both linguistic and affective aspects of speaking development. While vocabulary growth and pronunciation awareness were frequently associated with the application's feedback features, improvements in confidence and fluency were linked to opportunities for repeated and low-pressure speaking practice. These findings suggest that learners viewed Flow Speak not merely as a pronunciation tool but as a learning environment that supported ongoing engagement with spoken English.

Benefits of autonomous learning

Participants consistently highlighted Flow Speak's role in supporting autonomous learning. They described the application as a flexible and accessible tool that enabled them to engage in speaking practice independently, without relying exclusively on classroom activities or teacher guidance. Two related subthemes emerged from the data: (1) learning flexibility and (2) self-directed practice supported by immediate feedback.

One of the most frequently reported benefits of Flow Speak was the flexibility it offered for speaking practice. Participants appreciated the ability to access the application at their convenience, allowing them to practice English beyond scheduled classroom sessions. This flexibility enabled learners to integrate speaking activities into their daily routines and engage with the language more frequently. For example, Student J, who had used Flow Speak for four months, explained, "I can practice speaking whenever I have free time." These responses suggest that AI-assisted speaking applications can extend learning opportunities beyond formal instructional settings. By providing learners with continuous access to speaking practice, Flow Speak appeared to reduce dependence on classroom-based activities and create additional opportunities for language use in self-directed contexts.

Participants also perceived Flow Speak as a tool that supported independent learning by enabling them to practice speaking without direct teacher supervision while

still receiving feedback on their performance. Several participants emphasized that the application allowed them to take greater responsibility for their learning and practice at their own pace. Student K stated, "I do not need to wait for classroom activities to practice speaking," highlighting the autonomy afforded by the application.

The availability of immediate feedback further strengthened this sense of independence. Rather than relying on teachers to identify errors, participants could evaluate their performance and make adjustments through repeated practice. These findings indicate that Flow Speak supported learner autonomy by encouraging students to regulate their own learning processes, monitor their progress, and actively engage in speaking development beyond the classroom.

To sum up, participants viewed Flow Speak as a learning tool that facilitated greater autonomy in speaking practice. The flexibility to practice at any time and the availability of immediate feedback enabled learners to exercise greater control over their learning experiences. These features suggest that AI-assisted speaking applications may complement formal instruction by creating opportunities for continuous, self-directed language practice.

Challenges encountered during the use of Flow Speak

Despite the positive experiences reported by participants, several challenges emerged in using Flow Speak for English-speaking practice. These challenges were related not only to technical aspects of the application but also to the inherent limitations of AI-mediated communication. Two subthemes were identified: (1) technical limitations and (2) the lack of authentic human interaction.

Participants identified several technical issues that occasionally disrupted their learning experiences, particularly those related to internet connectivity and speech-recognition accuracy. Some learners reported that the application was not always able to recognize their pronunciation correctly, which sometimes led to confusion regarding the accuracy of their spoken production. For example, Student E explained, "Sometimes the application could not recognize my pronunciation correctly." In addition, unstable internet connections occasionally interrupted practice sessions, reducing the smoothness of the learning process. As another participant noted, "A poor internet connection sometimes interrupted my practice sessions." (Student L).

These responses suggest that the effectiveness of AI-assisted speaking practice may be influenced by technological factors beyond learners' control. Although participants generally viewed the application positively, technical disruptions occasionally affected their ability to engage consistently with speaking activities and

receive reliable feedback.

Participants also acknowledged that AI-assisted speaking practice could not fully replicate the experience of communicating with real people. While the application provided useful feedback and opportunities for repeated practice, learners perceived important differences between interacting with an AI system and engaging in authentic conversations. For example, Student F, who had used Flow Speak for one month, stated, "Practicing with the application is helpful, but it is different from speaking with actual people." Similarly, another participant explained, "The application provides feedback, but it cannot respond like a real conversation partner." (Student G)

These findings indicate that participants viewed Flow Speak as a supplementary rather than a substitute learning tool. Although AI-assisted applications can provide valuable opportunities for speaking practice, they may not fully support the development of interpersonal communication skills that emerge through authentic social interaction. Learners appeared to recognize the ongoing importance of human communication in developing broader communicative competence, including the negotiation of meaning, spontaneous interaction, and social engagement.

Overall, the challenges identified by participants highlight both the potential and the limitations of AI-assisted speaking applications. While Flow Speak provided accessible opportunities for practice, technical constraints and the absence of authentic human interaction limited its ability to fully replicate real-world communication experiences. These findings suggest that AI-based speaking tools may be most effective when used as complementary resources that support, rather than replace, human-mediated language learning experiences.

DISCUSSION

This study investigated how EFL students felt about Flow Speak, an AI-assisted tool for practicing speaking English. The results show that linguistic issues such as vocabulary retrieval and pronunciation were not the only causes of students' speaking difficulties prior to using the application. Low confidence and communication anxiety also surfaced as significant affective obstacles. Participants clarified that when asked to speak impulsively, they occasionally understood the vocabulary they wanted to use but were unable to recall it. According to this research, anxiety may make it more difficult for pupils to use their prior language expertise when speaking in real time.

This outcome is consistent with Horwitz's (2010) explanation that learners' engagement and performance in language-learning contexts can be adversely affected by fear of foreign languages. Additionally, it bolsters the claim made by Dewaele &

MacIntyre, (2016) that anxiety may prevent students from communicating, especially if they are afraid of making mistakes or being judged by others. Therefore, anxiety was not just defined as nervousness in the current study; rather, it served as a cognitive and affective barrier that caused students to hesitate, forget words, and refrain from speaking. This emphasizes how crucial it is to provide spaces for speaking that reduce the fear of receiving a poor grade.

Participants perceived Flow Speak as helpful because it offered real-time AI feedback and repeated speaking opportunities. The feedback feature enabled students to notice pronunciation errors, repeat their responses, and make adjustments independently. This finding aligns with Zou et al., (2023), who found that AI speech-evaluation programs with automatic feedback can support EFL learners' speaking development, particularly through feedback related to pronunciation and fluency. It is also consistent with Fathi et al., (2024) the study, which reported that AI-mediated speaking interactions can improve learners' speaking skills and willingness to communicate.

Another significant factor contributing to students' pleasant experiences was the stress-free learning atmosphere. In contrast to classroom speaking exercises, where students might be concerned about their peers' or teachers' opinions, Flow Speak allowed participants to practice in private and repeat their responses without feeling ashamed. This result corroborates the findings of Bashori et al., (2022), who found that speaking anxiety can be lessened by web-based language learning. According to this study, Flow Speak serves as a low-risk practice area that helps students prepare for more challenging face-to-face speaking scenarios. Therefore, the application should be seen as a supplementary tool that enhances students' preparedness and confidence rather than as a substitute for classroom communication.

The findings also indicated perceived improvements in vocabulary, pronunciation, confidence, and fluency. Importantly, these perceived improvements varied with participants' duration of experience with Flow Speak. Participants who had used the application for three to five months generally described broader and more sustained improvements, whereas participants with one to two months of experience mainly emphasized motivation, willingness to practice, and familiarity with the application. This pattern suggests that the benefits of AI-assisted speaking practice may become more visible through continued engagement. Regular exposure to speaking tasks and repeated use of feedback may give learners more opportunities to recognize errors, monitor progress, and gradually build confidence.

Furthermore, participants considered Flow Speak useful for autonomous learning because they could practice at any time and from anywhere, without waiting

for classroom activities or direct teacher supervision. This flexibility enabled students to take greater responsibility for their own speaking development. The finding supports Qiao & Zhao, (2023), who found that AI-based language learning can contribute to both speaking development and self-regulation among EFL learners. Therefore, Flow Speak may be particularly useful as part of a blended learning approach, in which classroom instruction is supported by independent practice outside the classroom.

However, the results also highlight significant limits. Participants noted issues with voice recognition accuracy and internet connectivity. Students may become irritated and lose faith in the feedback if the program cannot accurately identify pronunciation. Participants also stressed that communication with actual people could not be entirely replaced by AI engagement. While Flow Speak offers opportunities for repeated practice and automatic feedback, it cannot fully replicate interpersonal communication, emotional reactions, spontaneous turn-taking, or meaning negotiation. Therefore, rather than being used as a stand-alone substitute for genuine speaking practice, AI-assisted speaking applications should be integrated into communicative classroom activities, peer engagement, and teacher support.

All things considered, this study contributes to the literature by demonstrating that the benefits of AI-assisted speaking practice extend beyond the use of a specific program. The results show how speaking confidence and learner autonomy may be supported by automated feedback, low-pressure practice, repeated speaking chances, and flexible access. The results also highlight the need for a balanced strategy where meaningful human contact is supplemented by AI tools rather than replaced. Taken together, the findings extend existing research by demonstrating that the perceived value of AI-assisted speaking applications lies not only in their feedback functions but also in their capacity to create psychologically supportive learning environments. At the same time, the findings reinforce the continuing importance of authentic human interaction in developing communicative competence.

CONCLUSION

This study explored EFL students' perceptions of using Flow Speak as a tool for English-speaking practice in higher education settings. The findings revealed that before using the application, participants experienced a range of linguistic and affective challenges, including communication anxiety, low confidence, vocabulary retrieval difficulties, and pronunciation hesitancy. These difficulties often limited their willingness and ability to communicate in English despite possessing relevant language knowledge.

Participants generally perceived Flow Speak as a supportive speaking-practice tool that provided real-time feedback, repeated practice opportunities, and a low-pressure learning environment. Through regular use of the application, participants reported perceived improvements in vocabulary use, pronunciation awareness, speaking confidence, and fluency. Notably, students with three to five months of experience tended to describe more substantial and sustained benefits than those with shorter periods of use, suggesting that continued engagement may enhance the perceived value of AI-assisted speaking practice.

The findings also indicate that Flow Speak supported autonomous learning by enabling students to practice flexibly beyond classroom schedules and receive feedback without direct teacher supervision. At the same time, participants identified several limitations, including unstable internet connectivity, occasional speech-recognition inaccuracies, and the absence of authentic human interaction. These findings suggest that while AI-assisted speaking applications can provide valuable opportunities for independent practice, they cannot fully replicate the communicative and social dimensions of real-world interaction.

Based on participants' experiences, Flow Speak appears to be a useful supplementary tool for EFL speaking practice, particularly within blended learning environments. Teachers may integrate AI-assisted speaking applications into language learning activities to provide students with additional opportunities for low-pressure speaking practice, immediate feedback, and self-directed learning beyond classroom instruction. However, such tools should be viewed as complementary resources that support, rather than replace, interaction with teachers and peers.

The findings should be interpreted in light of several limitations. The study involved a relatively small number of participants from a single institution and relied primarily on self-reported perceptions collected through open-ended questionnaires. Future research may involve larger and more diverse participant groups, employ multiple data sources, such as interviews and classroom observations, examine longer periods of application use, and investigate whether learners' perceived improvements are reflected in measurable gains in speaking performance.

This study contributes to the growing literature on AI-assisted language learning by providing qualitative insights into learners' experiences of AI-mediated speaking practice. The findings suggest that the value of AI-based speaking applications extends beyond corrective feedback, as learners perceived them as supportive and low-pressure environments that encouraged confidence, autonomous learning, and sustained engagement with spoken English. At the same time, the study highlights the enduring importance of authentic human interaction in developing communicative competence, while emphasizing the complementary role of AI in language education.

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