

TEACHERS' PERCEPTIONS ON THE USE OF AI SPEECHACE AS A MEDIUM FOR IMPROVING ENGLISH SPEAKING SKILLS: A CASE STUDY AT A BOARDING SCHOOL IN LHOKSEUMAWE

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Abstract

This study aimed to investigate teachers' perceptions toward the use of AI SpeechAce as a medium for improving English speaking skills at Islamic Boarding School in Lhokseumawe. This research employed a descriptive qualitative method involving 20 teachers as the participants. The data were collected through semi-structured interviews, observations, and documentation and were analyzed using thematic analysis following the procedures proposed by Braun and Clarke (2006). The findings revealed that teachers generally had positive perceptions toward the use of SpeechAce, although some of them initially felt nervous and unfamiliar with the technology. After using the platform, teachers considered SpeechAce interesting, easy to use, and helpful in supporting independent speaking practice. Teachers reported perceived improvements in pronunciation, vocabulary, grammar, fluency, and self-confidence after using SpeechAce. In addition, teachers perceived that features such as automatic feedback and conversation practice were beneficial in helping them identify and correct speaking mistakes independently. However, they also reported several technical challenges, including limited access, unstable internet connections, and device-related issues. Overall, teachers perceived SpeechAce as an effective and flexible medium that supports independent English speaking practice and enhances their confidence in using English.

Keywords: *teachers' perceptions, SpeechAce, artificial intelligence, speaking skills, English learning*

INTRODUCTION

English speaking competence is widely recognized as one of the most important skills in English language learning because it enables learners to communicate effectively in academic, professional, and international contexts. As English continues to function as a global lingua franca, educational institutions are expected to prepare learners with adequate communicative competence (Crystal, 2023). In Indonesia, many Islamic boarding schools (*pesantren*) have adopted bilingual education policies that encourage the use of English in both classroom instruction and daily communication. Consequently, teachers play a central role in implementing these policies, as they are expected not only to teach English but also to serve as language models for their students.

Despite these expectations, many teachers experience difficulties in maintaining and improving their own English speaking skills. Besides classroom teaching, teachers in Islamic boarding schools are responsible for supervising dormitory activities, mentoring students, and participating in religious programs. These responsibilities often reduce opportunities for continuous speaking practice and individualized feedback. Previous studies have emphasized that regular practice and immediate feedback are essential factors in developing speaking proficiency and learners' confidence (Hwang & Chen, 2021; Zawacki-Richter et al., 2019).

Recent developments in Artificial Intelligence (AI) have created new opportunities for language learning by providing personalized, flexible, and autonomous learning environments. AI-powered applications equipped with Automatic Speech Recognition (ASR) technology are capable of evaluating learners' pronunciation, fluency, grammar, and vocabulary while providing immediate corrective feedback. Such technologies have been reported to promote learner autonomy, increase motivation, and improve

speaking performance in English as a Foreign Language (EFL) contexts (Liang et al., 2023; Ouyang et al., 2022).

One AI-assisted platform specifically developed for speaking practice is SpeechAce. By combining speech recognition technology with automated feedback, SpeechAce enables learners to evaluate their speaking performance independently and practice repeatedly without depending entirely on teacher feedback. Recent empirical studies have shown that SpeechAce can improve pronunciation accuracy, speaking fluency, and learners' confidence while supporting self-directed learning (Zainuddin & Mohamad, 2024; Muhyi & Illananingtyas, 2025).

Although AI-assisted language learning has attracted increasing attention in recent years, existing studies have mainly investigated students' learning outcomes or the effectiveness of AI applications in improving speaking performance. Comparatively few studies have examined teachers' perceptions of AI-assisted speaking platforms, particularly SpeechAce, as a medium for developing teachers' own speaking competence. Furthermore, research conducted in Islamic boarding schools remains scarce despite the unique characteristics of these institutions, where teachers have multiple academic and non-academic responsibilities that may influence their acceptance and use of educational technology. Since teachers are key stakeholders in technology integration, understanding their perceptions is essential for determining the successful adoption and sustainability of AI-supported language learning in educational settings.

To address this research gap, the present study investigates teachers' perceptions of using SpeechAce as an AI-assisted medium for improving English speaking skills at an Islamic boarding school in Lhokseumawe, Indonesia. Unlike previous studies that mainly investigated students' learning outcomes, this study focuses on English teachers' experiences in using SpeechAce for their own professional language development within the context of an Indonesian Islamic boarding school. Specifically, the study explores teachers' experiences, perceived benefits, and challenges in using SpeechAce for independent speaking practice. By focusing on teachers rather than students, this study contributes to the growing body of knowledge on AI-assisted language learning and offers practical insights into the integration of AI technologies in English language education within Islamic boarding school contexts. The findings are expected to inform teachers, school administrators, and policymakers in designing more effective technology-supported professional development programs for English language teachers.

LITERATURE REVIEW

The integration of Artificial Intelligence (AI) into English language education has significantly transformed teaching and learning practices, particularly in developing speaking skills. AI-powered applications provide adaptive learning environments through technologies such as Automatic Speech Recognition (ASR), automated assessment, and instant feedback, enabling learners to practice independently while receiving immediate evaluations of their performance. Recent studies indicate that AI-supported learning enhances learner engagement, confidence, and speaking proficiency by creating flexible learning opportunities beyond the classroom (Wang et al., 2024; Du et al., 2024). Nevertheless, the effectiveness of AI depends not only on technological capabilities but also on users' acceptance and readiness to adopt these innovations.

Teachers' perceptions play a central role in determining the successful implementation of AI in language learning. Teacher perception refers to teachers' cognitive and affective evaluations of the usefulness, ease of use, and relevance of educational technology to their professional practice. This

perspective is consistent with the Technology Acceptance Model (TAM), which explains that technology adoption is primarily influenced by perceived usefulness and perceived ease of use. Teachers who perceive AI as beneficial, accessible, and supportive of professional development are more likely to integrate it into their learning activities. Conversely, inadequate digital competence, limited institutional support, and concerns regarding the reliability of AI may reduce teachers' willingness to utilize AI-assisted learning tools (Prasetya et al., 2024; Amal, 2025; Li et al., 2024).

Speaking is widely regarded as the most demanding language skill in English as a Foreign Language (EFL) context because it requires learners to integrate pronunciation, vocabulary, grammar, fluency, and communicative competence simultaneously. Many EFL learners experience speaking anxiety due to limited opportunities for authentic communication and fear of making mistakes. Consequently, continuous practice accompanied by timely feedback is essential for improving speaking performance. Recent evidence suggests that AI-supported speaking platforms effectively facilitate repeated practice while providing immediate corrective feedback, thereby improving pronunciation accuracy, fluency, confidence, and willingness to communicate (Hsu et al., 2024; Sherbekova, 2025).

Among various AI applications, SpeechAce has emerged as a promising platform for speaking assessment and practice. Utilizing Automatic Speech Recognition technology, SpeechAce evaluates pronunciation, fluency, grammar, and vocabulary while providing instant feedback that enables users to identify weaknesses and improve their performance independently. This flexibility is particularly valuable for teachers, who often have limited opportunities to develop their own speaking competence because of professional responsibilities. Previous studies have shown that SpeechAce promotes autonomous learning, improves speaking performance, and reduces speaking anxiety through repeated practice and immediate evaluation (Budiyono & Romadhoni, 2024; Muhyi & Illanangingtyas, 2025; Mardhiah & Hajar, 2025). However, despite these advantages, SpeechAce is unable to fully assess pragmatic appropriateness, discourse management, or contextual communication, indicating that AI should function as a complementary learning tool rather than a replacement for teachers.

Previous research has consistently reported positive effects of AI-assisted speaking instruction; however, the majority of studies have concentrated on students' learning outcomes or the effectiveness of AI applications in classroom settings. Studies investigating SpeechAce have primarily examined improvements in pronunciation, fluency, and overall speaking performance using experimental or mixed-method approaches. Comparatively little attention has been given to teachers' perceptions of SpeechAce as a tool for improving their own English-speaking competence, particularly in Indonesian EFL contexts. Furthermore, few studies have explored how teachers perceive the usefulness, practicality, and challenges of integrating SpeechAce into their professional development. To address this limitation, the present study investigates teachers' perceptions of SpeechAce as an AI-based medium for improving English speaking skills. By focusing on teachers rather than students, this study contributes new empirical evidence to the growing body of research on AI-assisted language learning and provides practical insights into the role of AI in supporting teachers' continuous professional development.

RESEARCH METHOD

This study employed a descriptive qualitative design to explore teachers' perceptions of using SpeechAce as an AI-assisted platform for improving English speaking skills. A qualitative approach was

considered appropriate because the study aimed to understand teachers' experiences, opinions, and perceptions within their natural educational context rather than measuring learning outcomes quantitatively. The research was conducted at **Ar-Raudhah Islamic Boarding School, Lhokseumawe, Aceh**, where English is promoted as part of students' language development.

The participants consisted of **English teachers who had experience using SpeechAce** for speaking practice. Participants were selected through purposive sampling because they met the criteria relevant to the research objectives. Their experiences provided rich information regarding the usefulness, ease of use, challenges, and effectiveness of SpeechAce in supporting professional language development.

Data were collected through **semi-structured interviews, classroom observations, and document analysis**. Semi-structured interviews served as the primary source of data because they enabled participants to describe their experiences and perceptions in depth while allowing the researcher to ask follow-up questions. The interviews focused on teachers' experiences using SpeechAce, perceived benefits, usability, challenges, and recommendations for future implementation. Observations were conducted to examine teachers' interactions with the platform during speaking practice, while supporting documents, including field notes and school-related records, were used to strengthen the credibility of the findings through data triangulation.

The collected data were analyzed using thematic analysis following Braun and Clarke's (2006) six-phase framework. First, all interview recordings were transcribed verbatim and read repeatedly to achieve familiarity with the data. Second, initial codes were generated by identifying meaningful units related to the research objectives. Third, similar codes were examined and organized into potential themes representing teachers' perceptions of using SpeechAce. Fourth, the preliminary themes were reviewed and refined to ensure that they accurately reflected both the coded extracts and the entire dataset. Fifth, the themes were clearly defined and named according to their central meanings and relevance to the research objectives. Finally, the findings were interpreted and presented to explain teachers' perceptions of the usefulness, ease of use, benefits, and challenges of using SpeechAce as an AI-assisted platform for improving English speaking skills. To enhance the trustworthiness of the findings, this study applied **data triangulation** by comparing information obtained from interviews, observations, and supporting documents. Member checking was also conducted by asking participants to verify the accuracy of interview transcripts and interpretations. These procedures contributed to the credibility and dependability of the research findings.

RESULTS AND DISCUSSION

a. Teachers' Perceptions toward the Use of SpeechAce

The findings revealed that teachers generally held positive perceptions of SpeechAce as an AI-assisted platform for improving English speaking skills. Although several participants initially expressed hesitation and anxiety when interacting with AI technology for the first time, these concerns gradually diminished after repeated use. Teachers reported that SpeechAce was easy to use, engaging, and beneficial for supporting independent speaking practice. The platform's clear instructions and user-friendly interface enabled participants to adapt quickly, even those with limited prior experience using AI-based applications.

The interviews further indicated that teachers' perceptions evolved through direct interaction with the platform. Initial uncertainty was primarily associated with unfamiliarity with AI rather than resistance

to technology itself. As teachers became accustomed to SpeechAce, they increasingly appreciated its practicality, flexibility, and immediate feedback. These positive experiences encouraged them to use the platform more frequently and with greater confidence. Such findings suggest that positive user experience is a key factor influencing teachers' acceptance of AI-assisted learning technologies.

These findings support the Technology Acceptance Model (TAM) proposed by Fred D. Davis, which argues that technology adoption is strongly influenced by perceived usefulness and perceived ease of use. In this study, teachers perceived SpeechAce as useful because it provided immediate pronunciation assessment and opportunities for repeated speaking practice. At the same time, its simple interface and clear instructions contributed to a positive perception of ease of use. These two factors appear to have strengthened teachers' willingness to continue using the platform for professional language development.

The findings are consistent with recent studies reporting that teachers tend to develop favorable attitudes toward AI-supported learning environments when the technology provides practical pedagogical benefits. Previous research has shown that AI applications can facilitate autonomous learning, increase learning efficiency, and reduce barriers to speaking practice through automated feedback and personalized learning opportunities (Prasetya et al., 2024; Du et al., 2024). Similarly, teachers in the present study emphasized that SpeechAce enabled them to practice English more independently without relying on speaking partners or formal training sessions.

However, the present findings also extend previous research. While earlier studies have predominantly examined students' perceptions and learning outcomes, this study demonstrates that AI can also support teachers' professional development. Participants viewed SpeechAce not merely as a technological innovation but as a practical learning partner that facilitated continuous self-improvement. This finding highlights the potential of AI-assisted speaking platforms to promote lifelong learning among English teachers, particularly in contexts where opportunities for professional speaking practice are limited.

Overall, the findings indicate that teachers' perceptions of SpeechAce developed from initial uncertainty to positive acceptance through direct experience. Rather than viewing AI as a replacement for teachers, participants regarded SpeechAce as a complementary learning tool that supports autonomous practice, enhances motivation, and encourages continuous improvement in English speaking skills. These findings reinforce the growing evidence that successful AI implementation depends not only on technological quality but also on users' experiences and perceived educational value.

b. Benefits of SpeechAce in Enhancing Teachers' English Speaking Skills

The findings demonstrate that SpeechAce contributed positively to teachers' English speaking development in both linguistic and affective dimensions. Participants consistently reported improvements in pronunciation, fluency, vocabulary, grammar, and speaking confidence after regularly using the platform. Among these aspects, pronunciation and confidence emerged as the most frequently perceived benefits, indicating that AI-assisted feedback enabled teachers to identify weaknesses and improve their oral performance through repeated practice.

One of the most significant advantages of SpeechAce was its ability to provide immediate and individualized feedback. Unlike conventional speaking practice, where feedback often depends on teachers or peers, SpeechAce instantly evaluated users' pronunciation, fluency, vocabulary, and grammatical accuracy. This immediate evaluation allowed teachers to recognize their errors, monitor their progress, and

continuously refine their speaking performance. Such a learning process promotes self-regulated learning because users actively reflect on their performance and independently determine which aspects require further improvement.

Beyond linguistic improvement, participants also emphasized the psychological benefits of using SpeechAce. Several teachers reported feeling more confident and less anxious when speaking English because they could practice repeatedly without fear of being judged by others. The opportunity to rehearse independently created a supportive learning environment where mistakes were viewed as part of the learning process rather than as failures. This finding suggests that AI-assisted learning environments can reduce communication anxiety while encouraging greater willingness to communicate in English.

These findings are consistent with recent studies demonstrating that AI-powered speaking applications improve pronunciation accuracy, speaking fluency, and learner confidence by providing continuous automated feedback. Previous research has shown that intelligent speech assessment systems encourage autonomous learning because learners receive immediate corrective feedback without depending entirely on teacher evaluation. Consequently, AI-assisted speaking practice has been associated with higher motivation, greater learning autonomy, and improved oral communication skills (Kohnke & Moorhouse, 2021; Zhang & Zou, 2022; Wang et al., 2024).

The present findings also extend previous studies by highlighting SpeechAce's contribution to teachers' professional development rather than student learning alone. Most existing studies have focused on students' speaking achievement in classroom settings, whereas this study demonstrates that teachers also benefit from AI-assisted speaking practice as part of continuous professional learning. Participants perceived SpeechAce as a practical tool for maintaining and improving their English proficiency despite limited opportunities for formal speaking practice. This finding indicates that AI can support teachers' lifelong learning by providing flexible and accessible opportunities for language development outside formal training programs. Unlike Liang et al. (2023), the present study found that teachers emphasized confidence more than pronunciation.

Furthermore, teachers appreciated the flexibility offered by SpeechAce because it enabled them to practice anytime and anywhere according to their individual schedules. This flexibility is particularly valuable in Islamic boarding schools, where teachers often balance instructional responsibilities with administrative and boarding activities. The ability to engage in self-paced learning allowed participants to continue developing their speaking skills without disrupting their professional duties. Therefore, SpeechAce not only functioned as a speaking assessment platform but also as an effective medium for autonomous professional learning.

Overall, the findings indicate that SpeechAce supports English speaking development through a combination of immediate feedback, repeated practice, and flexible learning opportunities. These characteristics contribute not only to improvements in linguistic competence but also to increased confidence, learner autonomy, and motivation. Consequently, SpeechAce represents a promising AI-assisted learning platform that can complement conventional professional development programs for English teachers. Beyond improving speaking performance, the findings indicate that SpeechAce encouraged autonomous learning by allowing teachers to practice independently at their own pace. This flexibility supports continuous professional language development, particularly for teachers who have limited opportunities to participate in formal English training. Therefore, AI-assisted platforms such as

SpeechAce can complement conventional professional development by facilitating regular speaking practice and reflective learning.

c. Challenges and Limitations of Using SpeechAce

Although teachers generally expressed positive perceptions of SpeechAce, the findings also revealed several challenges that influenced their learning experience. These challenges were primarily associated with technical and infrastructural issues rather than with the functionality of the platform itself. Participants reported difficulties related to limited platform access, unstable internet connections, and occasional microphone compatibility problems. Such constraints sometimes interrupted speaking practice and reduced opportunities for consistent engagement with the platform.

Among the reported challenges, restricted access due to usage limitations emerged as the most frequently mentioned issue. Several participants indicated that access restrictions prevented them from practicing regularly, particularly when they wished to repeat speaking activities to improve their performance. Consistent practice is essential for developing speaking proficiency; therefore, interruptions caused by platform limitations may reduce the effectiveness of AI-assisted learning. This finding suggests that technological accessibility is as important as technological quality in determining successful implementation.

Technical problems related to internet connectivity and audio devices also affected participants' learning experiences. Because SpeechAce relies on automatic speech recognition, stable internet access and appropriate recording quality are necessary to ensure accurate speech evaluation. When microphone performance or internet connectivity was inadequate, participants occasionally received inaccurate feedback or experienced interruptions during speaking tasks. These findings indicate that the effectiveness of AI-powered language learning depends not only on software design but also on supporting technological infrastructure.

Despite these limitations, most participants emphasized that the identified challenges were manageable and did not diminish the educational value of SpeechAce. Teachers generally regarded the technical issues as external factors that could be resolved through better internet access, improved hardware, or upgraded platform services. Consequently, they continued to perceive SpeechAce as an effective tool for improving speaking skills despite experiencing occasional operational difficulties.

These findings are consistent with recent research highlighting that technical readiness remains one of the major barriers to AI implementation in education. Previous studies have reported that limited digital infrastructure, unstable internet access, and insufficient technological support frequently reduce the effectiveness of AI-assisted learning environments, particularly in developing educational contexts (Holmes et al., 2021; Zawacki-Richter et al., 2023). Similarly, research by Du et al. (2024) suggests that teachers' willingness to adopt AI technologies is strongly influenced by the availability of reliable technological infrastructure and institutional support.

Another challenge identified in this study concerns teachers' initial unfamiliarity with AI-assisted learning technologies. Although this hesitation gradually disappeared through continued use, it demonstrates the importance of providing introductory training before implementing AI-based learning platforms. Familiarization sessions can reduce anxiety, improve digital confidence, and help teachers maximize available features more effectively. Therefore, successful integration of AI into language education requires not only technological resources but also continuous professional support.

Overall, the findings suggest that the challenges associated with SpeechAce are predominantly external and technical rather than pedagogical. While infrastructure and accessibility remain important concerns, these limitations do not outweigh the platform's educational benefits. Instead, they highlight the necessity of improving institutional support, digital infrastructure, and user training to maximize the effectiveness of AI-assisted language learning in educational settings.

d. Implications for English Language Teaching and Professional Development

The findings of this study have several important implications for English language teaching and teachers' professional development. First, SpeechAce demonstrates considerable potential as a supplementary learning tool that enables teachers to improve their speaking proficiency through autonomous and flexible practice. Rather than replacing traditional professional development programs, AI-assisted platforms can complement existing training by providing opportunities for continuous learning beyond formal classroom settings.

The positive perceptions expressed by participants indicate that AI technologies can support teachers' lifelong professional learning when they are easy to use, pedagogically relevant, and capable of providing immediate feedback. These characteristics encourage teachers to become more autonomous learners who actively monitor and improve their own language competence. Such self-directed learning is particularly valuable in educational contexts where access to regular speaking practice or professional training is limited.

The study also highlights the importance of integrating AI technologies into teacher development programs within Islamic boarding schools. Teachers often face demanding teaching schedules that limit opportunities for continuous English practice. AI-based applications such as SpeechAce offer a practical solution by allowing teachers to engage in independent speaking practice according to their own availability. Consequently, educational institutions may consider incorporating AI-assisted language learning into ongoing teacher professional development initiatives.

Furthermore, the findings suggest that institutional support is essential for successful AI implementation. Providing reliable internet access, adequate technological facilities, and introductory training can significantly enhance teachers' confidence and maximize the educational benefits of AI-assisted learning. Therefore, successful adoption depends not only on the technology itself but also on supportive educational policies and infrastructure.

Finally, this study contributes to the growing literature on artificial intelligence in language education by providing insights into teachers' perceptions of using AI-assisted speaking applications for professional learning. While previous studies have primarily focused on students' speaking development, the present study highlights teachers' experiences and perceptions as independent learners who use SpeechAce to support their English speaking practice. These findings broaden current understanding of AI-assisted language learning from a teacher perspective and suggest that AI-assisted speaking applications can facilitate autonomous speaking practice and positive learning experiences in teacher professional development.

CONCLUSION

This study aimed to explore teachers' perceptions of using SpeechAce as an AI-assisted platform for improving English speaking skills at an Islamic boarding school in Lhokseumawe. The findings indicate

that teachers generally developed positive perceptions of SpeechAce after gaining direct experience with the platform. Although several participants initially experienced uncertainty due to their limited familiarity with AI-assisted technology, these concerns gradually diminished as they recognized the platform's ease of use, flexibility, and usefulness for independent speaking practice.

The findings further reveal that SpeechAce supports teachers' professional language development by improving pronunciation, fluency, vocabulary, grammar, and self-confidence. Its automated feedback and interactive speaking activities enabled teachers to identify their linguistic weaknesses, monitor their progress, and engage in continuous self-directed learning. In addition to enhancing linguistic competence, the platform promoted learner autonomy by providing flexible opportunities for regular speaking practice outside formal professional development programs.

Despite these benefits, participants reported several technical challenges, including limited platform access, unstable internet connectivity, and device compatibility issues. However, these challenges were largely infrastructural rather than pedagogical and did not substantially reduce teachers' positive perceptions of the platform. The findings therefore suggest that the successful implementation of AI-assisted language learning depends not only on the quality of the technology but also on adequate institutional support, digital infrastructure, and opportunities for teacher training.

This study contributes to the growing body of research on artificial intelligence in language education by highlighting teachers' perspectives as autonomous learners, an area that has received considerably less attention than student-focused research. The findings demonstrate that AI-assisted platforms such as SpeechAce can complement conventional professional development by facilitating continuous language learning, increasing teachers' confidence, and supporting lifelong professional growth.

Practical Implications

Educational institutions are encouraged to integrate AI-assisted speaking platforms such as SpeechAce into teacher professional development programs. To maximize their effectiveness, schools should provide reliable technological infrastructure, stable internet access, and introductory training that enhances teachers' digital competence and confidence in using AI-based learning technologies.

Limitations and Future Research

This study involved a relatively small number of participants from a single Islamic boarding school, which may limit the transferability of the findings to other educational contexts. Future studies are encouraged to involve more diverse participant groups across different institutions and regions, compare various AI-assisted speaking platforms, and employ mixed-methods or longitudinal research designs to examine the long-term impact of AI-assisted learning on teachers' professional competence and classroom practices.

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