The Integration of ELSA Speak on English Pronunciation Skills in EFL University Students: A Systematic Literature Review

Ni Komang Winduastuti[1], I G A Lokita Purnamika Utami[2], Ni Nyoman Artini[3]
[1,2,3] Universitas Pendidikan Ganesha, Indonesia
Email : winduastuti@student.undiksha.ac.id[1]; lokitapurnamika@undiksha.ac.id[2];
nym.artini@undiksha.ac.id[3]

Abstract

This systematic review synthesizes and examines previous studies on the impact of ELSA Speak integration on the English language learning process towards the pronunciation skills of EFL students at the university level, by reviewing 11 relevant articles published between 2019 and 2025. This review adhered to the framework of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA). The findings of this study revealed that the integration of ELSA Speak significantly impacted the pronunciation skills of EFL students in higher education. In addition, ELSA Speak also contributes to increasing student motivation and supporting independent learning. Furthermore, features provided by ELSA Speak, such as real-time feedback and role-play speaking exercises, help students improve their speaking skills, especially their pronunciation skills.
Keywords: *EFL, ELSA Speak, Speaking Tool*

INTRODUCTION

Creating a learning environment that places students at the center of the learning process is a major challenge for teachers in the 21st century (Damayanti & Santosa, 2024). Professional teachers are required to be able to adapt their teaching to the diverse needs, learning styles, and learning speeds of their students. Nowadays, technology is growing rapidly, digital technology is a tool that can improve education in various ways, one of which is as a new method for learning and collaborating (Haleem et al., 2022). Therefore, this can be both an opportunity and a challenge for teachers and students in using technology in education appropriately. Furthermore, to ensure success in learning, active student participation is also necessary, as well as personalizing learning. Meeting these needs requires teachers to have experience and be prepared to try various approaches in the classroom, so that education remains in line with the current integration of technology.

With the development of technology nowadays, the world of education has undergone reforms through the use of various digital devices and media to enhance the learning experience. One of these aspects is speaking skills in English as a Foreign Language (EFL) students. Speaking skill have a crucial aspect in communication and are most used in language learning (Azzahra et al., 2019). Speaking skill is a way for someone to express ideas through words that they want to convey so that others can understand it. Pronunciation is one of the most important aspects in the process of learning English, especially in speaking which is often considered challenging for EFL students (Aryanti & Santosa, 2024).

One of the main reasons why English is quite difficult to learn is because English pronunciation is a rather complicated language due to the many sounds and phonetic differences that may be unfamiliar to non-native speakers (Yulianti et al., 2025). In addition, other factors such as native language influence various aspects such as language structure,

sound, and confidence. Moreover, limited practice and minimal exposure to everyday English will worsen the condition. Other factors from individuals, such as differences in accent or dialect, cultural backgrounds, also influence the way students learn to use English sounds (Aryanti & Santosa, 2024). To address this issue, artificial intelligence (AI) has been widely used in education. AI provides personalized feedback, direct and interactive exercises, and immersive experiences that are customized to the needs of each learner. For instance, according to Abimanto & Sumarsono (2024) AI supported by voice recognition based on student experience can provide instant feedback, personalized learning opportunities, and gamification features that support student motivation. In addition, there is a repetitive exercise feature that helps with pronunciation practice, and AI also allows users to practice pronunciation at their own pace anywhere and anytime.

The integration of technology in education makes learning easier for EFL teachers and learners. There are many tools that use voice integration that can be used in learning speaking for EFL students. One of the popular voice recognition-assisted AI tools is ELSA Speak, which has many features for language teaching, such as instant voice feedback, AI coaching, and adaptive learning experiences for students. Developed by Vu Van, ELSA Speak offers a comprehensive solution for language learners to improve their speaking and pronunciation skills in English like a native speaker. ELSA Speak has a positive impact on students' speaking skills especially pronunciation, this statement can be confirmed by the following research. Several studies from Permatasari & Lubis (2024) have proven that ELSA Speak has a positive impact on improving pronunciation skills in the context of EFL learners. Likewise, it was seen by Kholis (2021) said that students who use ELSA Speak can increase their motivation to learn and receive instant feedback, with native speaker pronunciation provided by the feature, giving learners an immersive experience.

The ELSA Speak app has been recognized as one of the AI-based learning tools that offers pronunciation exercises that can be adjusted to the user's speed. ELSA Speak has real-time feedback and phonetic comparison capabilities, helping learners identify pronunciation errors (Mauralia & Musdizal, 2025). Other studies also show that this application can provide detailed evaluations of users' pronunciation accuracy. In addition, this application can be used as a strategy for independent learning, particularly language learning (Sariani et al., 2022). Similarly, a study by Khoi & Chi (2024) found that ELSA Speak has a positive impact on its users. In addition, this study also highlights that this application can help increase student motivation in learning because it can be adjusted to the abilities of its users, making learning more enjoyable. The features available on ELSA Speak support language learning such as linguistics, pronunciation, and fluency. This greatly supports the development of articulation, intonation, and accurate voice emphasis.

The matrix of literature review shows that there are various studies addressing the integration of ELSA Speak on the pronunciation skills of EFL students at universities. The results show that the integration of ELSA Speak can significantly improve the pronunciation skills of EFL students at the university level. Several studies have proven that the use of ELSA Speak in learning can effectively improve students' pronunciation skills (Mauralia & Musdizal, 2025; Sariani et al., 2022). ELSA Speak also shows that the use of this application demonstrates a high level of satisfaction in training students' pronunciation skills (Pham & Pham, 2025). Other studies also show that ELSA Speak can help improve pronunciation accuracy. Based on interviews with several students who use this application, they admit

that ELSA Speak can increase students' motivation in learning pronunciation skills, making them more confident in speaking (Indrayani et al., 2025; Khoi & Chi, 2024).

Research from Kholis (2021), ELSA Speak is effective as a new teaching method for improving students' pronunciation skills and learning motivation. ELSA Speak can be combined with teacher instruction for more effective learning through a combination of teacher feedback and ELSA Speak. The application is able to detect the user's speech, automatically convert speech to text, and detect pronunciation errors. It also provides pronunciation practice, vocabulary, level selection, and other linguistic aspects.

This systematic literature review attempts to summarize information from previous studies on the effectiveness of the ELSA Speak application in improving the pronunciation skills of EFL students, particularly at the university level. In addition, there is lack of comprehensive and systematic literature review of how ELSA Speak as an AI based speaking tools that has been integrated to improve university students' speaking skills especially pronunciation skills. This article focuses on previous studies from 2019 to 2025. This paper only reviews previous journal articles related to the integration of ELSA Speak in the English pronunciation skills of EFL students at the university level. Based on the objectives set, the research questions for this systematic review are: What is the impact of integrating ELSA Speak in improving the pronunciation skills of EFL students at the university level?

METHODOLOGY

To examine the integration of ELSA Speak in improving the pronunciation skills of university-level EFL students, this study used a Systematic Literature Review (SLR). The research method was carried out in several stages, starting from collecting, evaluating, synthesizing, and presenting the results of previous studies relevant to the topic of ELSA Speak integration in the pronunciation skills of EFL students at the university level (Pati & Lorusso, 2018). The data and information in this review were obtained from journals and articles published between 2019 to 2025, with reference to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. The data search and collection process in this review was conducted using the Publish or Perish tool from Harzing, which is integrated with Google Scholar as the main metadata source. In this study, Google Scholar was used to enter keywords according to the research topic. The keywords used were "ELSA Speak for Pronunciation" and "ELSA Speak for University students." The publication settings were from 2019-2025.

The PRISMA guidelines are used to provide explanations and visual representations of the process of identifying and selecting articles for review. The PRISMA model is used to determine eligibility criteria, data collection procedures, research sources, data details, and review results. There are three stages in the data processing using PRISMA. In the initial stage, 200 articles were obtained from the database. Then, screening was carried out using inclusion and exclusion criteria, which were then analyzed so that only relevant articles were included in the SRL study. The data are presented in Figure 1. In determining the relevance of articles, the authors established inclusion and exclusion requirement, which are presented in Table 1.
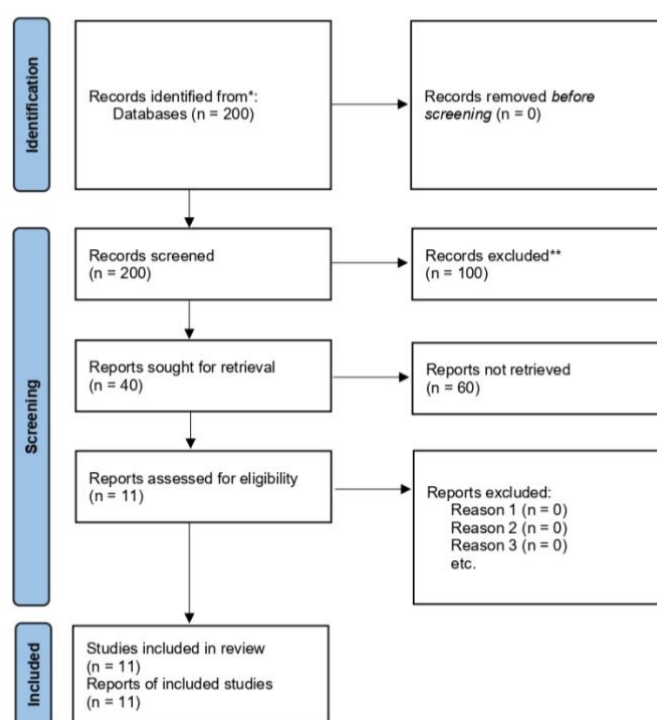
Figure 1. The PRISMA Diagram

To identify relevant studies, the authors set the following inclusion and exclusion requirement:

Table 1. Requirement for Selected Article

Inclusion Requirement	Exclusion Requirement
The application of ELSA Speak for students' English speaking skills.	Not applying ELSA Speak for students' English speaking skills.
Research on the integration of ELSA Speak to improve English pronunciation skills.	No research on the integration of ELSA Speak to improve English pronunciation skills.
University student's context.	Not at university student's context.
Utilization of scientific methodologies, consisting of quantitative, qualitative, or both methodologies.	Not utilizing a scientific methodology, including quantitative, qualitative, or both.
Published in between 2019 and 2025.	Published under the 2019-2025 period.
Language English learning.	Not in terms of learning English language.

RESULTS AND DISCUSSION

Through a systematic review, we found 11 journal articles that fit the selection criteria. The selected articles discuss the integration of ELSA Speak on EFL students' English pronunciation skills at the university level. A number of studies have been conducted to examine the effectiveness of ELSA Speak on EFL students' English pronunciation skills at the university level. Several studies emphasize the need to utilize and develop speaking tools and ELSA Speak, specifically for EFL students' pronunciation skills at the university level. According on previous research, it is known that several studies have been conducted in

Indonesia and abroad, such as Vietnam, Jordan, and Iraq which focused on the use of ELSA Speak for students' speaking skills in higher education. Based on research findings, the integration of ELSA Speak on English pronunciation skills in this study focused on higher education students. Several studies have shown that ELSA Speak can significantly improve the pronunciation skills of university level English learners.

Table 2. The Overview of Relevant Studies

No	Author	Finding	Method	Future Study
1	Pham & Pham (2025)	This study shows a high level of satisfaction with using ELSA Speak for students pronunciation skills.	A descriptive and correlational method.	There is a need for further research with larger samples and more diverse populations. And investigate the impact of another variable on the application of ELSA Speak.
2	Mauralia & Musdizal (2025)	The research found that ELSA Speak effectively for boosting pronunciation skills.	A qualitative descriptive method.	The duration of use and long-term impact of ELSA Speak need to be studied further. Also, future research should examine its effectiveness when integrated into the curriculum or formal instruction by teachers.
3	Sariani et al., (2022)	the result of this study show that mobile-based technology which is ELSA Speak can enhance students pronunciation ability.	A mixed method	Future studies should use larger samples and try other research methods with control groups and experiments for comparison.
4	Indrayani et al., (2025)	This study show that ELSA Speak statistically can	An explanatory sequential mixed method design	It is suggested to examine the long-term impact of

		enhance students speaking ability especially pronunciation and accuracy.		these AI-assisted tools on students.
5	Khoi & Chi (2024)	The research findings show that ELSA Speak can develop English language proficiency such as linguistics, pronunciation, and fluency. Also, this AI can help students' learner autonomy.	A sequential mixed method.	Research should be conducted on larger samples and a wider range of diversity related to student proficiency for future research.
6	Nguyen et al., (2025)	This research found that ELSA Speak can improve English pronunciation accuracy at both segmental and suprasegmental levels.	Mixed-method quails-experiment research	Further research is needed to examine the long-term impact of AI use, particularly in pronunciation, and to explore strategies for
7	Kholis (2021)	ELSA Speak can increase the students' pronunciation skill effectively.	Using classroom action research (CAR) with mixed method design	Further research with larger and more diverse samples is needed, as well as a more detailed analysis of ELSA Speak's features.
8	Karim et al., (2023)	The findings shows that students' speaking skill is significantly improved after using ELSA Speak application.	A mixed-method design.	Further study it is suggested to conduct a similar study but with a larger number of respondents from students other than English education.
9	Yosintha &	The finding revealed	A mixed-method	Institutions need

	Rekha (2022)	that learner reponded positively to the integration of ELSA Speak in online pronunciation learning.	aprroach	to improve the professional development of lecturers, foster a positive attitude toward online learning, and improve student regulation in the learning process.
10	Al-Shallakh (2024)	ELSA Speak for students was judged positively and was found to improve pronunciation skills after seven weeks of treatment.	An experimental study with mixed-method approach.	Future research are recommended to involve larger and more diverse participants to enhance generalization.
11	Vadivel et al., (2025)	AI-based applications have a positive impact on EFL students, as they can enhance the language learning experience with live conversation and feedback features.	Adopted a mixed-method research design	Further research is suggested to expand the study of other language skills using AI. In addition, it is necessary to study students' perceptions of AI features and explore the various challenges faced in utilizing AI.

Based on the PRISMA method that has been conducted, it was found that ELSA Speak demonstrated a significant and effective effect in enhancing the pronunciation ability of university level EFL students. This systematic literature review was conducted to answer the research question that had been formulated, which is what is the effect of integrating ELSA Speak in improving the pronunciation skills of EFL students at the university level? In this era of technological development, the field of education in particular has made technology an important part of teaching EFL students, particularly at the higher education level. Various types of AI-based speaking tools are already widely available and provide a range of benefits for EFL learners.

Pham & Pham (2025) focused their study on measuring the level of satisfaction of English language students using ELSA Speak to improve their pronunciation and analyzing the main factors that influence a positive user experience after students used ELSA Speak for

15 weeks. Research by Mauralia & Musdizal (2025) discovered that ELSA Speak is a great tool for boosting pronunciation skill for EFL learners. The instant feedback and phonetic comparison feature on the application are very helpful in correcting pronunciation errors. In addition, ELSA Speak also helps overcome anxiety when speaking, especially in informal situations, but not yet in formal situations. Sariani et al. (2022) and Indrayani et al. (2025) also reported that ELSA Speak integration can positively impact EFL students' pronunciation ability. ELSA Speak, equipped with Automatic Speech Recognition (ASR) features, is able to help students learn pronunciation as if they were learning with a native speaker. In addition, the integration of ELSA Speak also contributes to student learning independence, allowing them to track their learning progress independently and serving as a supporting tool for Self-Regulated Learning (SRL), especially in English learning. In line with the research by Khoi & Chi (2024), which highlights how ELSA Speak is included in Mobile Assisted Language Learning (MALL) for speaking skills training, specifically pronunciation. By involving 50 students from Sai Gon University, it was found that ELSA Speak is able to provide optimal self-access learning. Moreover, this application can create an enjoyable learning experience with its various features, resulting in an improvement in the speaking skills of EFL students, particularly in pronunciation.

Furthermore, research from Nguyen et al. (2025) on the integration of ELSA Speak in improving the pronunciation of EFL learners as a learning activity support proved to be effective. This study was conducted on English language students in their first semester, totalling 37 students at a university in Vietnam. Student progress was assessed through pre-tests, post-tests, and daily practice records. The results showed that ELSA Speak had a significant impact on improving the pronunciation skills of EFL students at the university level. Likewise, a study conducted by Kholis (2021) and Karim et al. (2023) shows that ELSA Speak can improve the pronunciation skills of EFL students. This was evident from the increase in average scores over several learning cycles. In addition to improving pronunciation, this application can also help increase student motivation. Apart from that, Yosintha & Rekha (2022) also conducted research on ELSA Speak's pronunciation skills among 112 students majoring in English. This research was conducted during the Covid-19 pandemic, so lecturers had to switch to online learning using technology, one of which was ELSA Speak for language learning. The results of the study showed that ELSA Speak has positive benefits for students in learning pronunciation through online learning.

The same study on the integration of ELSA Speak into pronunciation skills was also conducted at universities in several countries, such as the research by Al-Shallakh (2024) on ELSA Speak for pronunciation skills at universities in Jordan, which showed a significant improvement in pronunciation skills. This was proven statistically and through questionnaires filled out by students. Similar research by Vadivel et al. (2025) was conducted at universities in the Kurdistan region, involving 105 participants who used AI-based applications to improve speaking skill by using ELSA Speak. The results of the research showed that AI-based application had a positive view, reporting a better learning experience and reduced anxiety in learning.

Based on the findings above, it is very clear that the application of ELSA Speak has a positive effect in improving pronunciation of EFL students at the university level. ELSA Speak, an AI-based tool, has been proven to improve English language skills, particularly pronunciation when speaking English. The use of technology in education supports a

student-centered learning environment and is also effective in accommodating the learning needs of each individual. The results of this review confirm that the application of AI-based technology in education plays a crucial role. Learning methods that integrate technology, one of which is ELSA Speak, have been proven to improve learning effectiveness in terms of students' pronunciation skills when speaking English.

CONCLUSION

We conducted a systematic literature review to find out how effective integrating the AI-based speaking tool ELSA Speak affects the pronunciation skills of students learning English as a foreign language (EFL) in higher education. Based on journal articles published between 2019 and 2025, researchers found that the integration of ELSA Speak had a proven effective and significant impact on the pronunciation skills of EFL students at the higher education level. Speaking skills are an important aspect for EFL students to communicate, where speaking has several aspects that must be mastered, one of which is the ability to pronounce correctly. Previous studies have consistently shown positive results, specifically in pronunciation skills such as segmental, suprasegmental, accuracy, and fluency. In addition, ELSA Speak has also been proven to increase student motivation. Features on ELSA Speak, such as real-life and role-play conversations, real-time feedback, transcripts, and vocabulary suggestions, support students, encourage independent learning, and reduce anxiety to make students more confident in speaking. Further research is needed to explore other aspects of speaking ability by integrating ELSA Speak not only at the higher education level.

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