

Libyan EFL Freshmen's Perceptions of the ELSA Speak Application for Independent Pronunciation Learning

Donya Ali Suleiman Khalifa^{1*}, Dalal Alfadhil Attaher Salheen²

¹Department of English, Faculty of Arts, Misurata University, Misurata, Libya

²Department of English, Faculty of Arts, Bani-Waleed University, Bani-Waleed, Libya

تصورات طلبة السنة الأولى من متعلمي اللغة الإنجليزية كلغة أجنبية في ليبيا تجاه تطبيق
ELSA Speak للتعلم المستقل للنطق

دنيا علي سليمان خليفة^{1*}، دلال الفضيل الطاهر صالحين²

¹قسم اللغة الإنجليزية، كلية الآداب، جامعة مصراتة، مصراتة، ليبيا

²قسم اللغة الإنجليزية، كلية الآداب، جامعة بني وليد، بني وليد، ليبيا

*Corresponding author: donali2600@gmail.com

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Abstract:

Pronunciation instruction in EFL contexts is often teacher-centered, confined within a limited schedule, reliant on rote memorization and inadequate textbooks, while offering limited individualized feedback and insufficient teacher training. These factors may lead to unintentional neglect and restrict autonomous learning experiences and engagement in oral communication. This study investigated Libyan freshman English majors' perceptions of the ELSA Speak app as an independent learning tool in terms of perceived ease of use, perceived usefulness, behavioral intention to use, and whether it could reduce reliance on teacher feedback. A quantitative descriptive survey design was employed to gather participants' perceptions after a 12-week usage period. The findings revealed that participants intended to adopt the app because they found it useful for their pronunciation development, but they expressed neutral perceptions regarding whether its feedback could reduce reliance on teacher guidance. The study recommends integrating the app within a hybrid learning approach to maximize its potential.

Keywords: ELSA Speak, independent pronunciation learning, feedback, Technology Acceptance Model (TAM), Libyan EFL learners.

الملخص:

غالبًا ما يكون تعليم النطق في سياقات اللغة الإنجليزية كلغة أجنبية متمحورًا حول المعلم، ومقيّدًا بجدول زمني محدود، ويعتمد على الحفظ والتلقين والكتب الدراسية غير الملائمة، مع تقديم تغذية راجعة فردية محدودة وضعف في إعداد المعلمين. وقد تؤدي هذه العوامل إلى إهمال غير مقصود، وتحدّ من فرص التعلم الذاتي والمشاركة في التواصل الشفهي. استقصت هذه الدراسة تصورات طلبة السنة الأولى المتخصصين في اللغة الإنجليزية في ليبيا تجاه تطبيق ELSA Speak بوصفه أداة للتعلم المستقل، من حيث سهولة الاستخدام المدركة، والفائدة المدركة، والنية السلوكية للاستخدام، وما إذا كان بإمكانه تقليل الاعتماد على تغذية المعلم الراجعة. واعتمدت الدراسة المنهج الوصفي الكمي لجمع تصورات المشاركين بعد فترة استخدام استمرت 12 أسبوعًا. كشفت النتائج أن المشاركين أبدوا نية لاستخدام التطبيق لأنهم وجدوه مفيدًا في تطوير نطقهم، إلا أنهم أظهروا تصورات محايدة بشأن ما إذا كانت تغذيته الراجعة قادرة على تقليل الاعتماد على توجيه المعلم. وتوصي الدراسة بدمج التطبيق ضمن نهج تعلم هجين لتعظيم إمكاناته.

Introduction:

Today, English serves as a global lingua franca to bridge individuals of various linguistic backgrounds, thus enabling international communication (Salheen et al., 2019; Santhosh, 2025).

In the early 1940s, English was introduced as a foreign language (FL); however, this era was characterized by instability regarding formal English instruction because of the limitations in resources and policy changes (Hashim, 1997; Khalid, 2017; Elabbar, 2011, as cited in Owen et al., 2019). Since the early 2000s, English education has been systematically integrated from primary to higher levels (Macfarlane & Harrison, 2008, as cited in Owen et al., 2019). Overall, the instruction remains teacher-centered and grammar-focused, emphasizing other language skills at the expense of developing communicative competence (Ben Hamid, 2010; Orafi & Borg, 2009, as cited in Owen et al., 2019).

These issues extend to pronunciation instruction. Although pronunciation is essential for intelligibility and comprehensibility (Celce-Murcia et al., 2012; Levis, 2018; Salheen et al., 2019), it is often neglected, described as the "Cinderella Syndrome-kept behind doors and out of sight" (Celce-Murcia et al., 1996, p. 323). Arabic EFL learners, including Libyans, face particular pronunciation challenges due to L1 interference, including consonant clusters, vowel distinctions, and suprasegmental features like word stress and intonation (Abdelaty, 2023; Ahmed, 2017; Khalifa, 2020).

In many Arab EFL contexts, including Libya, pronunciation instruction tends to be teacher-centered and heavily reliant on books and rote memorization with minimal individualized feedback. Time constraints, insufficient syllabus design, inadequate teacher training, as well as low teacher confidence further contribute to this neglect. All of these factors result in treating pronunciation as a school subject where students prioritize written learning over communicative ability, limiting opportunities for autonomous learning and student engagement in oral communication (Abdelaty, 2023; Abdelhalim & Alsehibany, 2025; Asikin & Ibrahim, 2020; Fernandez Sesma et al., 2022; Khalifa, 2020; Mohammed & Idris, 2020). The traditional instruction also restricts technological integration to facilitate skill development (Yassin et al., 2024).

To support learners in independently managing their learning, they need to be equipped with the skills that help them in self-monitoring and correcting their speech errors (McCrocklin, 2016). Holec (1981) emphasized learners' ability to take responsibility for their own learning, which is central to independent pronunciation practice.

Accordingly, the emergence of artificial intelligence (AI) facilitates an autonomous learning experience (Azhar & Abdullah, 2024; Paethrangi et al., 2024), by providing a flexible, self-paced learning experience through Mobile-assisted Language Learning (MALL). Through Automatic Speech Recognition (ASR), it also allows opportunities for individualized, instant feedback through gamified elements, all of which may reduce, but not eliminate, reliance on teacher feedback. This integration, in turn, supplements traditional instruction and boosts learners' engagement (Alexiadou & Sougari, 2025; Alisoy & Sadiqzade, 2024; Dou et al., 2024; Estrella, 2024).

Nonetheless, research on AI-powered tools that focus on autonomous pronunciation learning remains scarce, with most studies investigating broader aspects of general language development (Azhar & Abdullah, 2024; Estrella, 2024; Khan et al., 2024), or examining student perceptions of how AI tools like Duolingo and Grammarly foster autonomous learning (Sasmayunita & Assiddiq, 2025). Empirical research on AI-powered tools for autonomous pronunciation learning in EFL settings remains limited (Vančová, 2023), particularly in low-resourced contexts, such as Libya, where little is known about how learners perceive AI-powered pronunciation tools, specifically the free version of the ELSA Speak app, as an independent learning tool and whether its instant feedback can reduce reliance on teacher feedback.

Research Objectives:

1. To investigate Libyan freshman English majors' perceptions of the free version of the ELSA Speak app as a tool for independent pronunciation learning in terms of perceived ease of use, perceived usefulness, and behavioral intention to use.
2. To examine how Libyan freshman English majors perceive the feedback of the free version of the ELSA Speak app in terms of reducing reliance on teacher feedback.

Research Questions:

- **RQ1:** What is Libyan freshman English majors' perceptions of the free version of the ELSA Speak application as a tool for independent pronunciation learning in terms of perceived ease of use, perceived usefulness, and behavioral intention to use?
- **RQ2:** How do Libyan freshman English majors perceive the feedback of the free version of the ELSA Speak application in terms of reducing reliance on teacher feedback?

Literature Review:

Pronunciation Instruction in EFL Contexts:

Pronunciation is the production of sounds used to convey meaning through both segmental features, which refer to consonants and vowels, and suprasegmental features, such as stress, intonation, and rhythm (Pourhosein Gilakjani, 2012; Yates & Zielinski, 2009, as cited in Pourhosein Gilakjani & Sabouri, 2016). Pronunciation is not an easy aspect of language to acquire, and any mispronunciations may affect the intelligibility and comprehensibility of speech (Levis, 2018). While segments are the core of traditional pronunciation instruction for intelligible speech production (Derwing & Munro, 2015; Derwing et al., 1998, as cited in Levis, 2018), suprasegmental errors extend beyond single words, shaping the rhythm and melody of language and influencing intelligibility and comprehensibility (Levis, 2018). Therefore, researchers have emphasized that any neglect of either segmental or suprasegmental features may yield negative effects on oral communication (Celce-Murcia et al., 2012).

Libyan EFL learners experience persistent pronunciation difficulties in both segmental and suprasegmental features. They tend to confuse sounds that do not exist in Arabic; for example, /p/ and /v/ are pronounced as /b/ and /f/, respectively, insert vowels in consonant clusters, and replace other contrasts, such as /s/ and /z/, /dʒ/ and /ʒ/, and /tʃ/ and /ʃ/, by substituting one sound for its counterpart. This difficulty also extends to vowel sounds, as learners demonstrate problems distinguishing between short and long vowels and diphthongs (Abdelaty, 2023; Aoghala & Ali, 2024; Alahrish, 2022; Elkateb, 2023). In addition, with regard to suprasegmental features, Libyan learners also encounter difficulties with stress placement, rhythm patterns, and intonation patterns (Abdelaty, 2023; Alahrish, 2022; Aoghala & Ali, 2024).

Artificial Intelligence (AI) and Automatic Speech Recognition (ASR) in Language Learning:

AI systems simulate human cognitive functions such as comprehension, problem-solving, decision-making, and creativity (Anggraini & Faisal, 2024). These abilities have reshaped language education, transforming the language learning process and supplementing traditional instruction (Idrissi et al., 2024; Konyrova, 2024; Son et al., 2025).

Qiao and Zhao (2023) highlighted that AI helps students manage their learning independently through setting goals, tracking progress, and adjusting learning strategies. By providing personalized feedback and tasks, AI has the potential to support speaking proficiency, develop metacognitive strategies, and foster self-regulation.

Research has indicated that AI can support speaking skills as it offers personalized real-time feedback that enables a learning environment where learners' needs and proficiency levels are met, thus promoting self-regulation and intrinsic motivation (Qiao & Zhao, 2023; Wei, 2023). However, it requires careful integration, ethical guidelines, collaborative tool design, and proper teacher training to ensure a balanced approach where AI complements rather than replaces the teacher's role (Idrissi et al., 2024; Jegede, 2024; Konyrova, 2024; Syuhra et al., 2025).

Relying on AI techniques, the emerging ASR technology converts spoken language into written text. As it is gradually integrated into pronunciation learning systems, ASR detects and processes phonetic features, including vowel length, consonant clusters, and pitch contours, to estimate pronunciation accuracy and fluency and provide instant, individualized feedback (Bashori et al., 2024; Zhang et al., 2024).

ASR technology has shown promise in language learning. Research has indicated that it can improve pronunciation, especially segmental features, and it could be more effective when combined with explicit corrective feedback, making the learning process more engaging and motivating than conventional methods (Aljabr, 2025; Ngo et al., 2024). It also plays a role in fostering learner autonomy, by enabling self-paced practice and providing instant individualized feedback (Liu et al., 2025; Putri Yanifari et al., 2022).

Nonetheless, ASR technology is not without limitations. ASR has shown weakness in its ability to model suprasegmental features compared to segmental features due to the fact that it was not originally designed for pronunciation instruction but rather for commercial use (Farrús, 2023; Li et al., 2025; Ngo et al., 2024). It is also limited in assessing intelligibility and comprehensibility and could provide false positives when incorrect utterances are transcribed correctly and vice versa (Inceoglu et al., 2024; Liu et al., 2025). Moreover, Liu et al. (2025) highlighted that recent studies have shown limited investigations into the theoretical foundation underpinning ASR-based language learning research, as most tend to focus on practical effectiveness.

The ELSA Speak Application:

During the pandemic of COVID-19, the shift toward online learning became a necessity drawing attention to MALL apps. As a key solution, the English Language Speech Assistant (ELSA) Speak app emerged to bridge the gap in language learning (Darsih et al., 2021; Yosintha & Rekha, 2022).

ELSA Speak is an AI-driven mobile application that utilizes ASR and deep learning technologies to provide instant, personalized feedback to help non-native English speakers improve their pronunciation and speaking skills (Adawiah & Muliati, 2024; Aulia et al., 2025; Fitrah & Rahmaniah, 2024; Hanna et al., 2022; Kholis, 2021; Yosintha & Rekha, 2022).

The app is available for free on the App Store or Google Play. Learners listen to the target sound and produce their attempts for the app to analyze the recording's accuracy and provide immediate feedback on segmental and suprasegmental pronunciation features (Becker & Edalatishams, 2019).

The ELSA Speak app has shown potential in facilitating education in the era of Education 4.0, as it can enhance pronunciation and speaking skills, and increase learners' confidence and engagement in learning activities (Adawiah & Muliati, 2024; Asri et al., 2024; Dhivya et al., 2023; Karim et al., 2023). It has also been reported that ELSA Speak detects pronunciation errors with over 95% accuracy (Adawiah & Muliati, 2024; ELSA Speak, n.d.; Fitrah & Rahmaniah, 2024).

Several studies have highlighted ELSA Speak's positive impact on pronunciation instruction (Asri et al., 2024; Karim et al., 2023; Mahmudah & Daulay, 2024; Yosintha & Rekha, 2022), attributing this to its ASR technology that offers instant personalized feedback, which fosters autonomous learning and reduces teacher reliance (Aulyzana & Hudori, 2025; Elsani et al., 2023; Sariyani et al., 2022).

Studies have also reported positive student perceptions of ELSA Speak, in terms of its user-friendly design, flexibility, and practical content, making the learning experience more enjoyable and engaging (Akriono & Isnaini, 2024; Rinaepi et al., 2022; Yuliawati & Suryadi, 2023), and providing a safe environment (Sholekhah & Fakhurriana, 2023; Tran & Vu, 2024). Pham and Pham (2025) also reported learners' satisfaction with the app's perceived ease of use and perceived usefulness.

Nonetheless, some limitations were reported including restrictions in the free version, repetitive exercises, poor noise filtering, and connectivity issues (Darsih et al., 2021; Fitrah & Rahmaniah, 2024; Gusrianto & Iswahyuni, 2025; Ngoc & Thanh, 2023; Yosintha & Rekha, 2022).

Theoretical Framework:

This study is anchored in one foundational theory, the Technology Acceptance Model (TAM), aiming to explain participants' behavior toward the use of the ELSA Speak app and its potential adoption in the future.

Technology Acceptance Model (TAM):

Adapted from Fishbein and Ajzen's (1975, as cited in Davis, 1986) Theory of Reasoned Action (TRA), which was designed to predict and explain individual behavior across a wide range of fields (Davis et al., 1989), TAM is a theoretical model proposed by Davis (1986, 1989), and is widely regarded for predicting and explaining computer-based systems usage behavior, with a focus on two central determinants of user acceptance: *Perceived Usefulness (PU)* and *Perceived Ease of Use (PEOU)*.

PU refers to the extent to which an individual perceives using a certain system would improve their performance. On the other hand, PEOU refers to the extent to which an individual perceives that using a given system would be free of mental and physical strain (Davis, 1986). Thus, users would be willing to adopt an application if they believe it has positive outcomes on their performance and is easy to use compared with other applications (Davis, 1989). Figure 1 presents TAM.

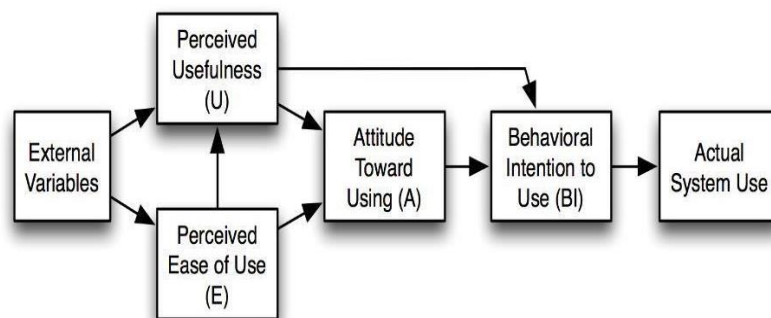


Figure (1): Technology Acceptance Model (TAM)

Note. From "User Acceptance of Computer Technology: A Comparison of Two Theoretical Models," by F. D. Davis, R. P. Bagozzi, and P. R. Warshaw, 1989, *Management Science*, 35(8), p. 985. Copyright 1989 by INFORMS.

As shown in Figure 1, PEOU has a critical direct effect on PU, so when the user perceives a system as easy to use, this would enhance their performance because they become more productive due to the system's ease of use (Davis, 1986). Davis et al.'s (1989) model further theorized that system use is determined by *behavioral intentions (BI)*. BI is determined by the user's attitude toward using the system

(A), and the relationship between those two determinants indicates that when individuals perceive a system positively, they would form intentions toward it. Moreover, PU has a direct effect on BI, meaning that users will be motivated to use the system if they see it as useful and believe it will enhance their performance.

In general, TAM hypothesizes that individuals' use of a system is determined based on their intentions and that PU is a key determinant of these intentions, while PEOU is an important secondary determinant.

Methodology:

Research Design:

This study employed a quantitative descriptive survey design to investigate Libyan EFL freshmen's perceptions of the ELSA Speak app as an independent pronunciation learning tool over a 12-week period.

Participants:

The sample consisted of 15 Libyan first-year university students from the Faculty of Arts, Bani-Waleed University. The participants were recruited using a purposive sampling method, as they were all enrolled as first-year English majors to evaluate their attitudes toward an AI-based instructional tool from the early stages of their university education.

Data collection instruments:

The study adapted a quantitative questionnaire from Nikou and Economides (2017) that utilized a 5-point Likert scale ranging from *Strongly Agree* to *Strongly Disagree*. The instrument was administered electronically and included four constructs, with three items for each, to explore participants' perceptions regarding perceived ease of use, perceived usefulness, behavioral intention to use, and perceived feedback.

Data Collection Procedures:

After a piloting period with non-participant learners to verify that there would be no technical issue during the actual implementation of the ELSA Speak app, and that the instrument was practical and understandable for participants' level, the main study commenced. Participants were guided to use the app independently, with at least three sessions per week for a 12-week usage period. During the usage stage, participants were monitored and were asked to share the number of lessons practiced each week. It should be noted that the lessons took approximately one to five minutes depending on the type of the task and the user's level of proficiency. At the end of the 12-week period, an online questionnaire was administered to gather participants' perceptions.

Ethical Considerations:

This study adhered to ethical guidelines to protect participants' rights to voluntary participation and withdrawal. Confidentiality measures were taken into account by anonymizing all collected data. In addition, permission to conduct the study was obtained via an official request submitted to the relevant institution.

Data Analysis Procedures:

Data were analyzed using SPSS Statistics (version 27) to generate descriptive statistics for the constructs. In addition, a Spearman rank-order correlation test was conducted to analyze the relationship between the first three constructs of the questionnaire in order to understand participants' behavioral intention toward the ELSA Speak app.

Results:

Questionnaire Findings:

The questionnaire assessed first-year participants' perceptions of the ELSA Speak app across four selected constructs aligned with the Technology Acceptance Model (TAM): Perceived Ease of Use (PEOU), Perceived Usefulness (PU), and Behavioral Intention (BI). In addition, it measured the app's perceived feedback and its influence on reducing reliance on teacher feedback. Each construct consisted of three items measured on a 5-point Likert scale. Mean scores were interpreted using the uniform interval ranges proposed by Pimentel (2010): 1.00–1.79 = Strongly Disagree, 1.80–2.59 = Disagree, 2.60–3.39 = Neutral, 3.40–4.19 = Agree, and 4.20–5.00 = Strongly Agree.

The constructs demonstrated high internal consistency: PEOU ($\alpha = .902$), PU ($\alpha = .913$), BI ($\alpha = .884$), and perceived feedback ($\alpha = .885$). The Cronbach's alpha values indicate that the items within each construct reliably measured participants' perceptions of the ELSA Speak app. Table 1 presents the descriptive statistics for the PEOU construct.

Table (1): Descriptive Statistics for Perceived Ease of Use Items

Item	Statement	M	SD
1	My interaction with the ELSA Speak app is clear and understandable.	3.93	1.10
2	I find the ELSA Speak app easy to use.	3.87	0.92
3	I feel I can quickly become skilled at using the ELSA Speak app.	3.87	0.74
	Overall	3.89	0.91

As shown in Table 1, all items received mean scores that fall within the Agree category, indicating that participants generally found the app easy to use. Next, Table 2 presents the descriptive statistics for the PU construct.

Table (2): Descriptive Statistics for Perceived Usefulness Items

Item	Statement	M	SD
1	Using the ELSA Speak app enhances my pronunciation learning effectiveness.	3.87	1.06
2	The ELSA Speak app is useful for improving my English pronunciation.	4.07	1.34
3	Using the ELSA Speak app helps me complete pronunciation tasks more efficiently.	4.07	1.03
	Overall	4.00	1.14

As shown in Table 2, all items were rated within the Agree category, indicating that participants generally perceived the app as beneficial for their pronunciation learning. Table 3 presents the descriptive statistics for the BI construct.

Table (3): Descriptive Statistics for Behavioral Intention Items

Item	Statement	M	SD
1	I intend to continue using the ELSA Speak app in the future.	4.20	0.86
2	I am likely to recommend the ELSA Speak app to other learners.	4.27	0.88
3	I predict I will regularly use the ELSA Speak app in the future.	4.07	0.80
	Overall	4.18	0.85

As shown in Table 3, the first two items received the highest mean scores and both within the Strongly Agree category, while Item 3 falls within the Agree category. The overall mean falls within the Agree category, indicating that participants expressed strong intentions to continue using the app and to recommend it to others. Table 4 presents the descriptive statistics for the perceived feedback construct.

Table (4): Descriptive Statistics for Perceived Feedback Items

Item	Statement	M	SD
1	Feedback from the ELSA Speak app supported my pronunciation learning without requiring teacher correction.	3.20	1.08
2	Feedback from the ELSA Speak app enables me to practice pronunciation independently, reducing my reliance on the teacher.	3.27	1.10
3	Feedback from the ELSA Speak app motivates me to stay engaged in practicing pronunciation.	3.53	0.92
	Overall	3.33	1.04

As shown in Table 4, Item 3 falls within the Agree category, indicating that the app's feedback was perceived as motivating. In contrast, Items 1 and 2 fall within the Neutral category. The overall mean falls within the Neutral category, suggesting that the feedback was not perceived as sufficient to reduce reliance on teacher guidance.

Correlation Analysis:

To provide further insights into the relationships among PEOU, PU, and BI, a Spearman rank-order correlation analysis was conducted. The results are presented in Table 5.

Table (5): Spearman Rank-Order Correlation for PEOU, PU, and BI

Variable	PEOU	PU	BI
Perceived Ease of Use (PEOU)	—	.351 ($p = .199$)	.147 ($p = .609$)
Perceived Usefulness (PU)	.351 ($p = .199$)	—	.669** ($p = .006$)
Behavioral Intention (BI)	.147 ($p = .609$)	.669** ($p = .006$)	—

Note. N = 15. ** $p < .01$ (two-tailed).

As shown in Table 5, the results revealed a strong, positive, and statistically significant correlation between PU and BI ($\rho = .669, p = .006$), indicating that higher perceived usefulness of the ELSA Speak app is associated with stronger behavioral intentions to use it. In contrast, the correlation between PEOU and BI was not significant ($\rho = .147$), suggesting that perceived ease of use is not significantly related to students' intentions to use the app. Similarly, the correlation between PEOU and PU was also not significant ($\rho = .351$).

Discussion:

This study explored learners' perceptions of the ELSA Speak app as a tool for independent pronunciation learning, focusing on whether participants perceived the app as easy to use and useful, and whether they would adopt it in the future. In addition, it examined participants' attitudes toward the app's feedback and whether it could reduce reliance on teacher feedback.

The findings revealed highly positive views of the app's potential as an independent pronunciation learning tool in terms of Perceived Ease of Use ($M = 3.89$) and Perceived Usefulness ($M = 4.00$) and Behavioral Intention to use it ($M = 4.18$).

These results align with previous research reporting that the app's interface was user-friendly and its instructions easy to follow (Akriono & Isnaini, 2024; Mahmudah & Daulay, 2024; Yuliawati & Suryadi, 2023). In addition, the results are consistent with prior studies that identified the ELSA Speak app as a valuable tool due to its interactive, gamified, and individualized learning experiences (Asri et al., 2024), its immediate feedback (Indriyani et al., 2024; Kholis, 2021), and its meaningful, varied tasks (Tran & Vu, 2024).

In addition to these findings, participants' strong intentions to continue using the app partially support the TAM (Davis et al., 1989), in particular that positive perceptions of usefulness are associated with stronger behavioral intentions to adopt a system ($\rho = .669$). However, these outcomes are inconsistent with Pham and Pham (2025), who found that PEOU positively influenced PU, whereas the current study did not find a significant association between the two determinants, nor between PEOU and BI. Overall, this indicates that participants were willing to adopt the app and recommend it to their peers because they perceived it as useful for their autonomous pronunciation learning, whereas ease of use appeared less influential in their case.

Regarding the app's feedback and its influence on learners' reliance on teacher feedback, the results revealed an overall neutral perception ($M = 3.33$). Participants credited the automatic feedback with helping them stay motivated and engaged. However, they expressed neutral attitudes toward whether they could practice effectively without teacher correction or reduce their reliance on the teacher. This finding is partially consistent with Sariyani et al. (2022), who reported that learners can develop their pronunciation and practice independently without the presence of the teacher. Therefore, the app may serve as an engaging supplementary tool, rather than a complete replacement for teacher guidance.

Conclusion and Recommendations:

In conclusion, the ELSA Speak app was perceived as user-friendly and easy to follow in terms of its instructions. Because it is regarded as useful, participants expressed intentions to adopt the app in the future, making it a valuable tool for independent pronunciation learning. However, the app's feedback alone may not be sufficient for the early stages of pronunciation development, suggesting that AI tools may serve as a supplement rather than a full replacement for teacher guidance.

The study was limited by the small sample size ($N = 15$). Therefore, future research is recommended to include a larger sample size and to investigate the integration of the ELSA Speak app within a blended teaching approach to maximize its potential benefits.

References:

1. Abdelaty, S. (2023). English pronunciation errors made by Libyan students: Analysis and implications for language education [Preprint]. OSF.<https://doi.org/10.31235/osf.io/scg39>
2. Abdelhalim, S. M., & Alsehibany, R. A. (2025). Integrating AI-powered tools in EFL pronunciation instruction: Effects on accuracy and L2 motivation. *Computer Assisted Language Learning*. <https://doi.org/10.1080/09588221.2025.2534015>

3. Adawiah, R., Muliati, A., & Samtidar. (2024). The effect of ELSA Speak application on students' English pronunciation development. *Journal of Excellence in English Language Education*, 3(1), 65–70.
4. Ahmed, Z. A. D. (2017). Difficulties encountered by EFL students in learning pronunciation: A case study of Sudanese higher secondary schools. *International Journal of English Linguistics*, 7(4), 75–82. <https://doi.org/10.5539/ijel.v7n4p75>
5. Akriono, F. K., & Isnaini, M. H. (2024). Students' perception and acceptance of “ELSA” to improve pronunciation skill. *Journal of English Language and Education*, 9(6), 18–27. <https://doi.org/10.31004/jele.v9i6.585>
6. Alahrish, M. Y. (2022). An assessment of the pronunciation errors among fourth-year English department students (Master's dissertation). University of Zawia, Faculty of Arts.
7. Alexiadou, E., & Sougari, A. (2025). Mobile-assisted language learning through interaction applications: Analysis and evaluation. *Language, Technology, and social media*, 3(1), 103–118. <https://doi.org/10.70211/ltsm.v3i1.82>
8. Aljabr, F. (2025). ASR using Speechnotes for EFL learners: A study of the effects on English pronunciation and prosody skills. *Journal of Ecohumanism*, 4(2), 979–987. <https://doi.org/10.62754/joe.v4i2.6384>
9. Alisoy, H., & Sadiqzade, Z. (2024). Mobile-assisted language learning (MALL): Revolutionizing language education. *Luminis Applied Science and Engineering*, 1(1), 60–72. <https://doi.org/10.69760/lumin.202400002>
10. Anggraini, A., & Faisal, F. (2024). The use of artificial intelligence-based technology in English language teaching. *Golden Ratio of Data in Summary*, 4(2), 950–957. <https://doi.org/10.52970/grdis.v4i2.749>
11. Aoghala, S., & Ali, Z. (2024). Investigating difficulties that EFL students face in English pronunciation in secondary schools in Ghat-Libya. *Abhat Journal*, 16(2), 169–182. <https://doi.org/10.37375/aj.v16i2.2932>
12. Asikin, M. N., & Ibrahim, N. A. (2020). Challenges in teaching pronunciation in Malaysian secondary schools: Novice teachers' perspectives. *LSP International Journal*, 7(2), 119–137. <https://doi.org/10.11113/lspi.v7.16349>
13. Asri, A. D., Sabrina, A. R., & Bilkissyaich, T. C. (2024). The advantages of ELSA Speak to enhance speaking skill in senior high school. In *Proceedings of the Conference on English Language Teaching (CELTl) (Vol. 4)*. <https://doi.org/10.24090/celti.2024.1011>
14. Aulia, N., Sagala, R. W., & Ginting, P. (2025). The endorsement of self-regulated learning incorporate with ELSA Speak AI to boost speaking skill of Thai EFL students. *Journal of English Language and Education*, 10(2). <https://doi.org/10.31004/jele.v10i2.748>
15. Aulyzana, W. F., & Hudori, R. F. A. (2025). “I am annoyed”: Of the digital feedback feature on the ELSA Speak application. *JLCT*, 3(2).
16. Azhar, A. & Abdullah, A. (2024). Artificial intelligence (AI) in language learning autonomy (LLA): A systematic literature review uncovering learning autonomy. *International Journal for Multidisciplinary Research (IJFMR)*, 6(6). <https://doi.org/10.36948/ijfmr.2024.v06i06.31045>
17. Bashori, M., van Hout, R., Strik, H., & Cucchiarini, C. (2024). I Can Speak: Improving English pronunciation through automatic speech recognition-based language learning systems. *Innovation in Language Learning and Teaching*, 18(5), 443–461. <https://doi.org/10.1080/17501229.2024.2315101>
18. Becker, K., & Edalatshams, I. (2019). ELSA Speak – Accent Reduction [Review]. In J. Levis, C. Nagle, & E. Todey (Eds.), *Proceedings of the 10th Pronunciation in Second Language Learning and Teaching Conference* (pp. 140–147). Iowa State University
19. Celce-Murcia, M., Brinton, D. M., & Goodwin, J. M. (1996). *Teaching pronunciation: A reference for teachers of English to speakers of other languages*. Cambridge University Press.
20. Celce-Murcia, M., Brinton, D.M., Goodwin, J. M., & Griner, B. (Eds.). (2012). *Teaching pronunciation: A course book and reference guide* (2nd ed.) [Audio CDs included]. Cambridge University Press.
21. Darsih, E., Wihadi, M., & Hanggara, A. (2021). Using ELSA app in speaking classes: Students' voices. In *Proceedings of the 1st Universitas Kuningan International Conference on Social Science, Environment and Technology (UNiSET 2020)*. <https://doi.org/10.4108/eai.12-12-2020.2304993>
22. Davis, F. D. (1986). A technology acceptance model for empirically testing new end-user information systems: Theory and results (Doctoral dissertation, Massachusetts Institute of Technology). MIT DSpace. <https://dspace.mit.edu/handle/1721.1/15192>

23. Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319–340. <https://doi.org/10.2307/249008>
24. Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User acceptance of computer technology: A comparison of two theoretical models. *Management Science*, 35(8), 982–1003. <https://doi.org/10.1287/mnsc.35.8.982>
25. Dhivya, D. S., Hariharasudan, A., Ragmoun, W., & Alfalih, A. A. (2023). ELSA as an Education 4.0 tool for learning business English communication. *Sustainability*, 15(4), 3809. <https://doi.org/10.3390/su15043809>
26. Dou, K., Abdul Halim, H., & Mohd Saad, M. R. (2024). A bibliometric study of mobile-assisted language learning from 2013 to 2023: Research themes and trends. *Journal of Curriculum and Teaching*, 13(5), 431–449. <https://doi.org/10.5430/jct.v13n5p431>
27. Elkateb, S. S. (2023). Reduced speech intelligibility due to the pronunciation errors of English consonants made by Zawia University students (Unpublished master's thesis). University of Zawia.
28. ELSA Speak. (n.d.). The world's best way to improve your English pronunciation. <https://elsaspeak.com/>
29. Elsani, E., Salsabila, R., Indika Putra, M. F., Nabila, N. K., & Nahartini, D. (2023). The effect of using Elsa Speak app for first-semester students' English-speaking proficiency. *EDUKATIF: Jurnal Ilmu Pendidikan*, 5(6), 2644–2655. <https://doi.org/10.31004/edukatif.v5i6.5976>
30. Estrella, F. (2024). Analyzing the effects of mobile assisted language learning on learner autonomy: A quasi-experimental study. *Qeios*, 6. <https://doi.org/10.32388/GARTGH>
31. Farrús, Mireia. 2023. Automatic Speech Recognition in L2 Learning: A Review Based on PRISMA Methodology. *Languages* 8: 242. <https://doi.org/10.3390/languages8040242>
32. Fernandez Sesma, M. G., Reyes Arias, K., & Amavizca Montaña, S. (2022). Exploring EFL teachers' attitudes toward the use of technology to teach pronunciation. *Mextesol Journal*, 46(2), 1–14. <https://doi.org/10.61871/mj.v46n2-8>
33. Fitrah, R., & Rahmaniah, R. (2024). Student perceptions of using the ELSA SPEAK application in learning English-speaking. *International Undergraduate Conference on English Education*, 3(1), 242-253.
34. Gusrianto, E., & Iswahyuni. (2025). Exploring learning experience with ELSA Speak for independent learning: A case study. In M. I. Sukardi, D. Ardhian, T. R. Indhiarti, V. A. Dwigantara, & T. B. Widagdo (Eds.), *Proceedings of the International Conference on Advances in Humanities, Education and Language (ICEL 2024)* (Vol. 913, pp. 219–229). Atlantis Press SARL. https://doi.org/10.2991/978-2-38476-388-7_20
35. Hanna, A. N., Harmayanthi, V. Y., & Astuti, S. (2022). The effect of ELSA Speak app toward students' speaking skill. *Proceedings of the International Conference on Education*, 1, 16–20. <https://doi.org/10.37640/ice.01.240>
36. Holec, H. (1981). *Autonomy and foreign language learning*. Pergamon Press.
37. Idrissi, M., Morabit, N. E., & Kandoussi, M. E. (2024). Bridging technology and language learning: A comprehensive analysis of CALL integration within second language acquisition. *International Journal of Linguistics, Literature and Translation*, 7(4), 60–65. <https://doi.org/10.32996/ijllt>
38. Inceoglu, S., Chen, W.-H., & Lim, H. (2024). Monitoring student behavior in autonomous automatic speech recognition-based pronunciation practice. *System*, 124, 103387. <https://doi.org/10.1016/j.system.2024.103387>
39. Indriyani, N., Faizah, I., Nur Khasanah, E., & Yunda Rahmatika, A. (2024). The use of ELSA Speak as the pronunciation learning of students English Education study program at the UIN Prof. K. H. Saiffuddin Zuhri Purwokerto. *Proceedings of the Conference on English Language Teaching (CELTl)*, 4(1), 207–214. <https://doi.org/10.24090/celtl.2024.1024>
40. Jegede, O. O. (2024). Artificial intelligence and English language learning: Exploring the roles of AI-driven tools in personalizing learning and providing instant feedback. *Universal Library of Languages and Literatures*, 1(2), 6–19. <https://doi.org/10.70315/uloap.ullli.2024.0102002>
41. Karim, S. A., Hamzah, A. Q. S., Anjani, N. M., Prianti, J., & Sihole, I. G. (2023). Promoting EFL students' speaking performance through ELSA Speak: An artificial intelligence in English language learning. *JOLLT: Journal of Languages and Language Teaching*, 11(4), 655–668. <https://doi.org/10.33394/jollt.v11i4.8958>
42. Khalifa, M. F. (2020). *Errors in English pronunciation among Arabic speakers: Analysis and remedies*. Cambridge Scholars Publishing.

43. Khan, O., Ullah, Z., Bakht, I., & Bibi, S. (2024). Learners' autonomy and mobile assisted language learning (MALL): Perceptions of undergraduate students. *Panacea Journal of Linguistics & Literature*, 3(1), 331–343. <https://journals.airsd.org/index.php/pjll/article/view/455>
44. Kholis, A. (2021). ELSA Speak app: Automatic speech recognition (ASR) for supplementing English pronunciation skills. *Pedagogy: Journal of English Language Teaching*, 9(1), 01–14. <https://doi.org/10.32332/joelt.v9i1.2723>
45. Konyrova, L. (2024). The evolution of language learning: Exploring AI's impact on teaching English as a second language. *Eurasian Science Review: An International Peer-Reviewed Multidisciplinary Journal*, 2(2), 133–137. <https://doi.org/10.63034/esr-42>
46. Levis, J. M. (2018). *Intelligibility, oral communication, and the teaching of pronunciation* (1st ed.). Cambridge University Press. <https://doi.org/10.1017/9781108241564>
47. Liu, Y., Ab Rahman, F., & Zain, M. F. (2025). A systematic literature review of research on automatic speech recognition in EFL pronunciation. *Cogent Education*, 12(1), 2466288. <https://doi.org/10.1080/2331186X.2025.2466288>
48. Mahmudah, R., & Daulay, S. H. (2024). ELSA Speak application as an innovation to improve English pronunciation of speaking skills: Student's perception. *Innovations in Arabic and English Language Teaching Journal*, 1(1), 1–12. <https://ancolt-pekanbahasa.unkafa.ac.id/index.php/proceeding/article/view/20>
49. McCrocklin, S. M. (2016). Pronunciation learner autonomy: The potential of automatic speech recognition. *System*, 57, 25–42. <https://doi.org/10.1016/j.system.2015.12.013>
50. Mohammed, M. A. A., & Idris, S. A. M. (2020). Challenges of pronunciation to EFL learners in spoken English. *Multicultural Education*, 6(5), 193–203. <https://doi.org/10.5281/zenodo.440854>
51. Ngoc, N. K., & Thanh, N. T. M. (2023). Non-specialized students' benefits and challenges in using ELSA Speak application for pronunciation learning. *European Journal of Alternative Education Studies*, 8(4). <https://doi.org/10.46827/ejae.v8i4.5149>
52. Ngo, T., Chen, H.-J., & Lai, K.-W. (2024). The effectiveness of automatic speech recognition in ESL/EFL pronunciation: A meta-analysis. *ReCALL*, 36(1), 4–21. <https://doi.org/10.1017/S0958344023000113>
53. Nikou, S. A., & Economides, A. A. (2017). Mobile-based assessment: Integrating acceptance and motivational factors into a combined model of self-determination theory and technology acceptance. *Computers in Human Behavior*, 68, 83–95. <http://dx.doi.org/10.1016/j.chb.2016.11.020>
54. Owen, E. A., Razali, A. B., & Elhaj, I. A. (2019). From the past to the present: A view of teaching English as a foreign language (EFL) in Libya and the role of Communicative Language Teaching (CLT) approach. *International Journal of Academic Research in Business and Social Sciences*, 9(2), 459–476. <https://doi.org/10.6007/IJARBSS/v9-i2/5580>
55. Paethrangsi, N., Teekasap, S., Khiewpan, R., & Jandaboue, W. (2024). Empowering students' autonomous learning through self-regulation, metacognitive strategies, and collaborative learning environments. *Journal of Liberal Arts, RMUTT*, 5(1), 1–19. <https://doi.org/10.60101/jla.2024.5.1.4065>
56. Pham, V. T. T., & Pham, A. T. (2025). English major students' satisfaction with ELSA Speak in English pronunciation courses. *PLOS ONE*, 20(1), e0317378. <https://doi.org/10.1371/journal.pone.0317378>
57. Pimentel, J. L. (2010). A note on the usage of Likert scaling for research data analysis. *USM R & D Journal*, 18(2), 109–112.
58. Pourhosein Gilakjani, A., & Sabouri, N. B. (2016). Why is English pronunciation ignored by EFL teachers in their classes? *International Journal of English Linguistics*, 6(6), 195–207. <https://doi.org/10.5539/ijel.v6n6p195>
59. Putri Yaniafari, R., Olivia, V., & Suharyadi, S. (2022). The potential of ASR for improving English pronunciation: A review. *KnE Social Sciences*, 7(7), 281–289. <https://doi.org/10.18502/kss.v7i7.10670>
60. Qiao, H., & Zhao, A. (2023). Artificial intelligence-based language learning: Illuminating the impact on speaking skills and self-regulation in Chinese EFL context. *Frontiers in Psychology*, 14, 1255594. <https://doi.org/10.3389/fpsyg.2023.1255594>
61. <https://doi.org/10.3389/fpsyg.2023.1255594>
62. Rinaepi, R., Triwardani, H. R., & Azi, R. N. (2022). The effectiveness of ELSA Speak application to improve pronunciation ability. *Jurnal Fakultas Keguruan & Ilmu Pendidikan*, 3(1), 28–33.
63. Salheen, D. A. A., Thai, Y. N., Ali, A. M., & Nimehchisalem, V. (2019). Perceptual learning of systematic variation in Malaysian English among Libyan EFL learners. *Journal of Language and Communication*, 6(1).

64. Santhosh, N. (2025). English as a global language: Its importance and issues. *International Journal of Research Publication and Reviews*, 6(5), 5528–5533. <https://doi.org/10.55248/gengpi.6.0525.1761>
65. Sariyani, Miladiyenti, F., Rozi, F., Haslina, W., & Marzuki, D. (2022). Incorporating Mobile-based Artificial Intelligence to English Pronunciation Learning in Tertiary-level Students: Developing Autonomous Learning. *International Journal of Advanced Science Computing and Engineering* 4(3), 220–232.
66. Sasmayunita, & Assiddiq, M. A. (2025). The Role of Artificial Intelligence (AI) in Promoting Autonomous Learning in Language Education: Benefits and Challenges. In M. Hasyim, M. A. Armin, & Y. Yusuf (Eds.), *Proceedings of the 5th International Conference on Linguistics and Cultural Studies 5 (ICLC-5 2024)* (Vol. 916, pp. 349–363). Atlantis Press SARL. https://doi.org/10.2991/978-2-38476-394-8_40
67. Sholekhah, M. F., & Fakhurriana, R. (2023). The use of ELSA Speak as a mobile-assisted language learning (MALL) towards EFL students' pronunciation. *JELITA: Journal of Education, Language Innovation, and Applied Linguistics*, 2(2), 93–100. <https://doi.org/10.37058/jelita.v2i2.7596>
68. Syuhra, M. N., Chandra, N. E., & Rosalina, E. (2025). Artificial intelligence in English language teaching: A systematic literature review of tools, impact, and challenges. *Voices of English Language Education Society*, 9(1), 193–205. <https://doi.org/10.29408/veles.v9i1.29745>
69. Tran, D. K., & Vu, T. K. C. (2024). Investigating learners' perspectives on ELSA Speak integration to enhance autonomy and oral language proficiency in English classes. In *Proceedings of the AsiaCALL International Conference*, 6, 182–192. <https://doi.org/10.54855/paic.24613>
70. Vančová, H. (2023). AI and AI-powered tools for pronunciation training. *Journal of Language and Cultural Education*, 11(3), 12–24. <https://doi.org/10.2478/jolace-2023-0022>
71. Wei, L. (2023). Artificial intelligence in language instruction: Impact on English learning achievement, L2 motivation, and self-regulated learning. *Frontiers in Psychology*, 14, 1261955. <https://doi.org/10.3389/fpsyg.2023.1261955>
72. Yassin, H., Nambi, R., Kyagaba, D. S., & Lutaaya, J. N. (2024). Rethinking English language pedagogy: An exploration of the gaps in traditional language teaching methods. *International Journal for Multidisciplinary Research*, 6(6), 1–12. <https://www.ijfmr.com/papers/2024/6/32444.pdf>
73. Yosintha, R., & Rekha, A. (2022). “ELSA Speak” in an online pronunciation class: Students' voices. *IJEE (Indonesian Journal of English Education)*, 9(1), 160–175. <https://doi.org/10.15408/ijee.v9i1.23033>
74. Yuliawati, N. L., & Suryadi, S. (2023). Students' perceptions on the use of ELSA Speak application to improve English speaking skills. *TELL-US JOURNAL*, 9(4), 45–57. <https://doi.org/10.22202/tus.2023.v9i4.7649>
75. Zhang, J., Zhu, C., & Zhang, Z. (2024). AI-powered language learning: The role of NLP in grammar, spelling, and pronunciation feedback. In *Proceedings of the 2nd International Conference on Machine Learning and Automation* (Vol. 102). EWA Publishing. <https://doi.org/10.54254/2755-2721/102/20240962>