



THE EFFECTS OF USING ELSA SPEAK APPLICATION ON IMPROVING MECHANICAL STUDENTS' ENGLISH-SPEAKING SKILLSⁱ

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Abstract:

English-speaking skills are essential for learners in acquiring the language. Its obstacles are one of the reasons that prevent students from improving their English learning process, as well as being professional in English. Thus, this study aimed to investigate how the impacts of the ELSA Speak application could help students to enhance and develop their speaking skills. A quantitative descriptive survey was administered to 50 second-year non-English majors, specifically mechanical engineering students, at a university in Southern Vietnam. The data were collected and analyzed by IBM SPSS version 20 software. The results indicated that the students obtained positive effects of English-speaking skills improvements on both semantic and psychological aspects after utilizing the ELSA Speak app in learning English. The most considerable advantages are that students could surmount all problems related to their vocabulary limitations, grammar issues, pronunciation issues, and the fear of expressing their English ideas. Significantly, the instant feedback, self-paced learning and accessible interface of the app were the main keys to improving students' flexible, effective, and efficient learning process. Following these results, suggestions were offered to facilitate improvement in students' speaking abilities and educators' teaching process.

(Kỹ năng nói là yếu tố thiết yếu trong việc tiếp thu ngôn ngữ, song những rào cản trong kỹ năng này lại chính là nguyên nhân cản trở sinh viên nâng cao trình độ và chuyên nghiệp hơn trong tiếng Anh. Nghiên cứu này tập trung làm rõ vai trò của ứng dụng ELSA Speak đối với việc cải thiện khả năng nói của người học. Khảo sát định lượng mô tả được tiến hành trên 50 sinh viên năm hai chuyên ngành Kỹ thuật Cơ khí tại một trường đại học ở miền Nam Việt Nam; toàn bộ số liệu được phân tích qua phần mềm IBM SPSS 20. Kết quả cho thấy, ELSA Speak đã tác động tích cực đến kỹ năng nói của sinh viên trên cả hai phương diện: năng lực ngôn ngữ và tâm lý học tập. Ưu điểm vượt trội của ứng dụng là giúp người học vượt qua các trở ngại về vốn từ vựng, ngữ pháp, phát âm và sự tự ti khi giao tiếp. Đặc biệt, tính năng phản hồi ngay lập tức, chế độ tự học

ⁱ HIỆU QUẢ TRONG VIỆC CẢI THIỆN KỸ NĂNG NÓI TIẾNG ANH CỦA SINH VIÊN NGÀNH CƠ KHÍ THÔNG QUA ỨNG DỤNG ELSA SPEAK

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theo lộ trình cá nhân cùng giao diện tối ưu là những nhân tố quyết định giúp việc học tiếng Anh trở nên linh hoạt và hiệu quả hơn. Dựa trên cơ sở đó, nghiên cứu đưa ra các khuyến nghị cụ thể nhằm hỗ trợ hoạt động học tập của sinh viên và nâng cao chất lượng giảng dạy của giáo viên.)

Keywords: English-speaking skills, effect, ELSA Speak, app, linguistic and psychological factors (*Kỹ năng nói tiếng Anh, ELSA Speak, hiệu quả, ứng dụng AI, các yếu tố ngôn ngữ và tâm lý*)

1. Introduction

English acts as a global bridge which connects people from various cultures. Zoghbor (2018) highlights that English has established itself as a formal state language in many regions, while simultaneously acting as a universal bridge for global business, academia, and tech (Crystal, 2003; Graddol, 1997 & 2006). Thus, mastering English nowadays is extremely important for those who would like to gain worldwide information, career opportunities, and international networking (O.P. Jindal Global University, 2026).

Ur (1996) confirmed that speaking is a vital skill for English learners to master. Leong and Ahmadi (2017) also emphasized that speaking is not just utter the sounds, “*it means conveying the message through the words of mouth*”. However, despite receiving 7 to 10 years of formal English instruction in classrooms, Vietnamese learners persistently struggle with overall proficiency, especially in speaking, often leaving school with only minimal reading comprehension and limited conversational abilities. Nguyen & Phan (2021) mentioned that not all learners have a solid foundation and accurate pronunciation when speaking (e.g. English), although pronunciation skills are integrated into the teaching process. Thus, numbers of reasons have been studied to figure out many difficulties that learners have to break through during learning English, as well as finding the solutions for this matter.

In the era of 5.0, there is assured of technology's role in all fields of life. In fact, technology played a key role in human lives (Putrajaya *et al.*, 2022). It helps companies and workers save time and labor, improve product quality, advertise wares all over the world, etc. Allenby and Sarewitz (2011:35) confirmed that technology is a combination of innovation, mass acceptance, and continuous interaction with the economy, culture, and politics. Besides, technology has revolutionized traditional education, unlocking powerful innovation potential for both teachers and students (Kalyani, 2024). He also claimed that the application of technology provided the educational community with opportunities to access a massive repository of multi-format materials. This uninterrupted connection diversified the academic environment and encouraged learners to actively research and acquire knowledge from multiple perspectives. One of the fields of technology nowadays, which has been expanding its scope to fall in many aspects of engineering, science, health, education, etc., is AI (artificial intelligence) (Tandalaskar *et al.*, 2024). The intervention of AI in personalized learning systems is fundamentally changing the global education landscape. This technology establishes

highly adaptable learning spaces, subtly tailored to fully meet the unique needs of each individual (Japiassu, N., 2022). AI has broken down geographical barriers in foreign language learning and allows learners to improve their English outside of traditional classrooms. This technology empowers learners to proactively design their own learning paths and choose methods that suit their learning abilities, while optimizing their practice time without being dependent on mass-produced teaching programs.

Regarding to the results founded in the research of the obstacles in learning English speaking skill of second-year non-English major students (i.e. mechanical students) at a university in the South of Vietnam (Hung *et al.*, 2025), the findings revealed that students had to face the complex issue involves both language skills and emotional factors, leading to three main challenges including linguistic challenges, psychological obstacles (i.e. performance anxiety, fear of errors, and social comparison), and the cultural and environmental factors as lacking of classroom environment to practice speaking as well as improving communication skill. As a result, supportive learning environment is a significantly essential aspect in the English learning process, so applying technology as well as AI platform (i.e. ELSA Speak app) is an optimal choice to help students enhance their abilities in learning a language, especially in pronunciation as well as speaking skills. Despite previous findings of utilizing ELSA Speak in enhancing students' speaking skills (Nguyen & Phan, 2021; El Shazly, R., 2021; Karim *et al.*, 2023; Dong & Le, 2024; Pham, V. P., 2024; and Phuong & Pham, 2026), this paper is particularly aimed to study whether ELSA Speak application can help mechanical students in learning English and their effects on improving their speaking skills competency.

2. A Review of Relevant Literature

2.1 English-speaking Skills

Listening, reading, writing, and speaking are four main and undeniable skills of English. Among these, speaking is frequently considered an exceptionally intricate linguistic proficiency since it necessarily requires the simultaneous cognitive processing of lexicon, syntax, phonology, and conversational tactics, all while navigating social norms and potential judgment (Burns, 2019; Goh & Burns, 2012). Huynh (2025) cited (Andryani, 2012) on speaking skills, "*as the ability to communicate with others in the target language, and it includes accuracy, fluency, grammar, vocabulary, pronunciation, and comprehensibility*". Accuracy pronunciation can help both speakers and listeners understand and interpret the target messages (Chakma, 2014). Hence, "*good pronunciation will help communication be easier to comprehend*" (Hung *et al.*, 2025). Additionally, a rich vocabulary and clear pronunciation make speaking, reading, and writing much more fluent and expressive (Brown, 2001). Significantly, an abundant vocabulary can help learners complete their intended messages by achieving more ways to express the ideas clearly and logically (Ngoc, 2025). Besides, she also stated that utilizing wrong grammar or unsuitable words could lead to misunderstand the meaning of the message. Consequently, speaking skills were not just about speaking correctly and fluently; it was about the speaker's power to

connect to their listeners (Huynh, 2025). It is also fundamental to English language acquisition, serving as a productive mechanism for learners to communicate, exchange ideas, and integrate globally. In order to overcome the previous barriers of English-speaking skills, pedagogical methodologies and situational variables play a crucial role in determining an individual's speaking outcomes (Lindo, 2026). Thereafter, achieving comprehensive language proficiency and communication skills fundamentally depends on proactively promoting and improving speaking skills (Mymrina *et al.*, 2018). Good speaking skills help people be capable of being more confident in expressing their ideas, making the communication process easier, thereby also helping speakers achieve their goals.

2.2 ELSA Speak Application

ELSA Speak (English Language Speech Assistant) is currently the only English-speaking and communication learning app capable of detecting and correcting pronunciation errors down to the individual syllable in English (Elsaspeak, 2026). Significantly, powered by proprietary AI and deep learning, ELSA Speak's advanced speech recognition sets it apart. It delivers instant, precise feedback, uniquely correcting English pronunciation errors down to the exact syllable. Nguyen & Phan (2021) found out the effects of utilizing the ELSA Speak dictionary in checking and giving feedback on learners' pronunciation competency. After entering a sentence into the ELSA Speak dictionary and reading it aloud, the learner receives instant, color-coded feedback. Green indicates correct pronunciation, yellow means nearly correct, and red highlights incorrect sounds. Users can then tap on the colored sections to hear and practice reading along. Specialized AI tutors are designed to improve English speaking skills and boost learners' confidence. Also, ELSA Speak offers customized courses designed for distinct learner groups. The learning path is personalized, tailored to each user's individual level, goals, needs, and preferences. (Elsaspeak, 2026).

2.3 Utilizing ELSA Speak in Enhancing English-speaking Skills

Nguyen & Phan (2021) did research, finding a useful resolution for students to enhance their pronunciation via the ELSA Speak application. An open questionnaire and a quantitative method were applied for collecting and analyzing 126 students' perceptions of learning English at Can Tho University. Improving pronunciation received the largest number of agreement with 25%, while 19% choosing good accuracy pronunciation. Reaching the 3rd benefit place was recognizing specific errors and actual competency in pronouncing (18%). The study also discovered that the user-friendly and accessible interface, being not able to identify the English sounds, although students pronounced them exactly, intonation practice, etc. As a result, students' pronunciation step by step was improved through specific learning courses.

Karim *et al.* (2023) conducted a study in total of 21 students' pronouncing English and their speaking competency using ELSA Speak at Universitas Teknologi Yogyakarta, Indonesia. The researcher utilized a pre-test and post-test for 21 students, whereas 4

Likert scale questionnaires and semi-structured interviews of 20 participants were used to collect both quantitative and qualitative data. The results revealed that the participants' speaking abilities (i.e. 21 students) were significantly different between pre-test categories (e.g. 19% less, 28% fair, 24% good, and 29% very good) and post-test only including 38% good and 62% very good from the aspects of vocabulary, word stress, intonation, pronunciation, and fluency. Through the questionnaire, using ELSA Speak could help them be more self-confident, more motivated with 95%, and improve their pronunciation (90%). They also thought that the application provided them a good quality learning platform and boosted both internal and external factors of speaking competency.

Pham, V. P. (2024) also conducted the effects of ELSA Speak on major English students (i.e. third-year) at the Faculty of Foreign Languages, Tay Nguyen University, Vietnam, with 100 participants for gathering quantitative data through questionnaires and 10 participants for qualitative insights about their personal experiences through in-depth interviews. Results revealed that the application significantly helped students improve their English-speaking skills, pronunciation, and communication confidence. Scores and feedback by tracking progress also provided a positive motivational boost for many students. In fact, students' personal motivation and perseverance were the most significant factors influencing the effectiveness of their learning. The app's interactive capabilities and immediate pronunciation feedback were also crucial components.

Dong & Le (2024) researched the impacts of the ELSA Speak app on 50 students, who studied at Vien Dong College, Ho Chi Minh City, Vietnam and enrolled in an introductory English class (i.e. this class was a part of a foundational college requirement), on their speaking performance using pretests and posttests to measure the data as well as a questionnaire to assess students' attitudes. Actually, the study utilized a quantitative experimental design. It involved an experimental group that used the ELSA Speak app and a control group that received standard lessons without the app. It was found that the ELSA Speak effectively improves students' English skills. The experimental group showed a much more remarkable enhancement in their speaking ability (including pronunciation, grammar, and vocabulary) compared to the control group in the posttest. Students also have highly positive attitudes after utilizing the app due to its effective help for learning, encouraging motivation, being more confident in communicating, and expressing a willingness to continue using the app outside of class.

Tran & Vu (2024) did a study to identify which aspects of oral language proficiency are enhanced by the ELSA Speak application and to explore student perceptions regarding its role in fostering learner autonomy. 50 sophomores from various non-English majors at Sai Gon University in Ho Chi Minh City, Vietnam answered a questionnaire and did reflective tasks to provide the data, which were analyzed with both statistical tools and inductive coding. The findings indicated that students appreciated beneficially for improving individual sound articulation, sound distinction, stress, and intonation as well as fostering learner autonomy by giving students control over their learning process while providing a safe environment that reduced the fear of social

judgment and boosted self-confidence. In conclusion, the researchers found that participants who developed greater autonomy through the app also demonstrated improved speaking competence.

Permatasari & Lubis (2024) conducted research on 44 eleventh-grade students from a high school in North Sumatra, Indonesia, who were divided into an experimental group and a control group. Employing a quasi-experimental research design, the study compared the pronunciation progress of students using ELSA Speak against those using the U-Dictionary application through pre-tests and post-tests. The findings demonstrated that while both groups showed improvement, the experimental group utilizing ELSA Speak experienced a significantly higher increase in mean scores compared to the control group. This suggested that ELSA Speak was a highly effective tool for enhancing pronunciation proficiency in EFL contexts.

The research paper titled "The Use of ELSA Speak in Speaking Skills of Non-English Majors: Effects and Challenges" was authored by Nguyen Thi Nha Phuong and Pham Thi Thuy Duy and published in 2026, involving 60 non-English sophomore students at Tra Vinh University. A mixed-method approach involving an 8-week experiment with an experimental group and a control group, collecting quantitative data through pre-tests, post-tests, and a Likert-scale questionnaire. The findings showed that the experimental group significantly improved their speaking scores, particularly in fluency and pronunciation. However, students encountered challenges such as technical issues with internet access, the need for a quiet environment, a lack of human-like emotional interaction, and the app's limited understanding of cultural nuances or slang.

3. The Objective of the Study

The primary aim of this research is to investigate the effectiveness of the ELSA Speak application in improving the English-speaking skills of mechanical engineering students at a university in the South of Vietnam. Specifically, the study seeks to evaluate how AI-assisted language learning impacts students' linguistic proficiency and their overall confidence in English communication. In fact, it is to determine whether the app helps non-English majors better retain technical and general vocabulary, as well as correctly identify and use grammatical tenses and word types, to investigate how the application affects students' speaking fluency and reduces their anxiety when communicating in English, and finally to examine the learners' attitudes toward the app's features that engage the learning environment. Analyzing the findings to provide potential solutions that other major students can apply to help them improve and acquire their English-speaking skills.

4. Research Methodology

To evaluate the impacts of the ELSA Speak app, this quantitative study surveyed 50 second-year mechanical engineering students at a university in Southern Vietnam. By

collecting data through a questionnaire, this descriptive research aimed to understand the app's overall effects on students' speaking skills and to determine exactly which aspects of their speech were enhanced.

Firstly, the researcher conducted a comprehensive review of relevant literature. Based on these foundational studies, research objectives were established, and an initial 5-point Likert scale questionnaire was formed (e.g. strongly disagree (1), neutral (3), and strongly agree (5)) for 21 items. Additionally, this instrument also had open-ended spaces to gather more extra ideas from respondents besides the core question parts. The questions were bilingual languages (i.e. English and Viet sub) to ensure that participants could understand and answer reasonably. Then, a pilot study of 10 students was conducted to test the reliability of the 21-item questionnaire. Using SPSS software, a Cronbach's alpha analysis was performed to evaluate internal consistency, yielding a strong overall coefficient of 0.74. Thereafter, the official questionnaire was sent to 50 target participants through Google Forms to collect and automatically record their responses regarding their experiences and improvements after using the ELSA Speak app.

5. Findings

5.1 The Reliability of the Questionnaire

Table 5.1: Reliability Statistics of the Questionnaire

Cronbach's Alpha	N of items
0.969	21

Responses from 50 participants were subjected to statistical analysis to assess both frequency and internal consistency. The results, detailed in Table 5.1, reveal a Cronbach's Alpha value of 0.969 across 21 items, which is considered excellent. This means that the questionnaire is highly consistent in measuring the students' perceptions of ELSA Speak. The participants responded to the questions in a logical and stable manner.

5.2 Overall Perception and Student Satisfaction

Table 5.2: The General Mean Score and Standard Deviation of the Questionnaire

Mean Score	Standard Deviation
4.38	0.79

Table 5.2 reveals a highly positive reception of the ELSA Speak application among the participants. The General Mean Score ($M = 4.38$) indicates that the students choosing "Agree" or "Strongly Agree" that the app is beneficial for their English learning process. Furthermore, the General Standard Deviation ($SD = 0.79$) is relatively low, suggesting a strong agreement among the respondents. This shows that the positive feedback is consistent across the student group.

5.3 The Effects of the ELSA Speak App on Students' English-speaking Skills

Based on the collected survey data using a 5-point Likert scale, the overall evaluation reveals an overwhelmingly positive perception of the ELSA Speak application among 50 participants. The dataset reveals that the majority of responses are highly concentrated at the "Agree" (4) and "Strongly Agree" (5) levels across almost all 21 items, while there were a few isolated neutral (3) or negative (1 and 2) responses, suggesting that a small number of students may have difficulties in using the app or may prefer more traditional methods. Nevertheless, these exceptions seemed not to diminish the strong positive trend. The details of findings are as followings:

5.3.1 Pronunciation

Table 5.3: The Effects of the ELSA Speak App on Students' Pronunciation

Question Items	Mean	SD
1. ELSA Speak helps me practice speaking English, especially on my pronunciation.	4.28	0.97
2. ELSA Speak provides detailed instructions for each sound I pronounce incorrectly.	4.24	0.87
3. I can hear and imitate sounds similar to my mother tongue.	4.26	0.96
4. The app allows me to correct the errors until I pronounce them correctly, can understand clearly the errors to improve my pronunciation.	4.28	0.95
5. ELSA speak gives examples from native speakers on how to pronounce the words.	4.32	0.89

Table 5.3 showing the Mean of the 5-item reaching from 4.24 to 4.32 and the SD from 0.87 to 0.97 revealed the notably impacts of ELSA Speak on students' English-speaking skills (i.e. pronunciation) via its automatically guided and corrected pronunciation functions as well as the standard native speakers' voices, so that students could hear, practice, and then improve their abilities in pronouncing English words. Unsurprisingly, pronunciation is a primary strength of the app in terms of clarity and accuracy. In the opened questions of pronunciation, the majority of respondents stated that the app "*helps me pronounce words and sentences more clearly, accurately, and understandably*". As for the technical mechanics, implying that respondents highlighted specific mechanical improvements, such as helping them "*get used to pronunciation mouth shape*" and "*improve my intonation and stress*". A number of participants noted that the app helped them sound closer to a native speaker, which made their English easier for listeners to comprehend.

5.3.2 Grammar

Table 5.4: The impacts That Students Gained
 from Utilizing ELSA Speak in Learning English Grammar

Question Items	Mean	SD
1. ELSA Speak can also display and distinguish grammatical and semantic intonation patterns.	4.40	0.93
2. The app supports my learning process by assisting me in differentiating between vowel and consonant sounds.	4.32	0.82

The data in Table 5.4 indicated that the ELSA Speak app was perceived as a highly effective tool for both intonation and phonetic (i.e. vowel and consonant) training. Actually, the results suggested that the app was particularly effective in technical language training. Participants highly valued its ability to help them distinguish between grammatical and semantic intonation patterns ($M = 4.40$, $SD = 0.93$) and its role in vocabulary acquisition ($M = 4.48$, $SD = 0.68$). While the item regarding “*detailed instruction for incorrect sounds*” received the lowest relative mean ($M = 4.24$), it still remained well within the “*Agree*” range. Generally, both features were seen as major strengths of the platform. Respondents (#8, #9, #13, #16, #25, #31, from #45 to #50) also explicitly noted that the app helped them “*distinguish between tenses in English*” and “*familiar with basic and advanced structures to build grammatically correct sentences*”. Then, the app was praised for helping learners understand the functions of various word types (e.g. nouns, verbs, and adjectives) in context (answers of participants #4, #19, #21, #27, #28, #29, and #33).

5.3.3 Vocabulary

Table 5.5: ELSA Speak’s Benefits on Students’ English Vocabulary Improvements

Question Items	Mean	SD
1. I can learn more English words.	4.48	0.68
2. I can learn even long sentences.	4.38	0.83

The data in Table 5.5 above suggested that the app was highly effective for both simple and complex language units. Regarding English words, students perceived ELSA Speak exceptionally as successful and consistent in helping them learn new words ($M = 4.48$, $SD = 0.68$). However, the data showed slightly more varied levels of success among different learners when learning long sentences ($M = 4.38$, $SD = 0.83$). Besides that, ELSA Speak was proven to help a lot of students (24/50 answers) to “*better understand the meaning of words I already know.*” And, they also highlighted that the app allowed them to “*understand and use vocabulary more accurately and effectively.*” In short, although the differentiation between English words and their long sentences seemed to vary in the statistics, it still suggested that ELSA Speak brought benefits and advantages for students to improve their English vocabulary.

5.3.4 Performance Pressure/anxiety or Confidence

Table 5.6: Students' Reduced Anxiety and Their Confidence Boosting

Question Items	Mean	SD
1. I am more active in class.	4.36	0.75
2. ELSA Speak not only improves my speaking skills but also boosts my confidence in speaking English.	4.40	0.67
3. I become more confident because my pronunciation is improved.	4.40	0.81
4. I can learn individually and be centered in learning.	4.36	0.69

As shown in Table 5.6, the use of ELSA Speak significantly reduced students' English performance anxiety and then improved their confidence, resulting in higher active participation in the classroom ($M = 4.36$, $SD = 0.75$). Furthermore, a strong link between enhanced pronunciation and confidence was evident, as improved accuracy motivated students to engage more in English speaking tasks ($M = 4.40$). Then, participants reported a high level of readiness for student-centered learning ($M = 4.36$). The low standard deviation ($SD = 0.69$) suggested a strong consensus among respondents regarding their perceived autonomy and ability to manage their own learning process individually. Respondents' confidence improvements were tightly linked to the mechanical practice that the app afforded. They reported that the regular speaking practice "*improves my fluency when speaking English*" and they had better vocabulary and accurate pronunciation, making them feel readier and "*confident to communicate*" in real-world scenarios.

5.3.5 Learning Environment

Table 5.7: Supportive Environment and Learning Engagement During Using ELSA Speak

Question Items	Mean	SD
1. ELSA Speak provides active learning and lively learning environment.	4.42	0.70
2. ELSA Speak provides engaging learning activities that enhance enjoyment in developing speaking skills.	4.40	0.70
3. The app offers a secure and supportive environment for practicing speaking skills.	4.54	0.65
4. I am getting excited when using the app.	4.56	0.70

One of the most significant findings of this study lies in the psychological impact of the app. The highest mean scores were recorded in the area of student engagement and emotional response. As seen from Table 5.7, the students were really excited to use the app (the highest mean score ($M = 4.56$, $SD = 0.70$)). Students felt strongly that the app provided a safe and supportive environment for practice ($M = 4.54$, $SD = 0.65$). The combination of a high mean and the lowest standard deviations in these areas suggested that the app's greatest strength may be reduce the anxiety associated with speaking a

foreign language. This was supported by the high scores for confidence-building (M = 4.40). Participants also expressed high satisfaction with the app's user experience and learning structure. The most frequent praise regarding app features was that *"the app has many topics that help me practice and improve my English reflexes."* Moreover, they described the environment as *"modern, comfortable, and fun"* as well as the 1:1 interaction, which *"creates a focused learning environment without distractions."* Finally, it was *"easy to learn and doesn't take up too much time."*

5.3.6 App's Facilities

Table 5.8 proved that students reported a high level of satisfaction with the app's flexibility, noting they could study *"anywhere and anytime"* (M = 4.32) and that the system provided *"instant feedback"* (M = 4.32). The ability to receive corrections on voice recordings (M = 4.42) helped to highlight the app's efficiency as a self-paced learning tool for students to learn and develop their English-speaking skills. In the open-question part, many respondents noted that *"the app has many topics that help me practice and improve my English reflexes."* This variety was complemented by the app's accessibility, as students highlighted that it is *"easy to learn and doesn't take up too much time" while providing "optimal conditions for learning."* Then, this platform boosted students in *"improving English-to-Vietnamese translation when speaking."*

Table 5.8: ELSA Speak's Flexibility and Accessibility

Question Items	Mean	SD
1. I can study anywhere and anytime without interruption.	4.32	0.82
2. My voice recordings can be directly accepted in the system to be corrected for the best.	4.42	0.67
3. The app, which provides instant feedback and allows for self-paced learning.	4.32	0.77
4. The app supports me to learn flexibly, effectively and efficiently and get learning materials easily.	4.42	0.67

5.3.7 Extra ELSA Speak's Effectiveness on Students' English-speaking Skills Improvements

The final section (i.e. Part VII) of the questionnaire aimed to gather open-ended feedback regarding the overall effectiveness of ELSA Speak after a period of use. The qualitative feedback in this part indicated that almost students proved that ELSA Speak was highly effective in enhancing their English-speaking skills on *"reflexes"* and overall *"fluency"* due to the app's various range of topics and regular practice opportunities (e.g. *"The app has many topics to help me practice and improve my English reflexes; The app helps me practice speaking regularly, thereby improving my English-speaking fluency."*) Regarding pronunciation, ELSA Speak highly succeeded in its primary mission of improving English pronunciation and mouth-shape mechanics. Additionally, respondents also noted that the app helped to improve their vocabulary retention and grammatical accuracy and then develop their communication confidence, such as *"after using ELSA*

Speak, I can communicate better and feel more confident". Ultimately, the findings suggested that the application serves as a vital self-study tool that bridges the gap between theoretical knowledge and natural, high-speed conversational responses: *"I improved my vocabulary, grammar, and pronunciation when communicating in English, and my responses became more natural and faster."*

In summary, the statistical data provide robust evidence that ELSA Speak is perceived as a highly effective tool for English language learners. The high mean scores across all categories, particularly in fostering excitement and providing a secure practicing environment, coupled with the low standard deviation, confirmed that the application consistently met the needs of students in improving their pronunciation, vocabulary, and speaking confidence. Moreover, students appreciated the app's core functions, particularly praising its ability to provide detailed guidance on incorrect sounds, instant feedback, and to facilitate flexible, self-paced learning. The invariably high scores on psychological factors indicated that the app not only improved technical pronunciation but also significantly enhanced students' confidence and encouraged active classroom participation. Ultimately, the data clearly demonstrated that students found ELSA Speak to be a highly effective, engaging, and supportive tool for developing English-speaking skills and fostering a vibrant learning environment.

6. Discussion

The data analysis revealed that ELSA Speak made a significant contribution to mechanical students' English-speaking skills improvements. Moreover, these findings also displayed a strong alignment with existing literature regarding the effectiveness of ELSA Speak, but they still demonstrated students' ability to express positive feelings, expressive language to enhance connection and confidence to foster creative thinking.

Linguistic barriers such as pronunciation ability, indistinguishable grammar difficulties, and vocabulary limitations were enhanced evidently. In fact, the study's results confirmed that ELSA Speak was a powerful tool for overcoming traditional difficulties. Most of the respondents appreciated the ELSA Speak app's benefits of helping them to pronounce more clearly and accurately through numerous times of practicing and correcting the words, and even were able to pretend to pronounce English words via native speakers' samples. For example, the app helped students to pronounce word stress and intonation. These findings were similar to the results of Nguyen & Phan (2021), Dong & Le (2024), Phuong & Pham (2026), Tran & Vu (2024), and Permatasari & Lubis (2024), who claimed that the app as a *"useful resolution"* for pronunciation due to the app's detailed instructions and native-speaker examples which were highly appreciated levels of students' agreement. The results aligned with the results of Karim *et al.* (2023), which showed an increase to 62% *"very good"* ratings from a poor initial baseline. In this study, vocabulary acquisition received the highest mean score (M = 4.48), indicating that the app helped participants be able to also differentiate between vowels versus consonant sounds as well as gain more new words and remember long sentences,

which were not aligned with the idea of pronunciation as the primary feature in the literature part.

ELSA Speak made its most significant impact by bridging the gap between linguistic mechanics and emotional readiness. Actually, improving linguistic elements seemed to help respondents be more active and self-confident through ELSA Speak's learning environment functions and the app's accessibility. These findings strongly support the data from Karim *et al.* (2023), which stated that 95% of students felt more motivated and self-confident after using the app. This study recorded a high mean for confidence ($M = 4.40$), directly linking improved pronunciation to reduced performance anxiety. The study found an exceptionally high agreement that the app provided a "*secure and supportive environment*" ($M = 4.54$). This supports the qualitative insights from Pham (2024), who noted that the app's immediate feedback acts as a crucial "*motivational boost*". Furthermore, the "*anywhere and anytime*" flexibility of the app reported in this study ($M = 4.32$) aligned with the "*accessible interface*" described by Nguyen & Phan (2021). Both the literature and the current findings emphasize that the app's facilities allow for a "*self-paced*" journey that traditional classrooms often cannot provide.

Nevertheless, the open-ended responses provided several significant findings that were rather different from the literature review. While the literature focused on accuracy, the students in this study repeatedly praised the app's variety of topics for improving their "*English reflexes*". This suggested that the app helped students transfer from "*thinking and translating*" to "*natural, high-speed conversational responses*". In addition, respondents highlighted a specific physical benefit: getting used to the "*pronunciation mouth shape*". This technical mechanical improvement helped students gain more knowledge of realizing a sound and physically producing it - an idea which was not mentioned in the literature review. Then, a unique finding in the "*open-ended question part*" was the app's role in "*improving English-to-Vietnamese translation when speaking*". This indicated that the students developed their bilingual cognitive processes via the app's various topics. Finally, respondents described the environment as a "*focused learning environment without distractions*" due to the 1:1 interaction. This highlighted that the app's "*facilities*" were not just about technical features, but about creating a psychological "*safe space*" free from the judgment of peers.

In short, the findings ultimately suggested that ELSA Speak was not merely a pronunciation checker, but a holistic "*self-study tool*". It successfully addressed linguistic barriers through "*automatically guided and corrected*" functions while simultaneously dismantling affective barriers by providing a "*modern, comfortable, and fun*" environment. The most significant contribution of this study is the realization that the app's value lies in its ability to foster communicative reflexes, allowing students to feel "*readier*" for real-world scenarios.

7. Limitations of the Study

The data of this research are just the respondents' obvious thinking after applying this app in their English-speaking skills learning process. Moreover, the results clarified the app's benefits, which were not spread across all parts of language acquisition, as standard deviation mostly fell on "*intonation patterns (SD = 0.93)*" and "*sentence-level practice (SD = 0.83)*". This suggested that the effectiveness of these features changes due to students' own ability in learning English. Nevertheless, these do not have a profound impact on the study's results.

8. Conclusion

This study highlights the multifaceted benefits of the ELSA Speak app, which is an effective self-study tool for English learning. Actually, the app can help mechanical engineering students develop their English-speaking skills competency relating to both linguistic and psychological domains. The technical skills' obstacles of limited vocabulary, grammatical difficulties, and pronunciation issues seemed to be significantly improved after utilizing the app due to its useful functions and accessible interface (e.g. instant feedback and detailed instructions) that students appreciated through the Mean and SD of the questionnaire. Besides that, they could overcome the fear of uttering English words or long sentences, even find out the interest in learning English as the app creates a secure and engaging learning environment that reduces performance anxiety and fosters greater communication confidence. Ultimately, ELSA Speak serves as a vital resource for modern learners seeking to develop both the mechanical precision and the psychological readiness required for fluent English communication.

9. Recommendations

Based on the benefits of applying ELSA Speak in enhancing mechanical engineering students' English-speaking skills, these recommendations are aimed to suggest some considerable contribution to other major students or those who are independent learners to be more fluently in English speaking and even to educators in their teaching process. Firstly, students should pay close attention to the app's specific feedback on mouth shapes, intonation, and word stress to pronounce more naturally or even achieve native-like pronunciation. Then, in order to help this learning process more effectively, they should also establish a regular, daily practice routine to see continuous improvement. In addition, they should take advantage of the ability to study "*anywhere and anytime*" in order to turn theoretical grammar knowledge into natural conversational reflexes. And, if someone who feels worried and shy in performing English speaking, should use ELSA Speak as a "*safe space*" to practice privately and then step-by-step reduce their anxiety. As for the educators, they should integrate some functions of this app into the classroom teaching to attract students' engagement in the lessons, especially in speaking skills.

Finally, they can use the app to foster learner autonomy, as the research indicates high student readiness for managing their own learning process through the platform.

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Conflict of Interest Statement

The authors declare no conflicts of interest.

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