

ELSA Speak Application as an Advanced Program for Improving Pronunciation for Students in Indonesia: A Literature Review

Enstalanza Gusrianto¹, Iswahyuni²

{egusrianto@student.ub.ac.id¹, iswahyuni@ub.ac.id²}

Faculty of Cultural Studies, Universitas Brawijaya, Malang^{1,2}

Abstract. Accurate pronunciation is a crucial aspect of language learning as it directly impacts learners' ability to effectively communicate and be understood. A number of applications for Android and iOS are provided to help the users to improve their English pronunciation. This paper reviews research articles discussing one of the existing applications, ELSA Speak. This application is designed to assist language learners in improving their pronunciation by utilizing its advanced speech recognition technology to provide real-time feedback. This paper then discuss how the application was implemented in Indonesian context. The findings show that ELSA Speak can significantly improve students' pronunciation with the help of its advanced technology. The findings also suggest that the use of ELSA Speak affects students' learning motivation positively. Previous studies recommend the use of ELSA Speak in pronunciation classes. However, students' readiness to use the application must be considered.

Keywords: ELSA speak application, advanced program, pronunciation

1 Introduction

Pronunciation is the process of producing speech sounds through repetition and correction to address errors in sound production [1]. In simple terms, pronunciation refers to how words or language are spoken. Khan [2] identifies two main features of English pronunciation: segmental and suprasegmental. Segmental aspects focus on sound at the micro-level, including linking sounds, intonation, and stress [3]. On the other hand, suprasegmental aspects involve the study of individual vowels and consonants at the macro level [4].

There are various factors that influence students' pronunciation, they are categorized as internal and external factors, Internal factors include age and talent. Linguists have observed that age can impact an individual's pronunciation, with younger students often exhibiting better pronunciation skills compared to older students. Additionally, those who acquire a language before the age of eleven can speak the target language without the influence of their first language's accent [5]. Talent is another internal factor affecting second language pronunciation.

For instance, Khan [2] found that certain students demonstrate better pronunciation abilities than others, and this difference has been attributed to their individual talent.

The accuracy of pronunciation plays a significant role in how language proficiency is perceived. Even if learners possess a solid grasp of vocabulary and grammar, inadequate pronunciation can create the perception of lower language proficiency. On the contrary, precise pronunciation serves as a signal of competence and contributes to greater confidence when using the second language [6]. In addition, pronunciation accuracy is essential for effective communication. It allows learners to effectively convey their intended meaning, emotions, and subtle nuances. By pronouncing words accurately, learners can appropriately express social and cultural meanings, leading to more natural and authentic interactions [7].

In the second language acquisition, pronunciation plays a crucial role as it significantly influences learners' effectiveness in communication and overall language proficiency [8]. However, many language learners face challenges in achieving precise pronunciation, especially when they lack consistent access to native speakers or experienced teachers who can offer accurate feedback. Lately, technology has increasingly played a significant role in language learning by providing various tools and resources to support learners in their progress. This is where technology has the potential to play a significant role.

In recent years, Technology-Assisted Language Learning (TALL) has gained quite the attention as a potential approach to address learners' pronunciation difficulties. Recent research have explored various aspects related to pronunciation instruction and TALL, providing valuable insights into the effectiveness of similar tools and approaches. The effectiveness of Computer-Assisted Pronunciation Training (CAPT) tools in improving the pronunciation accuracy of English learners was also examined, and revealed that the utilization of CAPT tools led to significant improvements in learners' pronunciation skills and contributed to enhanced accuracy in phonetics [9].

The use of technology has transformed the landscape of language learning and teaching, particularly in the area of pronunciation training. The implementation of technology in pronunciation instruction brings numerous benefits that positively impact learners' pronunciation accuracy and proficiency. One key advantage is the increased accessibility that it offers. With the prevalence of smartphones, tablets, and computers, learners can access pronunciation training materials anytime and anywhere, allowing for flexible and self-paced learning [10]. Specifically designed mobile applications, programs, and online platforms provide interactive and engaging activities that target specific aspects of pronunciation, such as phonemes, stress patterns, and intonation. Furthermore, TALL enables personalized learning experiences. These tools often employ adaptive algorithms that assess learners' current pronunciation abilities and provide tailored training materials to meet their specific needs. Learners receive targeted feedback and recommendations for improvement, fostering a learner-centered and individualized approach to pronunciation training. The interactive nature of technology-assisted pronunciation training enhances learner engagement and motivation, as learners actively participate in pronunciation practice through interactive exercises, games, and simulations [11].

One prominent tool in the field of TALL and CAPT is the English Language Speech Assistant (ELSA Speak) app. This app utilizes speech recognition technology and artificial intelligence (AI) to provide learners with real-time feedback on their pronunciation [12]. ELSA Speak

claims to offer an interactive and engaging learning experience, allowing learners to enhance their pronunciation accuracy in a self-paced manner. In the context of pronunciation, ELSA can serve as a useful program for learners seeking to improve their pronunciation. By speaking in the target language, learners can utilize ELSA Speak to recognize their speech and receive a feedback afterwards. This enables learners to compare their intended utterance with their actual utterance, identifying any pronunciation errors. ELSA Speak is an app that emphasizes a neutral American accent and uses phonetic symbols to assist learners improve their pronunciation of English. In order to assess proficiency and pinpoint pronunciation problems, it provides a Free Assessment Test with automated feedback. The software features a dictionary for instant word meaning and promotes self-monitoring of speech. For the purpose of learning idioms, phrases, and everyday English conversation, ELSA Speak provides over 800 lessons on 22 useful themes [13]. The audio voice, phonetic transcriptions, vocabulary, audio conversations, and quizzes are included in ELSA Speak. The program's goals and the skill levels of the students are nicely matched. It thoroughly addresses vowel sounds, diphthongs, consonant sounds, syllables, prominence, word/sentence emphasis, related speech, and intonation. [14].

The provision of immediate feedback is a great addition. Learners receive feedback on their pronunciation accuracy, enabling them to identify and rectify errors in real-time [15]. This immediate feedback facilitates self-monitoring and self-correction, allowing learners to make continuous progress in their pronunciation skills. Technology tools often provide audio and visual models for learners to compare their pronunciation with native speakers or target pronunciation, further supporting their comprehension and adjustment of pronunciation patterns. It is important to note that the integration of technology in pronunciation training aligns with the principles of communicative language teaching. Technology tools promote learner engagement, active participation, and authentic communication opportunities, facilitating the integration of pronunciation practice into meaningful language use [16]. Learners can apply their improved pronunciation skills in real-life communication contexts, thereby enhancing their overall language proficiency.

While the advancements in technology-assisted pronunciation training hold great potential for improving learners' pronunciation accuracy and confidence, it is crucial to critically evaluate the effectiveness and limitations of specific technology tools. Additionally, considering individual learner differences and preferences is essential when implementing technology-assisted pronunciation instruction.

This paper, then, focuses on the use of ELSA Speak as an advanced program for improving students' pronunciation. This paper aims to collect views and results from recent studies to provide insights for future or present teachers. Therefore, the research questions for this paper are: (a) how effective is ELSA Speak app for students in Indonesia, and (b) how the students perceived it.

2 Methodology

This study uses the library research method to explore and analyze the use of ELSA Speak for improving pronunciation, in specific, for students in Indonesia. According to Webster & Watson [17], a comprehensive examination of previous, related studies is a fundamental component of any academic project. Strong groundwork is laid by an efficient review for the advancement of

knowledge. It makes theory development easier, closes gaps in the literature, and identifies gaps in the knowledge base. Exploring and analyzing the use of ELSA Speak through library research method is a good approach since it allows for an in-depth, comprehensive, and contextually rich investigation of the topic.

Looking up for keywords “elsa speak“ and “pronunciation“ on the Google Scholar database turned up as many as 5,000 results. By filtering the search to only show articles since 2019, the results number narrowed down to 1690 results. Additionally, since this literature review focuses in Indonesia context, the results even narrowed down to 599 results when the keyword “indonesia“ was added. This paper only focuses on gathering information from research articles, excluding theses, focusing on research findings on specific aspects of this topic which are “effectiveness“ and “perception“. As for the final decision, a total of 12 research articles which exclusively discuss about ELSA Speak were taken for this literature review. The papers’ findings mostly talk about the effectiveness of the ELSA Speak app. However, some papers include students’ perception and views regarding the use of ELSA Speak. Those elements are what exactly needed to answer this paper’s research questions, those are (1) how effective the ELSA Speak app is for students in Indonesia and (2) how the students perceived it.

3 Results and Discussion

In this part, the results of literature review are presented. However, it is essential to describe the application users and how ELSA Speak was applied in the class. Further, the effectiveness of the use of ELSA Speak and how the students perceived the application are explained as the main focus of this paper. The recommendation from writers, which were the researchers are explained as well.

3.1 ELSA Speak Users

The previous studies discussed the implementation of ELSA Speak in various educational settings, they also include different educational contexts and selection methods. Several studies show the implementation of the application in university level [13], [14], [18], [19], [20], while the others were conducted in junior high school [21], [22] and high school levels [23], [24]. One study, then, was conducted in English course [25].

In a study conducted by Hafizhah et al. [18], the sample consists of 12 fourth-semester students in the English education program at the Islamic State University of North Sumatera, chosen through purposeful sampling, with a focus on the pronunciation topic. A total of 94 students from the English education study program were selected from four classes in a study by Darsih et al. [14]. In the next study conducted by Rismawati et al. [21], the researchers employ convenient random sampling to select two classes of tenth-grade students from a private Islamic Junior High School in Kuningan with a total of 60 students. In a study conducted by Anggraini [25], the subjects were 30 students at the basic class level of Easy English Course (EEC). 15 participants took part in a study conducted by Fatimah [13], they were Indonesian university students with varying levels of English proficiency who have not previously used the ELSA Speak app. Next, a study by Akhmad & Munawir [19], the research focused on an experimental group comprising 20 students majoring in English education from Class D 2021 at Universitas Sulawesi Barat. In a study by Saragih et al. [22], the participants were seventh-grade students from a junior high school. Research population in a study by Rinaepi et al. [23] consists of 37

students, with a sample of 11 randomly selected grade XI students. In a study conducted by Hanna et al. [24], a total of 30 participants from SMK Sahid Jakarta took part in the research. Finally, the last study conducted by Samad & Aminullah [20] had 12 third-semester students from English education program at STKIP Muhammadiyah Enrekang.

The participants in these articles vary in terms of grade level, educational program, selection methods, and research contexts, reflecting the diversity of the studies' respective objectives and settings. In other words, it is concluded that most of the participants were from university level and the rest were from secondary level education as well as private English course.

3.2 Implementation of ELSA

Students were unable to communicate directly with their speaking subject lecturer because of the pandemic. The lecturer gave the students the assignment to practice speaking English at home by utilizing the ELSA Speak app [14]. In a study by Anggraini [25], the researcher highlighted the advantages of the ELSA Speak for pronunciation learning when they presented it to the students. The app was to be downloaded onto Android smartphone by the students. In order to evaluate their initial pronunciation abilities, students took turns reading aloud from a text in the core activity. After that, the researcher gave students training and instructions on how to use the ELSA Speak app, which let them choose their pronunciation goals and ability levels. The researcher watched and managed the students use of the app during the whole class period.

Participants in a study by Fatimah [13] had to register on the ELSA Speak app. They were told to practice their pronunciation every day for a week after completing a pretest on the app. They mimicked the pronunciation of native English speakers using recorded samples during practice, and they were given automatic feedback to track their improvement. This practice may be repeated until they were satisfied. Participants completed a post-test following the instruction to measure how much their pronunciation has improved.

In a study by Rismawati et al. [21], the class was divided into five groups, and one student from each group was assigned to bring a phone the ELSA Speak installed. One student per group played the role of "Master" or clue giver, and the other students were the audience.

Students used the ELSA Speak after downloading from the App Store or Play Store on their own devices, and learned how to pronounce six consonant sounds correctly. This course of treatment lasted for 8 sessions. The researcher administered exams to the students to evaluate any improvements in their pronunciation skills following their treatment by using the ELSA Speak app. This was carried out in order to assess how well the software improved pronunciation [26].

In a study conducted by Saragih et al. [22], prior to starting activities, the researcher determined that students had two main pronunciation issues which are the challenge in pronouncing vowels, consonants and diphthongs, and problems with word stress and intonation. The researcher used a Zoom Meeting to present ELSA Speak to students in order to address these problems. After downloading the app, students received usage instructions. Pronunciation exercises included "Linking Sounds", "Stressing Words", and "Intonation". They attempted to practice the correct pronunciations after watching educational videos on the app.

3.3 Students' Perception

Students' perceptions of the ELSA Speak application in the research articles are generally positive and indicate their satisfaction with various aspects of the app. In a study by Hafizhah et al. [18], students found the ELSA Speak app's content design to be highly interesting and engaging, particularly for pronunciation and phonetics learning. The majority of the participants found it easy to use, and they appreciated the app's feedback and flexibility. A study by Darsih et al. [14] show that students strongly agreed that the content design of the ELSA Speak app was excellent, with features such as audio voice, phonetic transcripts, and quizzes motivating them to practice pronunciation. The pedagogical design, assessment, and flexibility were also highly rated by the students. The questionnaire from a study by Saragih et al. [22] revealed that a significant percentage of students had a positive perception of using ELSA Speak application, finding it helpful for improving pronunciation and easy to use. The last study's findings regarding students' perception showed that students strongly agreed that ELSA Speak was very good in terms of contents which addressed various aspects of pronunciation effectively. They also had positive perceptions of the pedagogical design, multimedia, and automatic speech recognition [27].

The participants generally had a favorable perception towards the use of ELSA Speak application, praising its content, pedagogical design, assessment features, multimedia, and automatic speech recognition. They found it effective for improving pronunciation and easy to use, reflecting its positive impact on their language learning experience.

3.4 Effectiveness of ELSA Speak

The findings from the 12 different articles all show almost positively. ELSA Speak is considered beneficial for pronunciation training, but it lacks conversational tasks and clear terminology, and the students have a positive perception of the app [18], [20], [22], [26]. Students are interested in using ELSA Speak for pronunciation learning, however some faced issues with locked levels and audio quality. Overall, the app is motivating and beneficial for pronunciation and vocabulary [14]. ELSA Speak significantly improves students' pronunciation skills and engagement. Students enjoy using the app, and their positive attitudes are reflected in their behaviour and learning outcomes [21]. ELSA Speak supports and enhances students' pronunciation skills, vocabulary, and motivation. Students find the app effective for language learning and pronunciation practice [25]. ELSA Speak is found to be quite effective in improving learners' pronunciation, with a majority showing improvement after using the app. However, technical issues like noise and internet connection may affect progress [19]. ELSA Speak provides digital feedback that motivates students and enhances their pronunciation and speaking skills. The app helps students gain confidence in speaking English [23]. ELSA Speak provides a range of topics for English learning. This approach makes learning more engaging, while enhancing the speaking skills significantly [24].

The findings from these articles consistently suggest that ELSA Speak is a valuable tool for improving pronunciation skills, motivating students, and enhancing their perception of pronunciation learning. It is seen as an effective and engaging program in language education. Moreover, these research highlight the need for future studies to examine the connection between how students view ELSA Speak and how well they perform academically. This type of investigation can help to better understand whether the app can be effectively used in

language education to produce clear, measurable advantages. In essence, ELSA Speak appears to be a flexible tool that enhances language learners' skills and keeps them engaged, which could potentially change how to approach pronunciation education by offering creative solutions and promoting a more optimistic attitude towards learning languages.

3.5 Suggested Insights from Authors

It is advised to practice pronunciation using the ELSA Speak app. Future researchers should explore the connection between students' opinions of the app and their academic success [18]. ELSA Speak makes it easier for students to practice pronunciation and maintains their engagement in learning, it is recommended for English teachers to use similar applications to improve students' English proficiency [21]. ELSA Speak has the potential to enhance English pronunciation learning. Teachers should consider its use but also consider students' readiness and the choice of technology. Effective language teaching involves considering pedagogy and understanding students' needs and desires [25]. ELSA Speak is seen as a valuable tool for improving pronunciation for educators and language learners. Such technology-driven solutions are crucial for language acquisition and pronunciation education [13]. ELSA Speak is found easy to use and is helpful for practicing pronunciation anytime and anywhere. Some suggestions include the preparation of a more secure internet connection and the addition of Indonesian translations to enrich vocabulary [19]. Students' perception of ELSA Speak in pronunciation classes is very positive, and its use is suggested for pronunciation practice. Future research should explore the relationship between students' perception and learning outcomes [20]. These studies consistently suggest that ELSA Speak is a valuable tool for improving pronunciation skills, and students generally have a positive perception of its effectiveness. Suggestions include its continued use in pronunciation practice and further research on its impact on learning outcomes.

4 Implications of the Study

The findings and analysis in this research paper provide valuable insights into how ELSA Speak can improve students' pronunciation skills in Indonesia. These results carry significant implications for teachers, language learners, and potential areas of future research.

The highly positive perception of the ELSA Speak by students, as highlighted in the literature, implies that it can significantly enhance the language learning experience. Educators and language instructors can leverage this tool to engage students in pronunciation training and to make language learning more interactive and enjoyable.

The research consistently demonstrates that ELSA Speak is an effective tool for improving pronunciation accuracy. This implies that students, particularly in Indonesia, can benefit from using ELSA Speak to overcome pronunciation difficulties and enhance their language proficiency.

Students' positive attitudes toward ELSA Speak suggest that it can motivate and engage them in the language learning process. This implies that educational institutions and language classes should consider incorporating technology-based pronunciation training tools like ELSA Speak to maintain students' motivation and enthusiasm for language learning.

A previous research which focused on the impact of ELSA Speak on pronunciation development among Iranian EFL learners in various teaching environments was conducted by using flipped teaching method in incorporating ELSA Speak [28]. Furthermore, the role of ELSA in a flipped teaching approach can yield beneficial outcomes in pronunciation development for language learners. In light of the recent research that this paper is focusing on, ELSA Speak is proven to be beneficial and effective in improving pronunciation skills among students in Indonesia with the incorporation of various methods and approaches.

The research findings emphasize the need for further investigation into the relationship between students' perceptions of ELSA Speak and their academic performance. This suggests a promising avenue for future research, aiming to provide a deeper understanding of how technology-driven language learning tools impact learning. A notable gap identified in the literature is the lack of detailed explanation on how ELSA Speak was used in the research studies. Future researchers are encouraged to provide more insights into the implementation and methodology to enable a more comprehensive understanding of its effectiveness in diverse contexts.

5 Conclusion

This paper discusses the importance of pronunciation in language learning and the role of technology in addressing pronunciation difficulties. It highlights the impact of pronunciation on language proficiency, and the potential benefits of TALL tools like ELSA Speak. Research findings show that such tools can significantly improve pronunciation skills and offer personalized and interactive learning experiences. This paper focuses on the effectiveness of the ELSA Speak application for Indonesian students, aiming to gather insights from recent research to aid teachers and educators.

Students' feedback on the use of ELSA Speak is overwhelmingly positive. They express satisfaction with different aspects of the application. Overall, the findings from the literature demonstrate that students have a favorable perception of the ELSA Speak application, highlighting its effectiveness in improving pronunciation and ease of use, which positively impacts their language learning experience.

ELSA Speak significantly enhances students' pronunciation skills and engagement, leading to positive attitudes and improved learning outcomes. It supports pronunciation training, vocabulary development, and motivation. While some technical issues such as connectivity and audio quality may pose challenges, ELSA Speak provides valuable digital feedback that boosts confidence in speaking English.

The literature consistently recommend the use of ELSA Speak for improving pronunciation skills. English teachers are encouraged to consider using ELSA Speak or similar applications to benefit their students. The findings also highlight the importance of exploring the connection between students' perceptions and their academic success. However, despite all the information that the literature has provided, it lacks explanation on how exactly ELSA Speak was used in the research. It is recommended for future researchers to elaborate more on how ELSA Speak is implemented for the research to provide more insightful findings.

References

- [1] Gilakjani, A. P., & Sabouri, N.B.: How can EFL teachers help EFL learners improve their English pronunciation? *Journal of Language Teaching and Research*, 7(5), 967. (2016).
- [2] Khan, T. A.: A Descriptive Study: Factors Affecting the Pronunciation of English Language (L2). *Journal of Communication and Cultural Trends*, 1(2), 01-16. (2019).
- [3] Coniam, D.: Technology as an awareness-raising tool for sensitizing teachers to features of stress and rhythm in English. *Language Awareness*, 11(11), 30-42. (2002).
- [4] Jenkins, J.: A Sociolinguistically Based, Empirically Researched Pronunciation Syllabus for English as an International Language. *Applied Linguistics*, 23(1), 83-103. (2002).
- [5] Nation, I. S. P., & Newton, J.: Teaching ESL/EFL listening and speaking (1st ed.). New York: Routledge press. (2009).
- [6] Ladefoged, P.: A course in phonetics. Thomson Wadsworth. (2006).
- [7] Pennington, M. C.: Phonology in English language teaching: An international approach. Addison Wesley Longman. (1996).
- [8] Derwing, T. M., & Munro, M. J.: Pronunciation fundamentals: Evidence-based perspectives for L2 teaching and research. John Benjamins Publishing Company. (2015).
- [9] Smith, J.: Computer-Assisted Pronunciation Training (CAPT): A comparative Study. *TESL-EJ*, 22(4), 1-21. (2018).
- [10] Burston, J.: Mobile-assisted language learning: A selected annotated bibliography of implementation studies 1994-2012. *Language Learning & Technology*, 17(3), 157-225. (2013).
- [11] Derwing, T. M., Munro, M. J., & Wiebe, G.: Evidence in favor of a broad framework for pronunciation instruction. *Language Learning*, 48(3), 393-410. (1998).
- [12] Becker, K., & Edalatshams, I.: 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*. (2019).
- [13] Fatimah, S.: THE USE OF MOBILE-ASSISTED LANGUAGE LEARNING APPLICATION IN PRONUNCIATION TRAINING. *UG Journal*, 15(4), 23-33. (2021).
- [14] Darsih, E., Wihadi, M., & Hanggara, A.: Using ELSA App in Speaking Classes: Students' Voices. *Proceedings of the 1st Universitas Kuningan International Conference on Social Science, Environment and Technology*. (2021).
- [15] Thomson, R. I.: Computer Assisted Pronunciation Training: Targeting Second Language Vowel Perception Improves Pronunciation. *CALICO Journal*, 28(3), 361-379. (2011).
- [16] Lee, J. F., & VanPatten, B.: Making communicative language teaching happen (2nd ed.). McGraw-Hill. (2003).
- [17] Webster, J., & Watson, R. T.: Analyzing the Past to Prepare for the Future: Writing a Literature Review. *MIS Quarterly*, 26(2), xiii–xxiii. (2002).
- [18] Hafizhah, M., Wahyuni, L. D., & Lubis, Y.: Learn English Pronountation And Phonetic Transcription With Elsa Speaking Application: A Student perception. *Jurnal Riset Rumpun Ilmu Bahasa (JURRIBAH)*, 2(2), 65-73. (2023).
- [19] Akhmad, N. W., & Munawir, A.: Improving the Students' Pronunciation Ability by Using Elsa Speak App. *Journal of Language Teaching and Learning, Linguistics and Literature*, 10(1), 846-857. (2022).
- [20] Samad, I. S., & Aminullah.: Applying *ELSA Speak* Software in the Pronunciation Class: Students' Perception. *Edumaspul: Jurnal Pendidikan*, 3(1), 56-63. (2019).

- [21] Rismawati, D., Suryana, Y., & Agustiana, V.: THE EFFECTIVENESS OF ELSA SPEAKING APPLICATION IN IMPROVING ENGLISH PRONUNCIATION. *The Proceedings of English Language Teaching, Literature, and Translation (ELTLT)*, 10(1), 177-184. (2021).
- [22] Saragih, E. E., Tabrani, N. P., & Muthmainnah, N.: THE USE OF DIGITAL FEEDBACK ON ELSA SPEAK IN LEARNING PRONUNCIATION FOR SEVENTH GRADE OF JUNIOR HIGH SCHOOL. *Journal of English Education, Linguistics and Literature*, 8(1), 133-145. (2021).
- [23] Rinaepi, Triwardani, H. R., & Azi, R. N.: THE EFFECTIVENESS OF ELSA SPEAK APPLICATION TO IMPROVE PRONUNCIATION ABILITY. *Jurnal Fakultas Keguruan & Ilmu Pendidikan*, 3(1), 28-33. (2022).
- [24] Hanna, A. N., Harmayanthi, V. Y., & Astuti, S.: The Effect of Elsa Speak App Towards Students' Speaking Skill. In *Proceeding of International Conference on Education-01*, 16-20. (2022).
- [25] Anggraini.: IMPROVING STUDENTS' PRONUNCIATION SKILL USING ELSA SPEAK APPLICATION. *Journey Journal of English Language and Pedagogy*, 5(1), 135-141. (2022).
- [26] Samad, I. S., & Ismail.: ELSA Speak Application as a Supporting Media in Enhancing Students' Pronunciation Skill. *MAJESTY JOURNAL*, 2(2), 1-7. (2020).
- [27] Sholekhah, M. F., & Fakhurriana, R.: The Use of ELSA Speak as a Mobile-Assisted Language Learning (MALL) towards EFL Students' Pronunciation. *Journal of Education, Language Innovation, and Applied Linguistics*, 2(2), 93-100. (2023).
- [28] Dehghanpour, D., Beheshti, Z., & Jalali, M.: Role of Flipped, Blended, and Conventional Learning Environments on Developing Pronunciation of EFL Learners Using ELSA Apps. *Journal of Language, Culture, and Translation*, 5(1), 150-161. (2023)