IMPROVING STUDENTS' PRONUNCIATION THROUGH THE SHADOWING TECHNIQUE USING ELSA

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Abstrak

Kemampuan berbicara dalam bahasa Inggris merupakan keterampilan penting bagi siswa, namun kesalahan pengucapan (pronunciation) masih sering ditemukan dalam proses pembelajaran. Untuk mengatasi permasalahan tersebut, pemanfaatan aplikasi pembelajaran berbasis teknologi seperti ELSA Speak yang dipadukan dengan Shadowing Technique dapat menjadi solusi yang efektif. Penelitian ini dilaksanakan di SMA Negeri 1 Balen dengan melibatkan 29 siswa kelas XI. Penelitian ini menggunakan pendekatan kuantitatif dengan instrumen penelitian berupa pre-test, post-test, dan kuesioner. Pre-test diberikan untuk mengetahui kemampuan awal pronunciation siswa. Selanjutnya, siswa diberikan latihan pronunciation menggunakan aplikasi ELSA Speak melalui Shadowing Technique. Setelah perlakuan diberikan, post-test dilakukan untuk mengukur peningkatan kemampuan siswa. Hasil penelitian menunjukkan adanya peningkatan nilai rata-rata pronunciation siswa, yaitu dari 66,62 pada pre-test menjadi 83,72 pada post-test. Hasil ini menunjukkan bahwa penggunaan Shadowing Technique dengan aplikasi ELSA Speak efektif dalam meningkatkan penguasaan pronunciation siswa. Selain itu, hasil kuesioner menunjukkan bahwa siswa memberikan respon positif terhadap proses pembelajaran. Sebagian besar siswa menyatakan bahwa mereka menikmati pembelajaran dan merasa lebih percaya diri dalam melatih pronunciation. Oleh karena itu, penelitian ini menyarankan penggunaan aplikasi ELSA Speak yang dikombinasikan dengan Shadowing Technique sebagai media pembelajaran pronunciation bahasa Inggris.

Kata Kunci: Teknik Shadowing, ELSA Speak, Berbicara, Pengucapan

Abstract

English speaking ability is an essential skill for students; however, pronunciation errors are still commonly found in English learning. To address this issue, the use of technology-based learning applications such as ELSA Speak, combined with the Shadowing Technique, can be an effective solution. This study was conducted at SMA Negeri 1 Balen involving 29 eleventh-grade students. The research employed a quantitative approach using pre-tests, post-tests, and questionnaires as research

instruments. The pre-test was administered to measure students' initial pronunciation ability. Afterwards, students received pronunciation practice using the ELSA Speak application through the Shadowing Technique. At the end of the treatment, a post-test was conducted to measure students'

improvement. The results showed a significant increase in students' pronunciation scores, with the mean score improving from 66.62 in the pre-test to 83.72 in the post-test. These findings indicate that the Shadowing Technique using the ELSA Speak application is effective in improving students' pronunciation mastery. In addition, the questionnaire results revealed that students had positive perceptions of the learning process. Most students stated that they enjoyed using the application and felt more confident in practising pronunciation. Therefore, this study suggests that the combination of ELSA Speak and the Shadowing Technique can be a useful tool for teaching pronunciation in English learning**.**

Keywords: Shadowing Technique, ELSA Speak, Speaking, Pronunciation

INTRODUCTION

English pronunciation plays a pivotal role in effective communication, particularly for English as a Foreign Language (EFL) learners, as it directly influences intelligibility and comprehensibility in oral interactions. Accurate pronunciation not only facilitates clearer expression but also enhances learners' confidence and overall language proficiency in real-world contexts. In Indonesia, high school students often struggle with pronunciation due to limited exposure to native-like models and traditional classroom approaches that prioritise grammar and vocabulary over spoken practice.

Recent studies have highlighted the effectiveness of the shadowing technique, which involves learners listening to and immediately repeating audio input, in improving pronunciation aspects such as intonation, stress, rhythm, and fluency(Barkov Assoc, 2022; Utami & Morganna, 2022). This method promotes perceptual awareness and motor skill replication of target language sounds. Similarly, mobile-assisted language learning (MALL) tools, particularly Artificial Intelligence (AI)-powered applications like ELSA Speak, have demonstrated significant potential in providing personalised, immediate feedback on pronunciation errors, leading to measurable improvements in segmental and suprasegmental features (Kholis, 2021).

While shadowing has been widely applied in various EFL settings to enhance prosodic elements and overall oral fluency, and ELSA Speak has proven effective as a standalone tool for individualised pronunciation practice through speech recognition technology, limited research has explored the integrated use of these approaches. Few studies have examined the combined application of shadowing

activities with AI-driven apps like ELSA Speak in secondary school contexts, particularly among Indonesian high school students, where classroom time for pronunciation practice is constrained.

Therefore, this study focuses on investigating the effectiveness of implementing the shadowing technique using the ELSA Speak application to improve students'

pronunciation abilities. The objectives of this research are:

To determine whether the use of the shadowing technique through ELSA Speak significantly enhances students' pronunciation scores from pre-test to post-test.

To explore students' perceptions regarding the implementation of this integrated approach.

This research contributes to EFL pedagogy by offering an innovative, technology-enhanced method that combines traditional imitation-based practice with modern AI feedback, potentially addressing limitations in conventional pronunciation instruction and promoting autonomous learning in resource-limited educational environments.

LITERATURE REVIEW

Pronunciation mastery

Pronunciation is an important aspect of speaking, as it determines the level of understanding of information. Based on Lado's research(as cited in Gumelar & Riandi, 2021)Pronunciation is the use of the sound system in speaking and listening. Pronunciation is a fundamental component in learning English, especially in the context of EFL (English as a Foreign Language), where learners often experience difficulties in accurate sound production, stress, and intonation. Research shows that pronunciation skills significantly affect oral readability and overall communication effectiveness, as inaccurate pronunciation can lead to misunderstandings and decreased confidence in speaking activities. Recent studies emphasize that pronunciation competence is not merely a mechanical skill, but a key component of speaking proficiency that affects listener comprehension and learner confidence in communication (Derwing & Munro, 2015). In addition, traditional classroom practices often place less emphasis on pronunciation, due to time constraints and limited teacher training in pronunciation pedagogy, resulting in a lack of corrective feedback and practice opportunities for learners.

To address these challenges, recent studies advocate for technology-supported pronunciation practice, which utilises digital tools to provide repeated exposure and personalized corrective feedback. These tools can complement teacher

instruction and provide learners with autonomy in practising difficult phonological features, supporting more efficient pronunciation skill development.(Febri, 2023) These findings emphasize the importance of combining pedagogical techniques with technological applications to bridge the gap in pronunciation teaching in traditional classrooms.

Shadowing Technique

Shadowing is a pronunciation practice technique in which learners listen to a

model speaker and immediately repeat what they hear, attempting to mimic the speaker's pronunciation, rhythm, stress, and intonation with minimal delay. Unlike traditional listening and repeating exercises, shadowing involves near-simultaneous repetition, creating an immersive learning experience. Shadowing limits cognitive resources in a way that helps direct learners' attention to the incoming sounds themselves rather than their semantic meaning. Shadowing is considered an effective instructional approach because it encourages learners to imitate not only phonemes but also prosodic elements such as stress and rhythm, which are essential for natural-sounding pronunciation (Petalolo *et al.*, 2024).

Several studies have shown the effectiveness of shadowing in improving pronunciation. According (Sri Rahayu & Dessy Maulida, 2025) Contributes positively to improving students' pronunciation. In the study by (Salim *et al.*, 2020)A quasi-experimental study with high school students found a significant improvement in pronunciation skills after implementing structured shadowing activities compared to a control group that received conventional teaching. The study by (Pratama & Isnaini, 2024)Shows that shadowing not only improves phonological accuracy but can also improve overall fluency when combined with consistent practice and feedback mechanisms.

Despite its benefits, the successful implementation of shadowing requires careful design to ensure learners receive sufficient examples and opportunities for reflection. Therefore, combining shadowing with supportive tools such as speech recognition technology can further strengthen its impact on pronunciation learning.

English Language Speech Assistant (ELSA) Application

The ELSA Speak app is an English learning application that helps users improve their English language skills by practising speaking directly with native speakers. ELSA Speak is used to practice speaking with a focus on teaching vocabulary and grammar. ELSA (English Language Speech Assistant) is an English

learning application that helps users improve their English language skills by assessing their speaking ability based on standard native sounds. The app uses AI technology developed using voice data from English speakers of various dialects, identifying the speech patterns of non-native speakers, and providing feedback to show them how to correct mistakes. ELSA Speak is an English pronunciation app that offers activities focused on correct pronunciation, listening, word stress, fluency, and intonation. Not only that, there are several other features in the ELSA Speak application, including: ELSA AI, composing words, missing letters, conversations, and conversation videos.

Research in Indonesia increasingly shows the positive impact of ELSA Speak

on students' pronunciation skills. Based on research (Pratama & Isnaini, 2024), a quantitative study with high school students showed a significant increase in pronunciation test scores after the ELSA Speak intervention, demonstrating the app's ability to improve phonological accuracy and learning motivation. According (Gusrianto & Iswahyuni, 2024) ELSA Speak significantly improves pronunciation accuracy and offers a personalized, interactive learning experience.

Beyond performance gains, a study (Indriyani *et al*., 2024) Shows that students tend to view ELSA Speak positively, noting its user-friendly interface and personalised corrective feedback as key factors in increasing practice engagement and confidence. ELSA Speak can also function as an effective independent learning partner, offering flexible practice outside of class while reinforcing correct pronunciation patterns that are difficult for students to master in traditional teaching.

Shadowing Technique with ELSA in Speaking

The English language speech assistant (ELSA) application is an AI-based application that focuses on speaking skills. ELSA helps learners to improve their speaking in English according to native speakers(Anggraini, 2022). The ELSA Speak application used Automatic Speech Recognition (ASR) to analyse user pronunciation and provide feedback on intonation, accent, and voice characteristics. ELSA Speak can adapt learning to the needs and learning styles of users. Practice using ELSA Speak, focusing on detected areas of weakness, making learning personal and effective. When practising with ELSA Speak, we need to use techniques to minimise errors. The shadowing technique is a technique of listening carefully to a sound and then repeating it immediately after hearing it. This technique is suitable for use with ELSA because users can directly imitate the pronunciation of native speakers. This

technique helps improve phonetic accuracy, intonation, and speaking rhythm.

METHOD

Research Design

This research utilized a quantitative research methodology with a pre-experimental design with a single-group pre-test and post-test model. This design was selected to evaluate the effect of the ELSA Speak application combined with the shadowing technique on students' pronunciation skills. The research procedure consisted of three stages: pre-test, treatment, and post-test.

Participants

The research was conducted at SMA Negeri 1 Balen. The research population consisted of all 29 students in the eleventh-grade two religion class. Participants

were selected through purposive sampling, where the sample was determined based on the class taught by the English teacher during scheduled lessons. This approach ensured that the sample represented the real learning context in which the treatment was applied.

Data Collection

Data were collected through two main instruments. First, a pronunciation test using a list of words from the ELSA Speak application was given as a pre- and post-test to measure student progress. Second, a questionnaire was distributed to capture students' perceptions of the application and the shadowing technique. The questionnaire used a four-point Likert scale, ranging from "strongly disagree" (1) to "strongly agree" (4). The treatment involved teaching pronunciation through ELSA Speak, with a focus on intonation, stress, and fluency, followed by shadowing exercises.

Data Analysis

Pronunciation test assessments were based on a rubric that categorised performance as poor, fair, good, and excellent. Prior to hypothesis testing, normality tests were conducted to ensure data validity. The effectiveness of the treatment was analyzed using a paired t-test with SPSS software, comparing pre-test and post-test scores. Questionnaire responses were analyzed using SPSS to assess student perceptions of the treatment.

FINDINGS AND DISCUSSION

FINDINGS

This section presents the findings of the study obtained from the analysis of students' pronunciation scores and statistical test results. The data were collected from 29 students using the ELSA Speak application with a scoring range of 0–100. The findings include the improvement of pronunciation scores, the validity and reliability of the instrument, assumption testing, and hypothesis testing.

Improvement of Students' Pronunciation Scores

The results indicate an improvement in students' overall pronunciation after the treatment. The mean score of the pre-test was 66.62, while the mean score of the post-test increased to 83.72. The average difference between the pre-test and post-test scores was 17.20 points, showing a noticeable increase in pronunciation performance after the implementation of shadowing activities using the ELSA Speak application.

All students showed positive score differences, indicating that none of the

participants experienced a decrease in pronunciation performance. The improvement scores ranged from 7 points to 28 points, suggesting varied but consistent gains among students.

Pre-test and Post-test Score Comparison

Based on the findings from the test, the researcher will compare the students' pre-test and post-test pronunciation scores. The results show that post-test scores were consistently higher than pre-test scores for all participants, indicating an overall improvement after the treatment.

Table 1. Comparison of Students' Pre-test and Post-test Pronunciation Scores

Student number	Pre-test	Post-test	Difference
1	53	79	26
2	75	82	7
3	82	94	12
4	57	85	28
5	65	85	20
6	60	82	22
7	68	87	19
8	60	80	20
9	80	93	13
10	55	76	21
11	73	88	15
12	67	80	13
13	63	75	12
14	56	77	21
15	65	78	13
16	57	83	26
17	74	85	11
18	73	86	13
19	72	84	12
20	70	88	18
21	55	83	28
22	60	84	24
23	75	87	12
24	67	84	17
25	70	80	10
26	68	84	16
27	70	83	13
28	78	89	15
29	64	87	23
	$\Sigma = 1932$	$\Sigma = 2428$	$\Sigma x = 500$
Mean	66,62	83,72	17,24
Max	80	94	
Min	53	75	

Distribution of Score Differences

Table 1 displays the detailed results of students' pronunciation scores, including pre-test scores, post-test scores, and the score differences. The total pre-test score was 1932, while the total post-test score increased to 2428, resulting in a total improvement of 500 points. These results confirm that the application of the shadowing technique using ELSA Speak contributed to the improvement of students' overall pronunciation performance

Assumption Testing

Result of Normality test

Table 2. Normality Test Result

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
PRETEST	.106	29	.200[*]	.969	29	.535
POSTTEST	.092	29	.200[*]	.978	29	.786

Based on results of the normality test indicated that the Shapiro–Wilk significance value for the pre-test data was 0.535, while the post-test data showed a significance value of 0.786. Since both values were greater than 0.05, the data were normally distributed. Thus, the assumption of normality was fulfilled, and further statistical analysis could be conducted.

Hypothesis Testing

Result of Paired Samples t-Test

Based on the results of the paired samples t-test, the obtained values were as follows: t = −15.611, df = 28, and Sig. (2-tailed) < 0.001. Since the significance value was lower than 0.05, the null hypothesis (H_0) was rejected, and the alternative hypothesis (H_1) was accepted. This result indicates a statistically significant difference between the pre-test and post-test scores.

Furthermore, the effect size analysis showed a Cohen's d value of −2.899, which indicates a very large effect. This finding suggests that the shadowing technique using the ELSA Speak application had a strong and meaningful impact on improving students' pronunciation performance.

Table 3. Paired sample t-test result

T-Test

[DataSet0]

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	PRETEST	66.6207	29	8.01523	1.48839
	POSTTEST	83.7241	29	4.56615	.84791

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	PRETEST & POSTTEST	29	.687	<,001

Paired Samples Test

		Paired Differences							
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)
Pair 1	PRETEST - POSTTEST	-17.10345	5.90003	1.09561	-19.34770	-14.85920	-15.611	28	<,001

Paired Samples Effect Sizes

			Standardizer[a]	Point Estimate	95% Confidence Interval	
					Lower	Upper
Pair 1	PRETEST - POSTTEST	Cohen's d	5.90003	-2.899	-3.732	-2.055
		Hedges' correction	5.98055	-2.860	-3.681	-2.028

Questionaire Analysis

Validity Test Results

Based on the results of the validity test, all questionnaire items from P01 to P10 showed significance values below 0.05 in their correlation with the total score. This indicates that all items had a statistically significant correlation with the total score. Therefore, all questionnaire items were considered valid and suitable for use as research instruments.

Table 4. Validdty test result

Correlations

		P01	P02	P03	P04	P05	P06	P07	P08	P09	P10	TOTALL
P01	Pearson Correlation	1	.519**	.519**	.422*	.412*	-.106	.159	-.048	.467*	.196	.591**
	Sig. (2-tailed)		.004	.004	.023	.026	.583	.411	.806	.011	.308	<,001
	N	29	29	29	29	29	29	29	29	29	29	29
P02	Pearson Correlation	.519**	1	.655**	.421*	.753**	.007	.095	.035	.775**	.122	.739**
	Sig. (2-tailed)	.004		<,001	.023	<,001	.970	.625	.857	<,001	.529	<,001
	N	29	29	29	29	29	29	29	29	29	29	29
P03	Pearson Correlation	.519**	.655**	1	.265	.753**	.114	.306	-.168	.439*	.122	.656**
	Sig. (2-tailed)	.004	<,001		.165	<,001	.558	.106	.384	.017	.529	<,001
	N	29	29	29	29	29	29	29	29	29	29	29
P04	Pearson Correlation	.422*	.421*	.265	1	.344	-.086	.225	.048	.446*	.114	.540**
	Sig. (2-tailed)	.023	.023	.165		.067	.656	.241	.806	.015	.556	.002
	N	29	29	29	29	29	29	29	29	29	29	29
P05	Pearson Correlation	.412*	.753**	.753**	.344	1	-.018	.282	-.085	.559**	.311	.719**
	Sig. (2-tailed)	.026	<,001	<,001	.067		.927	.139	.663	.002	.100	<,001
	N	29	29	29	29	29	29	29	29	29	29	29
P06	Pearson Correlation	-.106	.007	.114	-.086	-.018	1	.067	.471**	-.124	.092	.383*
	Sig. (2-tailed)	.583	.970	.558	.656	.927		.729	.010	.520	.636	.040
	N	29	29	29	29	29	29	29	29	29	29	29
P07	Pearson Correlation	.159	.095	.306	.225	.282	.067	1	.073	.340	-.067	.387*
	Sig. (2-tailed)	.411	.625	.106	.241	.139	.729		.707	.071	.729	.038
	N	29	29	29	29	29	29	29	29	29	29	29
P08	Pearson Correlation	-.048	.035	-.168	.048	-.085	.471**	.073	1	-.102	.238	.411*
	Sig. (2-tailed)	.806	.857	.384	.806	.663	.010	.707		.599	.214	.027
	N	29	29	29	29	29	29	29	29	29	29	29
P09	Pearson Correlation	.467*	.775**	.439*	.446*	.559**	-.124	.340	-.102	1	-.244	.539**
	Sig. (2-tailed)	.011	<,001	.017	.015	.002	.520	.071	.599		.202	.003
	N	29	29	29	29	29	29	29	29	29		29
P10	Pearson Correlation	.196	.122	.122	.114	.311	.092	-.067	.238	-.244	1	.429*
	Sig. (2-tailed)	.308	.529	.529	.556	.100	.636	.729	.214	.202		.020
	N	29	29	29	29	29	29	29	29	29	29	29
TOTALL	Pearson Correlation	.591**	.739**	.656**	.540**	.719**	.383*	.387*	.411*	.539**	.429*	1
	Sig. (2-tailed)	<,001	<,001	<,001	.002	<,001	.040	.038	.027	.003	.020	
	N	29	29	29	29	29	29	29	29	29	29	29

Reliability Test Results

The reliability test was conducted on 10 questionnaire items with 29 respondents. The results showed that the Cronbach's Alpha value was 0.680. Since this value exceeded 0.60, the questionnaire was considered reliable, indicating that the instrument was consistent and suitable for data collection.

Table.5: Reliability test result

Reliability

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	29	100.0
	Excluded[a]	0	.0
	Total	29	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.680	10

DISCUSSION

The results of this study show that the use of the ELSA Speak application led to a clear improvement in students' pronunciation mastery. This improvement is indicated by the increase in the mean score from the pre-test (66.62) to the post-test (83.72). The higher post-test scores suggest that students were able to improve their pronunciation performance after receiving the treatment using ELSA Speak.

The improvement in students' pronunciation mastery was supported by the results of statistical analysis. The paired sample t-test showed a significant difference between the pre-test and post-test scores ($p < 0.001$), which means that the nol hypothesis was rejected and the alternative hypothesis was accepted. This finding indicates that the improvement was statistically significant and not caused by random factors.

Before conducting the t-test, the data were tested for normality and showed normal distribution in both pre-test and post-test results. Therefore, the use of parametric testing was appropriate. In addition, the effect size analysis showed a very large effect, indicating that the implementation of the ELSA Speak application had a strong impact on improving students' pronunciation mastery.

These findings are consistent with previous studies, which reported that the ELSA Speak application is effective in improving students' pronunciation skills and supporting positive learning attitudes. (Rismawati *et al.*, 2022) found that ELSA Speak helped students improve pronunciation while also showing positive

responses toward the learning process. Similarly, (Samad & Ismail, 2020) stated that the features of ELSA Speak encourage active participation in pronunciation

learning.

Based on these results, the ELSA Speak application can be considered an effective learning tool for pronunciation practice. The application provides immediate feedback and creates an engaging learning environment, which helps students practice pronunciation more actively. Therefore, ELSA Speak is recommended as a supporting medium in English pronunciation learning, especially for improving students' pronunciation mastery.

CONCLUSION

As stated earlier, this study aimed to examine the effectiveness of the Shadowing technique using the ELSA Speak application in improving students' pronunciation ability.

Based on the results, the average score of the pre-test was 66.62, while the average score of the post-test increased to 83.72. This improvement shows that students' pronunciation ability increased after the implementation of the Shadowing technique using the ELSA Speak application. In addition, the total gain score of all students was 17.10, which indicates that almost all students experienced an improvement in their pronunciation scores after the treatment.

From these findings, it can be concluded that the use of the Shadowing technique combined with the ELSA Speak application is effective in improving students' pronunciation skills. Furthermore, the results of the questionnaire showed that most students gave positive responses toward the use of the ELSA Speak application. Most respondents agreed that the application helped them learn pronunciation more effectively. Therefore, it can be confirmed that the ELSA Speak application is effective in supporting students' pronunciation mastery.

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