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Enhancing Eleventh-Grade Students' Speaking Proficiency through the ELSA Speak Application: A Pre-Experimental Study

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ABSTRACT

This study aims to determine the effect of using the ELSA Speak application on the English-speaking skills of 11th-grade students at SMK Tri Sukses Depok. The method used is a pre-experimental design with a one-group pre-test and post-test design. The sample consisted of 30 students selected using purposive sampling. The instrument used was an English-speaking test administered before and after the use of the ELSA Speak application. The data were analyzed using descriptive statistics to obtain the mean scores of the pre-test and post-test, followed by an inferential analysis employing a paired sample t-test to determine whether the improvement in scores was statistically significant. The results showed that the average pre-test score was 48.63, while the post-test average was 69.03. The t-test showed that t_{count} (5.30) > t_{table} (1.67), meaning that H_1 is accepted. Thus, it can be concluded that the use of the ELSA Speak application has a significant effect on improving students' English-speaking skills. The application is effective as a supplementary learning tool in English language instruction.

Introduction

English became an international language commonly used in conversing with nations in all corners of the world. English is used in a variety of sectors, such as business, science, education, and technology. Mastering English makes it easy for us to communicate and collaborate effectively with people around the world (Shenbagam, 2024). English speaking proficiency empowers individuals to succeed in competitive contexts and supports their advancement in diverse professional and academic domains (Prasetya, 2023). Speaking skill is considered successful when the information conveyed by the speaker uses language that is easy to understand, so that it can be clearly received by the recipient of the information (Sari, 2022). That is, speaking is an important thing in learning English as a foreign language.

In this case, the dialect becomes an identical thing in a person's conversation. Indonesia, like India and Korea, exhibits linguistic diversity in the form of multiple local languages and accents, which tend to affect English pronunciation (Aryanika, 2024).

Indonesian learners often carry over phonetic habits from their native language, leading to mispronunciations in English (Dewi et al., 2024). This is partly due to a lack of exposure to native English pronunciation and the habitual pronunciation patterns of Indonesian (Listyani et al., 2024). Speaking in English is often a significant challenge faced by students (Rahman et al., 2024). Many factors contribute to difficulty learning to speak English, including students' lack of confidence when speaking English (Kulsum et al., 2025). The fear of making mistakes in the pronunciation of words and the worry of not being able to communicate properly often haunt them (Song, 2024). These feelings of anxiety and inferiority, in the end, can be a major barrier in the development of their speaking skills (Pratiwi et al., 2024).

The next factor is the lack of practice in schools. Schools that have English subjects generally teach and hone writing and reading skills so many students have passive skills in English i.e. writing and reading, but lacking in speaking skills (Leyaley, 2023). Many times, students learn English at school without the opportunity to apply the language in everyday conversation (Lubis et al., 2024). In the context of formal education, students' opportunities to develop English speaking skills tend to be limited to the school environment (Efrizah et al., 2024). This causes students difficulty applying what they learn in a practical way. For this, students need solutions in order to hone their skills in speaking English.

Technological advances, especially in the field of communications, have brought the world together. The impact of technological developments is quite broad and changes a wide variety of aspects of human life especially among students, from the way students learn, interact, to access information (Sembiring et al., 2024). Something that was initially difficult to reach is now becoming easier and more efficient (Fatima, 2023). With supporting technology and easy access to the internet, students can access information to gain in-depth knowledge (Martini et al., 2021). Currently there are a wide variety of applications that can help students to learn vocabulary, pronunciation, grammar, listening, reading, and writing, one of which is the ELSA Speak application.

ELSA Speak is a type of learning application that can help students learn English, particularly in improving their speaking skills. The English Learning Speech Assistant (ELSA) application was created by Vu Van in 2015 and operates in San Francisco, USA. This application uses Artificial Intelligence (AI) and speech recognition technology to enhance and refine English pronunciation (Anggraini, 2022). Karim et al. (2023), also argue, “The ELSA Speak application represents a form of Mobile Assisted Language Learning (MALL) that includes numerous features like support for speech recognition technology, a well-established personalized curriculum, a complimentary online dictionary, and a no-cost assessment test, which can serve as valuable resources and assist learners in acquiring a new language.”

Furthermore, some of advantages of using ELSA Speak in the process of learning to speak English were as follows according to (Sholekhah & Fakhrurriana, 2023). 1) The application is accessible on mobile devices. 2) It utilizes artificial intelligence (AI) to power

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its speech recognition function. 3) The application is noted for its high-quality content design. 4) The inclusion of gamified elements makes the learning process more engaging 5) The application provides personalized feedback, catering to individual learning needs. With comprehensive features, ELSA Speak allows students to practice various aspects of language, from pronunciation to speaking skills (Syabina & Rahman, 2024). The use of this app is expected to help students to train to improve proper English speaking and be able to pay attention to each pronunciation in each of those words (Anggraini, 2022).

Based on some previous research by Elsani et al. (2023), is titled "The Effect of Using Elsa Speak App for First-Semester Students' English Speaking Proficiency". The results of the study indicate that the students' average score on the pre-test was 65.06, while the post-test average was 70.61. Based on the statistical results of the paired t-test, with a t-value of -2.583 and 30 degrees of freedom (df), the null hypothesis (H0) was rejected. The null hypothesis proposed that the mean scores of the pre-test and post-test were equal. Consequently, the alternative hypothesis (H1), which states that the mean scores of the pre-test and post-test differ, was accepted. Therefore, based on the obtained scores, it can be interpreted that there was an improvement in students' performance after using the ELSA Speak application.

Furthermore, another study conducted by Putri et al. (2024), titled "ELSA Speak as Mobile Assisted Language Learning to Improve Students' Speaking Skill," provides additional empirical support for the effectiveness of the ELSA Speak application. The t-test analysis revealed that the experimental group achieved an average speaking-skill score of 76.93, whereas the control group scored 64.26. Moreover, the calculated t-value of 8.46 exceeded the critical t-value of 1.67 at the 5% significance level. This substantial difference led to the acceptance of the alternative hypothesis (Ha) and the rejection of the null hypothesis (Ho). Consequently, the findings indicate a significant difference in speaking proficiency between students who used the ELSA Speak application and those who did not (Putri et al., 2024).

During the English learning process at SMK Tri Sukses Depok, the researchers noticed that some students were reluctant to speak English due to shyness and fear. This observation was supported by English teachers, who stated that 11th-grade students in the 2024/2025 academic year were showing a decline in interest. Based on these findings, the researchers were motivated to conduct a study entitled "The Effect of Using Elsa Speak App for Eleventh-Grade Students' Speaking Ability"

Method

This study employs a quantitative approach utilizing a one-group pretest–posttest design, in which a single class or learning cohort was evaluated prior to the administration of the instructional treatment. Quantitative research is a research method that uses numbers and statistics to obtain data and explain the relationship between variables (Barella et al., 2024 p. 286). A pre-experimental design is a type of quantitative research design that applies

a treatment (intervention) to subjects without random assignment and usually without an equivalent control group. It aims to obtain preliminary evidence of effectiveness but is vulnerable to threats to internal validity (Campbell & Stanley, 1963; Cook & Campbell, 1979 & Creswell & Creswell, 2018).

Researchers applied two tests; they are pretest and posttest. The data in this study were collected using a speaking performance test, administered in both the pretest and posttest sessions. This test required students to perform a short speaking task, and their performance was evaluated using a pronunciation-based assessment rubric that measured pronunciation accuracy, intonation, fluency, and word stress. In addition, the ELSA Speak application generated automated pronunciation scores, which served as supporting quantitative data to measure students' improvement. The pretest was conducted before the researcher gave treatment to the students. Then the posttest was carried out after the researcher gave the treatment. This research was conducted at SMK Tri Sukses Depok in eleventh grade DKV class.

The population may consist of individuals, objects, events, or any elements related to the ongoing research activity (Asrulla et al., 2023). It encompasses all individuals or objects that possess specific characteristics relevant to the research topic (Candra Susanto et al., 2024). In general, the population refers to a complete group of individuals, whether human, animal, or inanimate intentionally situated within a particular setting, thereby facilitating the formulation of conclusions based on the research findings.

Sample is defined as a representative subset of the population that receives the treatment and is examined as the primary source of data in a study (Asrulla et al., 2023). The sample plays a critical role as it directly influences the representativeness and generalizability of the research outcomes (Candra Susanto et al., 2024). The sampling technique employed was Random Sampling, a method in which members of the population are selected randomly without considering any strata within the population.

Random sampling is a probability-based sampling technique in which all members of the population have an equal chance of being selected. It does not require specific theoretical assumptions nor a fixed number of participants (Creswell & Creswell, 2018; Etikan & Bala, 2017 & Sugiyono, 2017). In this study, the sample consisted of 30 eleventh-grade students selected through simple random sampling. This class was selected because it represented a complete and accessible intact group, allowing the researcher to implement the treatment within an existing classroom setting without disrupting the school's instructional schedule. Additionally, the class had a homogeneous level of English proficiency, making it suitable for measuring improvement consistently. As a naturally formed group, it also met the criteria for simple random sampling within the available population, ensuring that the sample accurately reflected the characteristics of the students targeted in this study.

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Results and Discussion

Results of Descriptive Statistic

These findings were procured by administrating the ELSA proficiency test among 30 students. As previously mentioned above, this examination featured 16 distinct prompts. The ensuing analysis portrays the test results presented below. Before the intervention, a pre-test was conducted to evaluate both pre-test and post-test outcomes. The pre-test and post-test results score contain intonation, pronunciation, fluency, comprehension, and grammar, which can be seen in Table 1. Based on the experimental group's pre-test outcomes, it can be shown in table 1 below:

Table 1
Pre-Test and Post-Test Score Result

No	Name	Score	
		Pre-test	Post-test
1	Student 1	60	80
2	Student 2	31	65
3	Student 3	40	65
4	Student 4	50	80
5	Student 5	70	90
6	Student 6	51	45
7	Student 7	40	45
8	Student 8	55	85
9	Student 9	60	55
10	Student 10	55	80
11	Student 11	60	70
12	Student 12	30	90
13	Student 13	70	85
14	Student 14	35	55
15	Student 15	60	75
16	Student 16	60	80
17	Student 17	40	65
18	Student 18	55	55
19	Student 19	45	75
20	Student 20	50	55
21	Student 21	45	65
22	Student 22	50	70
23	Student 23	55	80
24	Student 24	55	70
25	Student 25	40	70
26	Student 26	50	45
27	Student 27	45	70
28	Student 28	35	50
29	Student 29	35	65
30	Student 30	40	65

Therefore, the statistical result can be seen in Table 2.

Table 2
Statistical Calculation Pre-Test and Post-Test Results

Score	Type of Test	
	Pre-test	Post-test
Highest score	70	90
Lowest Score	30	45
Mean	48,63	69,03
Standard Deviation	10,66	12,72

Table 2 shows that the highest score is 70 for 1 student and the lowest score is 30 for 1 student, the average score is 48.63, standard deviation is 10.66. Then, according to the post-test findings, 2 students had the highest score of 90, and the lowest score was 45 for 3 students, the average score is 69.03, the standard deviation is 12,72. It means that there was an improvement after using the ELSA Speak App. The post-test result showed that the number of students taught using the ELSA Speak App was higher. The difference between the two tests was computed using the Paired T-Test, which will be addressed in Table 2. The criterion for rejecting or accepting the null hypothesis is a level of significance 0.5 (95% confidence). Suppose the significance values is less than o.5 ($p < 0.5$ means H0 was rejected and H1 was accepted)/ it implies that using the ELSA Speak App significantly affected the students' oral proficiency. It shows that the treatment was effective.

Table 3
Normality and Homogenity Tests

No	Perangkat Tes	N	L_{value}	L_{table}	Kesimpulan
1	*Pre-Test*	30	0,128	0,161	Normal
2	*Post-Test*	30	0,132	0,161	Normal

The results of the Liliefors test on the pre-test data show that the calculated L_{value} of 0.128 is smaller than the L_{table} of 0.161 ($\alpha = 0.05$; $n = 30$). Likewise, in the post-test data, the calculated L_{value} is 0.132, which is also smaller than the L_{table} = 0.161. Thus, it can be concluded that the pre-test and post-test data are normally distributed, so it is appropriate to carry out further statistical analysis using parametric tests.

Table 4
Hypothesis Testing

No.	*Pre-test*	*Post-test*	[d]	D^2
1	30	45	15	225
2	31	45	14	196
3	35	45	10	100
4	35	50	15	225
5	35	55	20	400
6	40	55	15	225
7	40	55	15	225
8	40	55	15	225

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9	40	65	25	625
10	40	65	25	625
11	45	65	20	400
12	45	65	20	400
13	45	65	20	400
14	50	65	15	225
15	50	70	20	400
16	50	70	20	400
17	50	70	20	400
18	51	70	19	361
19	55	70	15	225
20	55	75	20	400
21	55	75	20	400
22	55	80	25	625
23	55	80	25	625
24	60	80	20	400
25	60	80	20	400
26	60	80	20	400
27	60	85	25	625
28	60	85	25	625
29	70	90	20	400
30	70	90	20	400
	Total		578	11582

$$t_{hitung} = \frac{M_d}{\sqrt{\frac{\Sigma x_d^2}{n\,(n-1)}}}$$

$$t_{count} = \frac{19{,}266}{\sqrt{\frac{11582}{30\,(30-1)}}}$$

$$t_{count} = 5{,}30$$

In light of the paired t-test statistical findings, which yielded a computed t-value of 5.30 and a degree of freedom (df) of 30, the null hypothesis (H0) is deemed untenable. The null hypothesis posited that the mean scores of the pretest and posttest are equivalent. Consequently, the alternative hypothesis (H1), which asserts that the mean scores of the pretest and posttest are disparate, was substantiated.

The computed t-value quantifies the degree to which the observed t-value diverges from the critical t-value. A negative computed t-score signifies that the average pre-test score is inferior to the average post-test score. The critical t-value represents the threshold that demarcates the region of acceptance from the region of rejection concerning the null hypothesis. The p-value denotes the likelihood of obtaining a computed t-value that is equivalent to or more extreme than the observed computed t-value, contingent upon the null hypothesis being valid.

The low p-value (0.015) suggests that the observed difference between the pretest and posttest scores is improbable under the assumption that the null hypothesis holds true. Consequently, the null hypothesis is dismissed, leading to the acceptance of the alternative hypothesis. A negative computed t-value signifies that the average score of the pretest is inferior to that of the posttest. This implies that there was a reduction in the pretest score concurrent with an increase in the posttest score. Hence, the significant distinction is that the scores have exhibited an upward trend.

Discussion

Based on the findings from this analysis, it can be inferred that there exists a substantial difference between the pretest and posttest scores. An examination of the posttest results revealed a significant enhancement in academic performance among students utilizing the ELSA Speak application. Importantly, there was a reduction in pretest scores followed by a notable increase in posttest scores, indicating a significant positive divergence in the scores achieved. This alteration highlighted a pronounced improvement in students' performance after their engagement with the ELSA Speak application within the educational context.

The results of this study are consistent with those reported Anggraini et al. (2024), in their research titled "The Use of the ELSA Speak Application in Learning English Speaking at SMK Swasta Pelita Hamparan Perak." Their results demonstrated that the use of the ELSA Speak application effectively enhanced students' pronunciation, intonation, and confidence in speaking English. Similarly, Untari et al. (2024), explained that ELSA Speak provides an innovative approach to English pronunciation learning by facilitating interactive practice and real-time feedback to improve students' speaking skills. The application also enables learners to practice independently, thereby increasing their motivation to improve their pronunciation. Within the context of 21st-century learning, this technology-based approach is particularly relevant, as it promotes adaptive, personalized, and interactive learning experiences.

Conclusion

The results of this study demonstrate that the ELSA Speak application contributes significantly to the improvement of students' English-speaking skills. The integration of this mobile-assisted language learning tool enhanced students' fluency and pronunciation while also boosting their confidence in oral communication. Its interactive design, immediate feedback, and flexibility in choosing topics created a more dynamic and engaging learning environment, reducing the perception that English learning is monotonous or difficult.

Furthermore, the use of ELSA Speak encouraged students to become more active participants in the classroom. They were more willing to express opinions, raise questions, and respond to discussions, which reflects an improvement not only in linguistic ability but also in communicative competence. These findings highlight the potential of ELSA Speak

as an effective supplementary medium for supporting English learning in vocational high school contexts, particularly in strengthening speaking proficiency and learner motivation.

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