

The Effectiveness of Elsa Speak to Improve Speaking Skill in Extra Class Ma Al-Bairuny

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Abstract : *This research aimed to examine the effectiveness of the Elsa Speak application as a learning media to improve students' English-speaking skills in the extra class at MA Al-Bairuny. The research used a quasi-experimental design with two groups: an experimental group taught using the AI-based Elsa Speak application, and a control group taught without the application. The research began with a pre-test to assess students' speaking abilities. The average pre-test score of the experimental group was 57.33, while the control group had an average of 61.67. During the treatment, the experimental group practiced speaking using Elsa Speak, which offers features such as pronunciation analysis and instant feedback. The control group continued learning through traditional methods without the application. After the treatment, a post-test was conducted. The experimental group showed significant improvement with an average score of 70.00, increasing by 12.67 points. Meanwhile, the control group showed only slight progress, with an average post-test score of 62.33, an increase of just 0.67 points. The results indicate that Elsa Speak is effective in improving students' pronunciation, fluency, and confidence. This research highlights the potential of AI-based technology to enhance the quality of English language education in the digital era.*

Keywords : *Elsa Speak; AI; Learning Media; Speaking Skill.*

INTRODUCTION

Humans are currently living in the fourth industrial revolution, often referred to as the disruptive era, in which technological, informational, and communicational advancements have significantly transformed modern lifestyles. This era is characterized by rapid and unpredictable developments, where both positive and negative content can go viral in seconds. In this context, artificial intelligence (AI) plays a central role. The term "Artificial Intelligence" was first introduced by John McCarthy in 1955, describing it as a machine-based system capable of utilizing abstract concepts and language to assist humans in solving problems (Kalalo & Pontoh, 2020).

Artificial intelligence is a branch of computer science that incorporates key concepts such as machine learning, neural networks, and natural language processing. It has been widely adopted across multiple sectors, including voice and facial recognition, autonomous vehicles, and healthcare (Eriana & Zein, 2023). According to Jamaaluddin & Indah (2021), AI also reflects characteristics found in science fiction due to its intelligent, adaptive

behavior and its ability to perform various tasks such as organizing, planning, supervising, and interpreting handwriting, speech, and biometric data.

In the field of education, AI has been utilized to support teaching and learning processes. Artificial intelligence in education (AIED) has existed for over four decades and aims to understand the nature of learning and teaching in order to design systems that help students acquire new knowledge and skills (Du Boulay, 2016). In language learning, speaking is considered one of the most essential yet challenging skills to master. Many learners, particularly those in EFL/ESL contexts, struggle to produce grammatically correct sentences due to limited vocabulary and grammatical understanding (Srinivas Parupalli, 2019).

To address these challenges, AI-based applications such as *Elsa Speak* have emerged. *Elsa Speak* is a mobile application designed to improve speaking proficiency through pronunciation training, guided conversations, and topic-based learning modules. However, prior studies on this application show certain limitations. For instance, Sholekhah & Fakhurriana (2023) research was limited to literature analysis without empirical validation. Rinaepi (2022) study involved a small sample size and lacked clarity regarding participant selection and experiment duration. Kholis (2021) research focused solely on the ASR (Automatic Speech Recognition) feature and involved a limited group of participants.

An interview conducted with mentor of the English extracurricular class at MA Al-Bairuny, revealed that speaking instruction in the program still relies on conventional methods, such as lectures and teacher-developed materials, with minimal use of AI-based tools. Media such as google translate are rarely used and are only used to support vocabulary learning. As a result, students often experience boredom and have difficulty improving their speaking performance due to monotonous and ineffective teaching strategies.

Speaking is the most crucial skill in learning a foreign or second language. Many students struggle to express ideas clearly when speaking in class—some may pronounce words well but fail to communicate effectively, while others can share ideas clearly despite pronunciation issues. This highlights key challenges that this study aims to address (Eslit & Valderama, 2023).

Given these circumstances, the English extracurricular program at MA Al-Bairuny provides a relevant context for implementing AI-based tools. Since the program has never previously incorporated such technology, this research aims to examine The Effectiveness of the Elsa Speak Application in Improving Students' Speaking Skills in the Extra Class at MA Al-Bairuny

METHOD

This study employs a quasi-experimental design using a quantitative approach. An experimental study is a type of research conducted to test hypotheses by using sample groups that receive different treatments or interventions (Widodo et al., 2023). The research aims to investigate the effectiveness of the *Elsa Speak* application in improving students' speaking skills. Based on this objective, the hypotheses of the study are formulated as follows: H0: There is no effect of using the *Elsa Speak* application as a learning media on the results of improving the speaking skill of Extra class students at the MA Al-Bairuny. Ha: There is an effect of using the *Elsa Speak* application as a learning media on the results of improving the speaking skill of Extra class students at the MA Al-Bairuny.

The population for this study consists of 78 students from the XI Extra English class at Islamic Senior High School Al-Bairuny Sambongdukuh Jombang, divided into six groups.

The researcher chose purposive sampling to ensure that the experimental and control groups were strategically selected from a pre-divided population, in order to meet the requirements of a quasi-experimental design, facilitate the implementation of the treatment and data collection, and ensure the validity of the research results. The experimental group received treatment through the use of the *Elsa Speak*, while the control group did not. A purposive sampling technique was used to select two groups: group A as the experimental group and group B as the control group.

The instruments used for data collection included oral pre-tests and post-tests. The topics of both the pre-test and post-test were related to “school,” where students were given a set of questions to discuss. Based on Novawan et al. (2020) the researcher assessed the students using five aspects: pronunciation, grammar, vocabulary, fluency, and comprehension. The treatment for the experimental group involved the use of the *Elsa Speak* application, focusing on improving pronunciation, grammar, vocabulary, and fluency.

Data analysis was conducted using IBM SPSS Statistics 22. Descriptive analysis was performed to summarize the data, and an independent t-test was used to compare the results between the experimental and control groups. A normality test using the Shapiro-Wilk method was also conducted, as it is considered the most powerful test for all types of distributions (Mohd Razali & Bee Wah, 2011).

The following diagram presents a systematic overview of the quasi-experimental design used in this research:

QUANTITATIVE RESEARCH

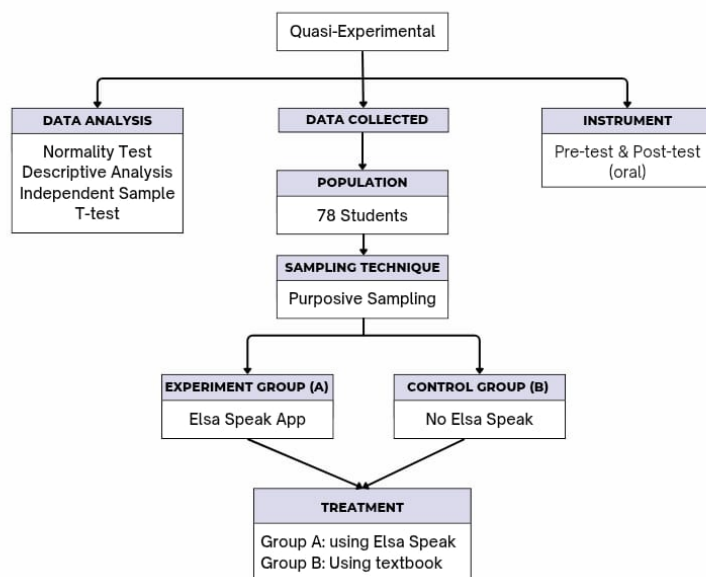


Figure 1. Research diagram

RESULT AND DISCUSSION

1. Result

The research findings were obtained using research instruments in the form of an English-speaking test. A pre-test and post-test were given to both the experimental group and the control group. The results are as follows:

a. Experiment Group Pre-test Results

The results of the experimental group students' speaking scores on the pre-test were as follows:

Table 1. Experiment Group Pre-test Results

No	Student initial	P	G	V	F	C	Total
1	AS	10	10	15	10	10	55
2	ALN	15	10	15	10	15	65
3	ARLM	10	10	15	10	15	60
4	AAN	15	10	15	10	15	65
5	DNS	10	10	15	10	10	55
6	EPSA	15	10	10	15	10	60
7	FAN	10	10	15	10	10	55
8	F	10	10	10	10	10	50
9	KDP	15	10	15	10	10	60
10	LRI	10	10	10	10	10	50
11	NA	15	10	15	10	15	65
12	SJP	10	10	15	10	10	55
13	SDR	10	10	10	10	10	50
14	SDN	15	10	10	10	15	60
15	VDS	10	10	10	10	15	55

b. Experiment Group Post-test Results

The results of the experiment group students' speaking scores on the post-test were as follows:

Table 2. Experiment Group Post-test Results

No	Student initial	P	G	V	F	C	Total
1	AS	20	15	15	10	15	75
2	ALN	20	15	15	15	15	80
3	ARLM	15	10	15	15	15	70
4	AAN	15	10	15	15	20	75
5	DNS	20	10	15	10	15	70
6	EPSA	15	10	15	10	20	70
7	FAN	15	10	15	10	15	65
8	F	15	10	15	10	10	60
9	KDP	15	15	15	10	20	75
10	LRI	15	10	15	10	15	65
11	NA	20	10	15	15	15	75
12	SJP	15	15	15	10	15	70
13	SDR	15	10	15	10	10	60
14	SDN	20	10	15	15	15	75
15	VDS	15	10	15	10	15	65

c. Control Group Pre-test Results

The results of the control group students' speaking scores on the pre-test were as follows:

Table 3. Control Group Pre-test Results

No	Student initial	P	G	V	F	C	Total
1	ADWR	15	10	15	10	10	60
2	A	10	10	15	10	15	60
3	DMM	15	15	10	10	15	65
4	FAA	10	10	15	10	10	55
5	FZH	15	15	15	10	15	70
6	FA	10	15	15	10	15	65
7	MAH	15	10	15	10	10	60
8	MDF	10	10	10	10	10	50
9	MF	10	10	10	10	10	50
10	NR	10	10	15	10	10	55
11	RFH	15	10	15	10	15	65
12	RR	15	15	15	10	15	70
13	TNS	15	10	15	10	20	70
14	ZAM	15	10	15	10	15	65
15	ZZ	10	15	15	10	15	65

d. Control Group Post-test Results

The results of the control group students' speaking scores on the post-test were as follows:

Table 4. Control Group Post-test Results

No	Student initial	P	G	V	F	C	Total
1	ADWR	15	10	15	10	15	65
2	A	10	10	15	10	15	60
3	DMM	15	15	10	10	15	65
4	FAA	10	10	15	10	15	60
5	FZH	15	15	15	10	15	70
6	FA	10	15	15	10	15	65
7	MAH	15	15	15	10	10	65
8	MDF	10	10	10	10	10	50
9	MF	10	10	15	10	10	55
10	NR	10	10	15	10	10	55
11	RFH	15	10	15	10	15	65
12	RR	15	15	15	10	15	70
13	TNS	10	10	15	10	15	60
14	ZAM	10	10	15	10	15	60
15	ZZ	15	15	15	10	15	70

Description:

P = Pronunciation

G = Grammar

V = Vocabulary

F = Fluency

C = Comprehension

The scores above were analyzed to obtain data on effectiveness using the Independent Sample T-test. Before conducting the Independent Sample T-test, a normality test were carried out. The results are as follows:

Table 5. Normality Test

	Class	Shapiro-Wilk ^a
		Sig.
Student Learning Outcomes	pre test exp	.064
	post test exp	.181
	pre test cont	.093
	post test cont	.175

The Shapiro-Wilk normality test showed that all pre-test and post-test significance values for both the experimental and control groups were above 0.05, indicating that the data were normally distributed. The following section presents the descriptive analysis to provide a clearer understanding of students' speaking performance in both the experimental and control groups:

Table 5. Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Pre-test Experiment	15	50.00	65.00	57.3333	5.30049
Post-test Experiment	15	60.00	80.00	70.0000	5.97614
Pre-test Control	15	50.00	70.00	61.6667	6.72593
Post-test Control	15	50.00	70.00	62.3333	5.93617
Valid N (listwise)	15				

The results of the descriptive analysis indicated that the mean pre-test score of the experimental group was 57.3, while the control group scored 61.6, both of which were below the minimum required standard of 70. Following the treatment, the experimental group demonstrated a substantial improvement, with the mean post-test score rising to 70.0, where as the control group showed only a slight increase to 62.3.

Table 7. Independent Sample T-test

Levene Statistic		df1	df2	Sig.
Student Learning Outcomes	Based on the Mean .021	1	28	.886
	Based on Median .000	1	28	1.000
	Based on Median and with adjusted df .000	1	26.664	1.000
	Based on the trimmed mean .017	1	28	.897

The Independent Sample T-test yielded a two-tailed significance value of 0.001, which is lower than the conventional alpha level of 0.05. This result led to the rejection of the null hypothesis (H_0), indicating a statistically significant difference between the two groups. It can thus be concluded that the use of the *Elsa Speak* application had a significantly greater effect on improving students' speaking skills compared to the use of conventional textbooks.

2. Discussion

This section presents the discussion based on the research findings. The analysis of pre-test and post-test scores showed that students in the experimental group, who were taught using the *Elsa Speak* application, experienced a significant improvement in their speaking skills. Their post-test mean score increased from 57.3 to 70.0, while the control group only showed a slight increase from 61.6 to 62.3.

Based on the results of the t-test, the significance value was less than 0.05. Therefore, the null hypothesis (H_0), which states that there is no effect of using the *Elsa Speak* application on students' speaking skills, was rejected. Conversely, the alternative hypothesis (H_a), which states that there is an effect of using the *Elsa Speak* application, was accepted. This indicates that the application had a statistically significant impact on students' speaking skill improvement.

These findings are in line with the study by Sholekhah & Fakhurriana (2023) who state that *Elsa Speak* is effective in enhancing students' English language skills, particularly in aspects such as pronunciation, fluency, and vocabulary. The results also support the idea that incorporating digital tools into English learning can provide interactive and personalized practice that contributes positively to speaking performance.

1. The Effect of Using the *Elsa Speak* Application on Speaking Skills

The analysis results showed a significant improvement in students' speaking skills after using the *Elsa Speak* application, as evidenced by the statistical test results. These findings were consistent with previous research Hasbi & Nursaputri (2024), which stated that the use of the *Elsa Speak* application in English learning could enhance students' speaking skills. However, despite the significant improvement, the results also indicated that some students still faced challenges in using the *Elsa Speak* application. These challenges were likely caused by limited internet access, a lack of technological understanding, and restricted premium features.

2. Barriers Faced in Using the *Elsa Speak* Application

Although the use of the *Elsa Speak* application provided benefits, several obstacles were identified during the study. One of the primary barriers was limited internet access, a lack of technological understanding, and restricted premium features. These challenges affected the smooth implementation of the experiment and might have prevented some students from gaining maximum benefits from the *Elsa Speak* application. Research by Rinaepi et al. (2022) also noted that the *Elsa Speak* application was often hindered by limited internet access. *Elsa Speak* requires a stable internet connection to provide real-time feedback, and these limitations impacted its effectiveness.

3. Students' Responses to the Use of the *Elsa Speak* Application

Observations conducted by the researchers showed that most students felt more motivated to learn English-speaking skills using the *Elsa Speak* application. This was supported by Anggraini et al. (2024), who stated that technology could enhance students' motivation through quick and accurate feedback. However, a small portion of students preferred traditional methods, such as direct learning with instructors using textbooks, as they felt the *Elsa Speak* application lacked direct interaction with peers or teachers.

4. Limitations of the Study and Suggestions for Future Research

This research had several limitations, including a small sample size and a short research period. For future research, it is recommended to conduct studies with a larger sample size and a longer duration to obtain more representative results. Additionally,

further research could examine the combination of the *Elsa Speak* application with other teaching methods to explore its impact on overall improvement in speaking skills.

In conclusion, this research provided valuable insights into the effectiveness of using the *Elsa Speak* application in improving students' English speaking skills in Extra classes at Al-Biruny Islamic School. Despite facing some challenges during implementation, such as limited internet access and technological understanding, the findings showed that the application had a positive impact on the development of students' speaking skills. Therefore, the use of applications like *Elsa Speak* proved to be an effective and enjoyable alternative in the English learning process, particularly for enhancing speaking abilities. This study also opens up opportunities for future research to explore the full potential of the application and address the challenges encountered.

CONCLUSION

This research was conducted to answer the question: "Is the *Elsa Speak* application effective in improving students' speaking skills in the Extra Class at Islamic Senior High School Al-Bairuny?" The research methods used included pre-tests, post-tests, and treatment, involving two groups: an experimental group that used the *Elsa Speak* application and a control group that continued using textbooks as the learning media.

The analysis results showed a significant improvement in the speaking skills of students in the experimental group after using the *Elsa Speak* application. This improvement was evident across five main aspects of speaking: pronunciation, vocabulary, grammar, fluency, and comprehension. In contrast, the control group only showed slight, non-significant improvements, indicating that conventional teaching methods were less effective in this context.

Statistically, the results of the Independent Sample T-test revealed a significant difference between the post-test scores of the two groups, with a significance value of $0.0001 < 0.05$. This indicates that the null hypothesis (H_0) was rejected and the alternative hypothesis (H_a) was accepted, concluding that the use of *Elsa Speak* had a significant positive impact on improving students' speaking skills.

The *Elsa Speak* application provides interactive features such as pronunciation correction and AI-based evaluation, offering immediate feedback to students. This allows students to independently correct their mistakes, boost their confidence, and accelerate the learning process.

The *Elsa Speak* application is recognized as one of the top tools globally for assisting individuals, particularly those learning English. It offers a variety of features designed to enhance users' speaking abilities in the English language (Widyasari & Maghfiroh, 2023).

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BIBLIOGRAPHY

- Anggraini, R., Lumbangaol, R. R., & Pakpahan, R. B. (2024). Penggunaan Aplikasi Elsa Speak Dalam Belajar Speaking Bahasa Inggris Di Smk Swasta Pelita Hamparan Perak. *Community Development Journal: Jurnal Pengabdian Masyarakat*, 5(4), 7241-7245.
- Du Boulay, B. (2016). Artificial intelligence as an effective classroom assistant. *IEEE Intelligent Systems*, 31(6), 76–81. <https://doi.org/10.1109/MIS.2016.93>
- Eriana, E. S., & Zein, D. A. (2023). *Artificial Intelligence (Ai) Penerbit Cv. Eureka Media Aksara*.
- Eslit, E. R., & Valderama, A. (2023). English Language Proficiency Skills Among High School Students: Basis for an Intervention Program. *English Learning Innovation*, 4(1), 46–57. <https://doi.org/10.22219/englie.v4i1.24759>
- Hasbi, M., & Nursaputri, E. (2024). *Using ELSA Speak Application as A Medium to Improve English*. 7(1), 91–102.
- Jamaaluddin, & Indah, S. (2021). Buku Ajar Kecerdasan Buatan. In *Umsida Press*.
- Kalalo, F. P., & Pontoh, K. C. (2020). *The Use of Artificial Intelligence (AI) in Legal Framework for International Arbitration Practices in Indonesia*. 472(Adric 2019), 6–10. <https://doi.org/10.2991/assehr.k.200917.002>
- Kholis, A. (2021). Elsa Speak App: Automatic Speech Recognition (ASR) for Supplementing English Pronunciation Skills. *Pedagogy: Journal of English Language Teaching*, 9(1), 01. <https://doi.org/10.32332/joelt.v9i1.2723>
- Mohd Razali, N., & Bee Wah, Y. (2011). Power comparisons of Shapiro-Wilk, Kolmogorov-Smirnov, Lilliefors and Anderson-Darling tests. *Journal of Statistical Modeling and Analytics*, 2(1), 13–14.
- Novawan, A., Aisyiyah, S., Miqawati, A. H., Wijayanti, F., & Indrastana, N. S. (2020). Exploring the Teachers' Perspective on Morality in an English as a Foreign Language Pedagogy. *Journal of ELT Research: The Academic Journal of Studies in English Language Teaching and Learning*, 5(1), 80–93. <https://doi.org/10.22236/JER>
- Rinaepi, Triwardani, H. R., & Azi, R. N. (2022). The effectiveness of ELSA speak application to improve pronunciation ability. *Jurnal Fakultas Keguruan & Ilmu Pendidikan*, 3(1), 28–33.
- Sholekhah, M. F., & Fakhrurriana, R. (2023). The Use of ELSA Speak as a Mobile-Assisted Language Learning (MALL) towards EFL Students Pronunciation. *JELITA: Journal of Education, Language Innovation, and Applied Linguistics*, 2(2), 93–100. <https://doi.org/10.37058/jelita.v2i2.7596>
- Rao, P. S. (2019). The importance of speaking skills in English classrooms. *Alford Council of International English & Literature Journal (ACIELJ)*, 2(2), 6-18.
- Widodo, S., Ladyani, F., Asrianto, L. O., Rusdi, Khairunnisa, Lestari, S. M. P., Wijayanti, D. R., Devriany, A., Hidayat, A., Dalfian, Nurcahyati, S., Sjahriani, T., Armi, Widya, N., & Rogayah. (2023). Metodologi Penelitian. In *Cv Science Techno Direct*.
- Widyasari, P., & Maghfiroh, A. (2023). The advantages of artificial intelligence ELSA speak application for speaking English learners in improving pronunciation skills. *The 9th ELTT*, 9(1), 286–292. <https://proceeding.unpkediri.ac.id/index.php/eltt/article/view/4248>