

The Effectiveness of Using Duolingo Application for Speaking Skill in 10th Grade of SMK Pariwisata Budaya Bedulu

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ABSTRACT

This study examined the effectiveness of the Duolingo application in improving the speaking skills of tenth-grade students at SMK Pariwisata Budaya Bedulu. The study used a quasi-experimental design involving an experimental group taught using Duolingo and a control group taught using conventional media. The participants consisted of 66 students divided into two classes. Data were collected through pre-test and post-test speaking assessments covering pronunciation, fluency, vocabulary, grammar, and comprehension. The findings showed that the experimental group improved from a mean score of 52.73 to 75.30, while the control group improved from 51.36 to 72.42. However, the Mann-Whitney U test showed a significance value of 0.238, which was higher than 0.05. Therefore, statistically there was no significant difference between the two groups, although the experimental group showed better improvement descriptively. These findings are related to Cognitive Learning Theory, which emphasizes practice and active learning. The study concludes that Duolingo can support students' speaking skills as a digital learning medium.

Keywords: *Duolingo, Speaking Skills, Cognitive Learning Theory, English as a Foreign Language (EFL), Digital Learning Media.*

How to Cite:

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INTRODUCTION

English was not only a valuable skill for communication but also an essential tool for personal and professional success in the world Ilyosovna, (2024). English is not just about the ability to communicate with native English speakers, it is the most commonly spoken second language in the world. Today, English is the main language not only in countries actively influenced by British imperialism, but also in many areas of business and culture dominated by these countries. Therefore, this language is useful and even necessary to know. Developing English speaking skills is a crucial element of language acquisition, especially in EFL environments where chances for real-life communication can be scarce. According to (Alzamil,2021), A lot of students who are learning a second language focus on speaking because it helps them say what they want to say in different scenarios.

Technology has a big effect on learning English because it can make the process easier with the help of tech tools. Erbas et al., (2021). The influence of technology on education is thoroughly illustrated and seeks to highlight how technology can assist educators in enhancing teaching methods. This study looks at some basic issues and how technology affects teaching English with technology. The study found that technology has had a big effect on how elementary school kids learn and teach English. It also showed that technology helps teachers teach better. The world of education knows that technology can change things, and it also knows that technology can make teaching better.

While technology has significantly transformed English language learning, its benefits extend beyond traditional classroom settings and into more personalized and flexible learning experiences. One of the most impactful advancements in this area is the integration of mobile technology, which provides students and educators with greater accessibility and innovative tools for language acquisition. Technology in teaching speaking develops language fluency, accuracy, and complexity according to Sosas, (2021). Using technology in teaching speaking improves students' speaking fluency and coherence, lexical resource, grammatical range and accuracy, and pronunciation. Incorporating technology into language education brings many benefits to students and educators.

Students can get better at speaking with the Duolingo app, which has structured lessons and fun practice exercises. In this example, we see how using technology in speaking lessons can help students improve their pronunciation, speed, and confidence. Additionally Nazilah, (2024), The Duolingo app helps students improve their speaking skills by providing structured lessons and enjoyable practice activities. This shows how using technology in speaking classes can support better pronunciation, fluency, and confidence.

Previous research has examined the effectiveness of using digital applications to improve students' speaking skills. One relevant study was conducted by Kurniati et al, (2025) entitled "The Effectiveness of the Duolingo Application in Improving Students' Speaking Skills." The purpose of this study was to investigate the effectiveness of the Duolingo app in improving students' speaking skills, including pronunciation, fluency, vocabulary, grammar, and comprehension. This study used a pre-experimental design involving one group with a pre-test and post-test. Participants were vocational high school students. The results showed a significant improvement in students' speaking skills after implementing the Duolingo app.

This study is important as it fills a void in prior research regarding Duolingo's efficacy in enhancing speaking skill, particularly among vocational high school students. It focuses on 10th-grade students at

SMK Pariwisata Budaya Bedulu, who need strong speaking skills for future jobs in tourism and hospitality. This makes the study different from earlier research, which mostly looked at university or junior high school students.

METHODS OF RESEARCH

This study employed a quantitative research method with a pre-experimental design. The purpose of this study was to investigate the effect of the Duolingo application on students' speaking skills at the tenth grade of SMK Pariwisata Budaya Bedulu. The study used a one-group pre-test and post-test design, in which a single group of students was assessed before and after receiving the treatment. The treatment involved the use of the Duolingo application in learning activities. Students' speaking performance was evaluated based on five aspects: pronunciation, grammar, vocabulary, fluency, and comprehension. The effectiveness of the treatment was determined by comparing the students' pre-test and post-test scores. Therefore, the one-group pre-test and post-test design was considered suitable for this study.

Research Design

This study used a quasi-experimental design with a pre-existing control group to examine the effectiveness of the Duolingo application on the speaking skills of 10th grade students at SMK Pariwisata Budaya Bedulu. A quasi-experimental study was a research design that involved the comparison of groups without random assignment, often using existing groups within educational settings. This design was selected because the students were already organized into intact classes by the school, and randomizing them into new groups would have disrupted the existing academic schedule and learning environment

Research Site and Participant

This study was conducted at SMK Pariwisata Budaya Bedulu in the academic year of 2025/2026. The participants of this study were tenth-grade students. The sample consisted of 66 student, divided into two class selected. The students participated in a series of learning activities using the Duolingo application as the treatment. Before receiving the treatment, the students were given a pre-test to measure their initial speaking skills. After the treatment, a post-test was administered to assess their speaking skills improvement. The participants were selected from an existing class because the school learning system did not allow the researcher to randomly assign students into different groups.

Data Collection and Analysis

The data were collected by using speaking tests in the form of a pre-test and a post-test. The tests were used to measure the students' speaking skills before and after the treatment. The speaking tests assessed five aspects of speaking skills, namely pronunciation, grammar, vocabulary, fluency, and comprehension. Before the treatment was administered, the students took the pre-test to determine their initial speaking ability. After the pre-test, the researcher conducted the treatment by using the Duolingo application in the teaching and learning process. Upon completion of the treatment sessions, the students took the post-test to measure the improvement in their speaking skills. The data were analyzed by using descriptive and inferential statistical analysis. Descriptive analysis was used to describe the students' pre-

test and post-test scores. Before testing the hypothesis, a normality test was conducted to determine the distribution of the data. Since the data were not normally distributed, a non-parametric statistical test was employed. The hypothesis was tested by using the Mann–Whitney U Test at a significance level of 0.05 to determine whether there was a significant difference in students’ speaking skills before and after the treatment.

RESULT AND DISCUSSION

Result

The findings of this study were obtained from the students’ Speaking Skill scores in the experimental class and the control class. The experimental class was taught by using Duolingo Application, while the control class was taught by using Coventional. The data were collected through pre-test and post-test. The pre-test was used to measure students’ initial Speaking Skill before the treatment, while the post-test was used to measure students’ Speaking Skill after the treatment. The findings are presented through descriptive statistics, normality test, homogeneity test, and hypothesis testing using Mann-Whitney U.

Table 1. Experimental Group Score

Test	N	Minimum	Maximum	Means	Standard Deviation
Pre-Test	33	40	70	52,73	9,445
Post-Test	33	60	90	75,30	9,917

Based on Table 1, the average score of 33 participant in the pre-test was 52,73, while in the post-test it increased to 75,30. In the pre-test , the minimum score was 50 and the maximum score was 70. Meanwhile , in the post-test, the minimum score was 60 and the maximum score was 90. This shows that student’ speaking skill improved after receiving the treatment using duolingo.

Table 2. Control Group Score

Test	N	Minimum	Maximum	Means	Standard Deviation
Pre-Test	33	35	65	51,36	8,685
Post-Test	33	60	90	72,42	9,852

Based on Table 2, the average score of 33 participant in the pre-test was 51,36, while in the post-test it increased to 72,42. In the pre-test , the minimum score was 35 and the maximum score was 65. Meanwhile , in the post-test, the minimum score was 60 and the maximum score was 90. This shows that student’ speaking skill improved after learning using conventional media.

Table 3. Comparison of Post-Test Between Experimental and Control Group

Test	N	Minimum	Maximum	Means	Standard Deviation
Post-Test Experimental	33	60	90	75,30	9,917
Post-Test Control	33	60	90	72,42	9,852

Based on the Table 3 of the post-test between the experimental group and the control group, it can be seen that students who learned speaking skill using Duolingo performed better than those who used conventional media. This is supported by the mean score of the experimental group, which was 75,30. However, the mean score of the control group was 72.42. That means the average score of the experimental group is higher than the control group. Therefore, the use of Duolingo is more effective in improving students' Speaking Skill.

Table 4. Normality Test of Pre-Test

Test of Normality				
Group		Shapiro-Wilk		
		Statistic	Df	Sig.
Score	Pre-Test Experiment	,909	33	,009
	Pre-Test Control	,940	32	,076

Based on the Shapiro-Wilk test results, the significance value of the pre-test data in the experimental group is 0.009, while in the control group it is 0.076. Since one of the data are significance, the values are higher than 0.05 and one data are not significance, values are lower than 0.05. it indicates that the pre-test data are not normally distributed. Therefore, it can be concluded that the pre-test data of both the experimental and control groups do not meet the assumption of normality.

Table 5. Normality of Post-Test

Test of Normality				
Group		Shapiro-Wilk		
		Statistic	Df	Sig.
Score	Post-Test Experiment	,923	33	,023
	Post-Test Control	,915	33	,013

Based on the Shapiro-Wilk test results, it shows that the significance value of the post-test data in the experimental group is 0.023, while in the control group it is 0.013. Since both data are not significant and the values are lower than 0.05, it indicates that the post-test data are not normally distributed. Therefore, it can be concluded that the post-test data of both the experimental and control groups do not meet the

assumption of normality.

Table 6. Homogeneity Pre-Test Experiment & Control Group

Test of Homogeneity of Variance					
		Levene Statistic	Df1	Df2	Sig.
score	Based on Mean	,856	1	64	,358
	Base on Median	,702	1	64	,405
	Based on Median And with adjusted df	,702	1	63,822	,405
	Based on trimmed mean	,827	1	64	,366

Based on Table 6, the significance value of the pre-test based on mean data between the experimental and control groups is 0.358. This result shows that the significance value is higher than 0.05, indicating that the data are homogeneous. Therefore, it can be concluded that the pre-test data of the experimental and control groups are homogeneous.

Table 7. Homogeneity Post-Test Experiment & Control Group

Test of Homogeneity of Variance					
		Levene Statistic	Df1	Df2	Sig.
score	Based on Mean	,008	1	64	,927
	Base on Median	,052	1	64	,820
	Based on Median And with adjusted df	,052	1	62,207	,820
	Based on trimmed mean	,013	1	64	,909

Based on Table 7, the significance value of the post-test based on mean data between the experimental and control groups is 0.927. This result shows that the significance value is higher than 0.05, indicating that the data are homogeneous. Therefore, it can be concluded that the post-test data of the experimental and control groups are homogeneous. This confirms that the variances of the two groups are equal. Whether the data are homogenous the assumptions for using parametric statistics have not been fulfilled. It causes the results of the normality test showed that the data were not normally distributed. Thus, the researcher used a non parametric test, namely the Mann-Whitney U test, to analyze the post-test scores and determine the significance of the difference between the two groups.

Table 8. Post-Test Experimental & Control Group Hypothesis Testing

Test Statistics ^a	
Mann-Whitney U	453,500
Wilcoxon W	1014,500
Z	-1,181
Asymp. Sig. (2-Tailed)	,238

The conclusion criteria for the :

1. If the significance value (Sig.) < 0.05 then H₀ is rejected
2. If the significance value (Sig.) ≥ 0.05 then H₀ is accepted

According to the results of the Mann-Whitney U test on the participants' post test scores, it was found that the value of Mann-Whitney U is 453.500 with a significance value (p) of 0.238. Since the significance value is higher than 0.05, it indicates that the null hypothesis (H₀) is accepted and the alternative hypothesis (H_a) is rejected.

Discussion

The findings of this study showed that the use of the Duolingo application contributed positively to students' speaking skills. Students who learned through Duolingo demonstrated better improvement in speaking performance compared to those who learned through conventional media. However, the result of the Mann-Whitney U test indicated that the difference between the two groups was not statistically significant. Therefore, although Duolingo supported students' speaking development, its effect was not significantly different from the conventional learning media used in this study.

This result is related to the research objective, which was to investigate the effect of Duolingo on students' speaking skills. The findings indicate that Duolingo helped students improve their speaking performance, although the improvement was not significantly different from that of the control group. The better performance of the experimental group suggests that Duolingo provided additional support for speaking practice during the learning process.

One possible explanation for this improvement is the interactive features available in Duolingo. The application provided pronunciation exercises, vocabulary practice, repetition activities, speaking challenges, and immediate feedback. These features encouraged students to practice speaking actively and independently. In addition, the implementation of Task-Based Language Teaching (TBLT) allowed students to engage in meaningful speaking activities through communicative tasks related to descriptive texts.

The findings are also consistent with Cognitive Learning Theory, which emphasizes that learning occurs through active mental processes such as practice, repetition, understanding, and feedback. Through continuous speaking practice and immediate feedback, students were able to strengthen their language knowledge and gradually improve their pronunciation, vocabulary, fluency, grammar, and comprehension. Therefore, although the statistical result was not significant, Duolingo can still be considered a useful learning medium for supporting students' speaking development.

In addition, the findings of this study are also consistent with several previous studies used as preliminary studies. The study conducted by Pudjiati, (2024) found that Duolingo improved students'

speaking skills, especially pronunciation and fluency, through interactive speaking exercises. Similarly, Budiyanto & Ridho, (2024) reported that students taught using Duolingo achieved better speaking performance compared to students taught using conventional methods. The findings are also supported by Sultan Raushan Fikri Selaparang and Syauki, (2023), who revealed that Duolingo significantly improved students' speaking performance through repeated speaking practices. Furthermore, Nazilah, (2022) explained that Duolingo created an enjoyable learning environment that increased students' confidence and participation in speaking activities. Ritonga et al. (2022) and Kusuma et al. (2024) also emphasized that Duolingo is effective in improving pronunciation, fluency, and speaking accuracy through repeated and self-paced learning activities.

This study was limited to tenth-grade students at SMK Pariwisata Budaya Bedulu and involved only 66 students from two classes. The treatment was conducted in a relatively short period with only three treatment meetings. Furthermore, this study mainly focused on students' speaking performance and did not deeply analyze psychological or motivational factors that may influence students' speaking development.

CONCLUSION

This study aimed to investigate the effect of the Duolingo application on students' speaking skills at the tenth grade of SMK Pariwisata Budaya Bedulu. The findings showed that students who learned through Duolingo demonstrated better improvement in speaking performance than those who learned through conventional media. However, the Mann-Whitney U test indicated that the difference was not statistically significant. Therefore, Duolingo can be considered a supportive medium for improving students' speaking skills. The findings suggest that teachers may use Duolingo to provide students with more opportunities for speaking practice and independent learning.

This study was limited to tenth-grade students at SMK Pariwisata Budaya Bedulu and a short treatment period. Future researchers are encouraged to involve larger samples and conduct longer treatments to obtain more comprehensive results.

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