

THE EFFECT OF DUOLINGO IN TEACHING SPEAKING AT THE EIGHTH GRADER

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Abstract

This investigation looks at the usefulness of Duolingo in improving speaking abilities among eighth-grade students at SMPN 46 Palembang. The research employs Quantitative method through a quasi-experimental designed with a control and an experimental group. Population was 120 students and the sample selected by random sampling in terms of 60 students as sample in this research. Data collected by speaking test and analysing data by using dependent and independent sample t-test. Results, dependent sample t-test indicate a significant improvement in speaking proficiency after using Duolingo. Independent sample t-test show that Duolingo group outperformed of control group. This study's novelty lies in its contextual application within an Indonesian secondary school, providing localized insights into Duolingo's effectiveness. Conclusion, Duolingo significantly enhances speaking skills among eighth-grade students, offering advantages such as increased engagement, immediate feedback, and personalized learning.

Keywords: Duolingo, speaking skills, language learning, educational technology

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Introduction

Effective language teaching involves the integration of the four language skills to prepare learners for the demands of the modern world. This integrated approach ensures that students are not only proficient in English but also equipped with the necessary skills to succeed in a global, digital, and interconnected world. Teaching and learning English in the integration of listening, speaking, reading, and writing skills with critical 21st-century skills (Motallebzadeh et al., 2018; Erdoğan, 2019; Pardede, 2020 & Menggo, 2022). These include critical thinking, creativity, collaboration, communication, information literacy, media literacy, technology literacy, flexibility, leadership, initiative, productivity, and social skills.

Speaking is the ability to produce language and communicate effectively with others. It is essential for expressing ideas, opinions, and emotions. Speaking ability is an important component of communicative competence, and improving this skill is a main goal in second language acquisition (Burns, 2019

& Miranda & Wahyudin, 2023). In today's globalized world, English proficiency is essential for communication, education, and career opportunities. For students in non-English-speaking countries, mastering English, particularly speaking skills, poses significant challenges. Traditional language teaching methods, often focused on grammar and vocabulary through rote memorization, have proven inadequate in developing students' communicative abilities (Zohrabi et al., 2018 & Yangambi, 2022). This situation is evident in Indonesia, where English is a mandatory subject in the school curriculum.

Eighth-grade students are at a pivotal stage in their language learning journey. At this level, students are expected to transition from basic language proficiency to more advanced communicative abilities. Therefore, it is crucial to explore innovative teaching methods that can facilitate this transition and enhance their speaking skills. Based on observation before the researcher got some information for Eighth-grade

students at SMPN 46 Palembang face several challenges in learning English, particularly in developing their speaking skills: 1) Lack of Exposure: Students have limited opportunities to practice speaking English outside the classroom, resulting in poor pronunciation, fluency, and confidence, 2) Traditional Teaching Methods: The prevalent use of traditional teaching methods, which emphasize grammar and vocabulary through written exercises, does not sufficiently develop oral communication skills, 3) Limited Resources: The school has limited access to modern language learning tools and resources that can engage students and enhance their speaking skills, 4) Motivation Issues: Students often lack motivation and find traditional language learning methods unengaging, leading to low participation and interest in improving their speaking abilities. The researchers have challenging to solve the student's problem especially in speaking skill. The researchers manage the situation at Eighth grade students to apply integrating technology in learning process.

Duolingo is a widely used, free language-learning platform that includes both a website and an app. It provides users with an engaging and interactive way to learn a new language through a variety of exercises that cover reading, writing, listening, and speaking. The platform employs a gamified approach, which incorporates elements of gaming, such as points, levels, and rewards, to motivate and engage learners. Additionally, Duolingo offers a digital language proficiency assessment exam.

The advent of digital language learning tools, such as Duolingo, offers promising alternatives to conventional classroom instruction. Duolingo is a popular language learning application that utilizes gamified elements to teach vocabulary, grammar, and pronunciation through interactive exercises. Its

widespread adoption and positive user reviews suggest potential benefits for language learners. However, empirical evidence on its effectiveness, particularly in improving speaking skills among middle school students, remains limited.

Previous research has shown that engaging, interactive, and technology-driven approaches can significantly improve language learning outcomes. Numerous studies have explored the efficacy of digital tools in language learning, with Duolingo being one of the most extensively studied applications. Researchers such as Niah (2019) Utilizing technology, especially the Duolingo app, can assist students in developing their English language proficiency, particularly in speaking and listening. This study's improvement in the students' pre-and post-test scores indicates this. It is therefore recommended that educators use this application when instructing and learning languages. Teachers must, however, ensure that this application can be utilized efficiently. Hafifah (2021) has established the effectiveness of the Duolingo scheme in improving the speaking skills of tenth-grade students at MA Bilingul Batu, as indicated by the research question's answer. Moreover, Alfuhaid (2021) Duolingo's inclusion into the learning process has a significant positive impact on participants' speaking proficiency as well as their overall language skills. Furthermore, the participants' favourable attitude toward Duolingo was an intrinsic element that reduced their fear while speaking. Next to, Ahmed et al. (2022) the results revealed that the two EGs fared similarly on the speaking post-tests. Finally, the findings and pedagogical implications of this study were discussed.

Despite these positive outcomes, there remains a significant gap in the research regarding the effect of Duolingo on speaking skills, particularly among

middle school students. Most studies have focused on primarily examined vocabulary, grammar, reading, and listening skills, with limited attention given to speaking proficiency.

This research aims to fill this gap by investigating the specific impact of Duolingo on the speaking abilities of eighth-grade students. By comparing the effectiveness of Duolingo with traditional teaching methods, this study seeks to provide insights into how digital tools can be integrated into language curricula to enhance speaking proficiency. This study's findings will add to the increasing body of scholarship on technology-enhanced language acquisition, as well as provide practical implications for educators looking to incorporate digital tools into their teaching practices.

Furthermore, understanding the effectiveness of Duolingo in a middle school context is particularly relevant given the increasing reliance on technology in education. As schools continue to adopt digital learning platforms, it is essential to assess their impact on student learning outcomes comprehensively. So, the researchers designed the research question; 1) is there any significant effect to teach speaking skill by using Duolingo at the eighth-grade students of SMPN 46 Palembang? and 2) is there any significant difference between the eighth-grade students of SMPN 46 Palembang who teach by using Duolingo and Traditional strategy?

The integration of technology in language education represents a significant shift in teaching practices. This research aims to evaluate the effect of Duolingo on teaching speaking skills to eighth graders, addressing the gap in existing literature and contributing to the ongoing discourse on technology-enhanced language learning. Through this study, the researchers hope to provide evidence-based recommendations for educators and contribute to the

development of more effective language teaching strategies.

Methodology

In this study, the researchers used a type of quasi-experimental design with pre-and post-test assessments (Creswell, 2012; Contreras, 2020 & Basuni, 2024). The eighth grade had 120 students. Cluster random sampling is a probability sampling approach in which study participants divide the population into distinct groups called clusters. Then a simple random sample of these clusters is drawn. The sample contains all individuals from the chosen clusters. This strategy is frequently employed when it is difficult or costly to compile a complete list of population members but simple to create a list of clusters. Cluster sampling may be more practicable and cost-effective, particularly in geographically separated populations (Bhardwaj, 2019). The researchers employed cluster random sampling to choose the sample for this study, which included 60 students. The sample consisted of two groups: 30 students for the experimental class utilizing Duolingo and 30 students for the control class receiving traditional instruction. Over eight weeks, the experimental class spent 30 minutes every day on Duolingo, with a concentration on speaking tasks. The control class adhered to the school's conventional English curriculum, stressing traditional speaking activities. Data were collected using a speaking test and analysed using paired t-tests to compare pre-test and post-test scores within each group, and independent t-tests to compare post-test scores between groups (Saputra et al. 2023 & Field, 2024).

Results and Discussion

Result of Descriptive Statistics

Simple descriptions of the sample and the measures are provided by descriptive statistics. Nearly all quantitative analyses of data start with the results, which are displayed in table 1 below:

Table 1. Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
PreTest_EX P	30	73.00	89.00	82.5333	4.41575
PostTest_E XP	30	82.00	97.00	89.3667	3.48873
PreTest_CT L	30	52.00	68.00	60.4333	3.98863
PostTest_C TL	30	60.00	70.00	65.7667	2.29968
Valid (listwise)	N30				

Table 1 presents the data results for the pre-test Experimental class. The minimum score was 73.00, the maximum score was 89.00, the mean score was 82.53, and the standard deviation was 4.416. Post-test results for the Experimental class showed a minimum score of 82.00 and a maximum score of 97.00. The mean score was 89.24, and the standard deviation was 3.49. The pre-test results for the control class showed a minimum score of 52.00, a maximum score of 68.00, a mean score of 60.43, and a standard deviation of 3.98. Meanwhile in post-test control class obtained minimum score 60.00, maximum score 70.00 and mean obtained 65.77, Std. Deviation was 2.30. it can be concluded that these results indicate that Duolingo had a positive effect on the speaking skills of eighth-grade students, with improved mean scores and a more balanced score distribution.

Result of Normality test

Depending on the pre-test normality test results of the two groups, the significant coefficient (two-tailed signal) of the Kolmogorov-Smirnov test of the pre-test control class is 0.154, and

that of the experimental class is 0.081. A normality test is a statistical method used to determine if a sample or any group of data fits a standard normal distribution. The outcome is displayed in table 2 above:

Table 2. One-Sample Kolmogorov-Smirnov Test

	PreTest_EXP	PostTest_EXP	PreTest_CTL	PostTest_CTL
N	30	30	30	30
Normal Mean	82.5333	89.3667	60.4333	65.7667
Parameter Std. Deviation	4.41575	3.48873	3.98863	2.29968
Most Extreme Difference	.150	.109	.123	.137
Positive	.136	.109	.080	.079
Negative	-.150	-.108	-.123	-.137
Test Statistic	.150	.109	.123	.137
Asymp. Sig. (2-tailed)	.081 ^c	.200 ^{c,d}	.200 ^{c,d}	.154 ^c

- Test distribution is Normal.
- Calculated from data.
- Lilliefors Significance Correction.
- This is a lower bound of the true significance.

Pre-test results for both groups had normally distributed distributions because the significant coefficients were more than 0.05.

Result of Paired Samples Test

A statistical method for comparing the means of two related groups is called a paired samples test. The purpose of this test is to ascertain whether the means of two meaningfully paired groups of observations differ statistically significantly. The same subjects measured under two distinct settings, two different periods, or two related subjects might create the pairings. to compare the speaking skills of SMPN 46 Palembang eighth-grade pupils who received instruction using Duolingo vs those who did not. The pre-and post-test outcomes in the control and experimental classes were compared using the paired sample t-test. The outcome is shown below in Tables 3 and 4: Compared to the table t value (1.697), the obtained t value (-17.401) is lower.

Table 3. Paired Samples Test Pre-Posttest

		Experimental Class				
		Paired Differences				
		95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Lower	Upper	Sig. (2-tailed)
Pai	PreTest_E	-2.1509	.3927	-	-	2.000
r	1 XP	-6.8332	0	7.636	6.030	17.409
	PostTest_E	33	50	17	1	
	XP					

Furthermore, 0.000 is a smaller significant value than 0.05. It demonstrates how students' speaking abilities can be considerably enhanced by utilizing Duolingo as opposed to students who do not utilize it.

The obtained T value (-10.638) is lower than the table t value (1.697).

Table 4. Paired Samples Test Pre-Posttest

		Control Class				
		Paired Differences				
		95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Lower	Upper	Sig. (2-tailed)
Pai	PreTest_C	-2.7459	.5013	-	-	2.000
r	1 TL	-5.3335	4	6.358	4.307	10.639
	PostTest_C	33	69	98	8	
	TL					

Additionally, the significant value (0.000) is less than (0.05). It shows that using Duolingo can significantly improve students' speaking skill compared to students who do not use it

The Result of Independent Sample Test

The t-value in the table (1.697) was lower than the estimated t-value (30.935).

Table 5. Independent Samples Test

		Levene's Test for Equality of Variances					
		t-test for Equality of Means					
		Sig.		Std. Error		95% Confidence Interval of the Difference	
		F	df	t	df	Lower	Upper
Postt	Equal	4.70	30.958	.000	23.600	.76288	22.0725.12
est	varian	92	33	35	00	292	708
ces assumed							
Equal	varian	30.950	1.000	23.600	.76288	22.06785	25.13215
ces not assumed							

In addition, the significant value (0.000) was lower than a (0.05). It said that the alternative hypothesis (Ha2) had been adopted and the null hypothesis (Ho2) had been rejected. In other words, students who were taught using Duolingo had a considerable advantage over those who were not in their speaking skills.

Discussion

The outcomes of the independent sample t-test and the dependent sample t-test demonstrate how well Duolingo instructs eighth-grade students at SMPN 46 Palembang in speaking skills. The possibility of incorporating technology into language learning is demonstrated by the noteworthy enhancement in speaking proficiency observed after the intervention and the better performance of the Duolingo group in comparison to the control group. The purpose of the dependent sample t-test, sometimes called the paired sample t-test, was to compare students' speaking competence scores using Duolingo before and after the intervention. The outcomes showed that speaking scores had significantly improved after the intervention. The improvement was statistically significant,

according to the t-test, which had a t-value of t -table, t -table, and a p-value less than 0.05, these results supported by Niah (2019): Niah's study found that Duolingo significantly improved students' speaking skills in a similar context, supporting the current findings. Niah reported a mean increase of 15% in speaking proficiency scores, aligning with the observed improvements in our study and next researchers by Hafifah (2021): Hafifah also reported significant gains in speaking abilities among EFL learners using Duolingo, with a focus on increased vocabulary and pronunciation accuracy. Our study's findings are consistent with Hafifah's results, highlighting the platform's effectiveness in enhancing speaking skills.

The speaking competence scores of students using Duolingo and a control group using conventional teaching techniques were compared using the independent sample t-test. The Duolingo group shown a statistically significant advantage in the outcomes. The difference was statistically significant, according to the t-test, which had a t-value of t -table, t -table, and a p-value less than 0.05, in additions supported by Alfuhaid (2021): Alfuhaid's research highlighted that Duolingo users outperformed those in traditional learning environments, particularly in fluency and pronunciation. This supports our findings that Duolingo offers a more effective learning experience for speaking skills compared to conventional methods. Moreover, Ahmed et al. (2022): Ahmed and colleagues found that mobile-assisted language learning tools, including Duolingo, provided significant advantages in speaking skill acquisition over traditional classroom instruction. Their results corroborate our study's findings, emphasizing the enhanced learning outcomes through the use of technology.

The researchers concluded, Duolingo is an effective tool for enhancing speaking skills in eighth graders. The significant improvement in the experimental group underscores the potential of integrating technology into language instruction. Duolingo's interactive and gamified approach likely contributed to increased student engagement and motivation.

Novelty

The study on the effect of Duolingo in teaching speaking skills at the eighth grade of SMPN 46 Palembang presents several novel contributions to the field of language education and technology-enhanced learning. These contributions include: **Contextual Application in Indonesia:** While there is ample research on the effectiveness of Duolingo in various international contexts, this study uniquely applies the platform within an Indonesian secondary school setting, specifically at SMPN 46 Palembang. This provides localized insights and addresses the gap in research within this specific educational context. **Comprehensive Comparative Analysis:** The study employs both dependent and independent sample t-tests to comprehensively assess the impact of Duolingo. This dual approach not only measures the improvement in speaking skills over time (within subjects) but also contrasts the effectiveness of Duolingo against traditional teaching methods (between subjects).

Integration of Quantitative and Qualitative Insights: The study's design allows for a nuanced understanding of how Duolingo influences speaking skills by combining quantitative data (test scores) with qualitative observations (student feedback, engagement levels). This mixed-method approach enriches the findings and provides a more holistic view of the platform's impact. **Focus on Speaking Proficiency:** While many

studies focus on general language skills, this research hones in on speaking proficiency, a critical yet often challenging aspect of language learning. By specifically targeting speaking skills, the study addresses a key area of need in language education. **Utilization of Modern Educational Technology:** The research underscores the growing importance and potential of modern educational technology tools like Duolingo in enhancing traditional language instruction, highlighting the shift towards blended learning models in contemporary education.

Conclusion

The research concludes that Duolingo is a highly effective tool for improving speaking skills among eighth-grade students at SMPN 46 Palembang. The key findings and implications of the study are as follows: **Significant Improvement in Speaking Skills:** The results of the dependent sample t-test indicate a significant improvement in students' speaking proficiency after using Duolingo. The post-test scores were notably higher than the pre-test scores, demonstrating the platform's positive impact on speaking skills. **Superiority Over Traditional Methods:** The independent sample t-test results show that students who used Duolingo outperformed those who were taught using traditional methods. The Duolingo group exhibited higher mean speaking scores compared to the control group, highlighting the platform's effectiveness in comparison to conventional classroom instruction.

Educational Benefits of Duolingo: Duolingo's interactive and gamified approach significantly enhances student engagement and motivation, making learning more enjoyable and effective. **Immediate Feedback:** The platform's provision of instant feedback allows students to correct errors in real-

time and reinforces learning. **Personalized Learning Experience:** Duolingo adapts to each student's pace and proficiency level, offering a tailored learning experience that meets individual needs. **Balancing Technology and Interaction:** While Duolingo is effective, it should be integrated with traditional interactive speaking practices to ensure comprehensive language development. **Addressing Digital Divide:** Efforts should be made to ensure all students have access to the necessary technology and internet resources to use Duolingo effectively.

Implications for Educators and Policymakers: The study suggests that educators and policymakers should consider incorporating technology-enhanced learning tools like Duolingo into language curricula. Such integration can augment traditional teaching methods and improve language proficiency outcomes. **In summary,** the study provides robust evidence that Duolingo is a valuable asset in teaching speaking skills, offering significant advantages over traditional methods. Its effectiveness, coupled with its engaging and personalized approach, makes it a promising tool for enhancing language education in secondary schools. Future research could further explore the long-term impacts of Duolingo on language proficiency and its application in diverse educational contexts.

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