



The Effect of Using Duolingo on Students' Pronunciation and Fluency at SMA Negeri 5 Bungo

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Abstract

This research is a pre-experimental design that aims to see the effect of using Duolingo on the students' pronunciation and fluency of SMA Negeri 5 Bungo students. The population of this research was the 10th grade students of SMA Negeri 5 Bungo which amounted to 75 students and the sample of this study was the 10th grade Mipa class which amounted to 24 students selected through the lottery method. The instrument used was reading aloud test in the form of dialog. This research lasted for 8 weeks, in which students were asked to do a pretest in the first week, then treatment for 6 weeks and finally posttest. Data were analyzed using IBM SPSS 26 by conducting hypothesis testing using paired t-test. The results of this study showed that the sum of the mean scores of the pre-test was 58.50 and the posttest was 77.88. The results of the paired t-test calculation show that the sig value (2-tailed) < 0.05 , which means there is a significant change in students' pronunciation and fluency after using the Duolingo application.

Keywords: Speaking Ability, Duolingo Application, Pronunciation and Fluency

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INTRODUCTION

Proficiency in English communication holds significant importance in various contexts, including daily interactions, business transactions, and academic settings. Effective communication in English necessitates the skill to adapt to different levels of formality. A proficient English speaker is characterized by their capability to convey messages clearly without causing any misunderstandings. This proficiency is contingent upon various speaking aspects, such as pronunciation and fluency.

Nirwana et al (2020) assert that pronunciation serves as the foundation of effective speaking, as it enhances the naturalness and comprehensibility of communication. Gilakjani and Ahmadi (2011) asserted that pronunciation encompasses not only individual vocal sounds but also broader elements such as intonation, rhythm, and stress patterns. These components contribute to clear

articulation, facilitating the expression of meaning and emotions while minimizing misinterpretations.

On the other hand, fluency, as defined by Kusumawardani and Mardiyani (2018) refers to the ability to speak spontaneously with minimal pauses. Louma (2004) further underscores that fluency encompasses maintaining a consistent speech rate, ensuring that utterances flow naturally without being excessively rapid or sluggish. It is evident that these two facets, pronunciation and fluency, significantly impact students' speaking proficiency.

The neglect of pronunciation in English learning at school is a common issue, attributed to inadequate teaching methods and limited practice time. This deficiency results in students' weak speaking ability in terms of pronunciation and fluency, as evidenced by various researchers (Harmer (2001), Setter (2008), Gilakjani, 2012). This challenge is particularly prevalent among students at Senior High School 5 Bungo, as observed during *Praktek Lapangan Kependidikan (PLK)*. Several factors contribute to the subpar speaking abilities of students at this institution. Primarily, students struggle due to English not being their native language. Furthermore, a lack of interest in learning English is evident, as students often display disengagement during lessons. The absence of interesting learning support media exacerbates this problem, as teachers generally rely on textbooks.

The utilization of media in the educational process is crucial, extending beyond traditional textbooks. Sari and Margana (2019) emphasized the significant role and impact of learning media in attaining educational objectives, particularly in supporting language acquisition. Various forms of media, such as audio and audio-visual media, serve as valuable tools to engage students, enhance pronunciation, and improve fluency. Juniardi (2023) defined audio media as auditory-based media, including radio, tape recorders, and CD-DVDs, which do not require visual elements. Conversely, audio-visual media, which combines auditory and visual components, such as movies and applications, are deemed more captivating and effective.

In response to the identified issues, the researcher implemented the Duolingo application as a learning supporting media to assist high school students in enhancing their pronunciation and fluency. Duolingo offers various engaging features, including a microphone for correcting pronunciation, vocabulary expansion, guidance on the pronunciation of words, and exercises focusing on English sounds like vowels, consonants, and similar sounds in different words. These features are designed to enhance the effectiveness of pronunciation and fluency improvement for SMA Negeri 5 Bungo. By using Duolingo, students can practice and familiarize themselves with pronouncing new and familiar vocabulary, thereby boosting their confidence and fluency.

RESEARCH METHOD

Research design

This research used pre-experimental design with quantitative method. According to Creswell & Creswell (2018), in pre-experimental design, one group was studied by the researcher, who then conducted a measure during the experimental period. Researchers gave two tests, namely pre-test and post-test, then compared the scores using SPSS.

Population and Sample

The population in this study were 10th grade students of SMA Negeri 5 Bungo with a total of 75 students. to determine the sample, researchers used cluster sampling with the lottery method. According to Bhardwaj (2019), in cluster sampling, population segments are considered as clusters and randomly selected to be sampled. The sample selected in this study was the 10th grade Mipa class with a total of 24 students.

Instrumentation

This research used read aloud as an instrument to measure students' speaking ability. Then, the results of the pre-test and post-test were compared. The assessment on this test focuses on pronunciation and fluency, using the assessment rubric developed by Brown (2019).

The research took place over eight weeks. In the first week students were given a pre-test. In the following week students were given treatment for six weeks. In the last week students were given a post-test to see the effect of using Duolingo on students' speaking ability, especially pronunciation and fluency.

Analyzing data in this study using IBM SPSS 26. Normality and homogeneity tests were carried out which focused on Shapiro Wilk on the grounds that the sample was < 100 . Then, researchers conducted a hypothesis test using Paired T-Test.

Validity according to Gay, et al., (2012), is the degree to which an exam can measure precisely what it is intended to assess, enabling precise score interpretation. One of the UNP English Department instructors was asked to assess the content's appropriateness and validity in order to determine the instrument's validity.

According to Gay, et al., (2012), reliability is the extent to which an assessment evaluates the subject matter it is supposed to measure consistently. Test-retest methodology was employed in this study as a means of gauging the reliability of the research instrument. Researcher used the 10th Ips 2 class as a non-sample in order to assess the instrument's dependability. At a predetermined time, the test was given twice. Two tests were run, separated by a certain amount of time. Next, using SPSS, the test-rest results were examined to determine the connection between the initial test and the follow-up test. The SPSS computation results indicate a correlation between test and retest scores, indicating the instrument's reliability.

RESULT AND DISCUSSION

The findings of this research are to show and explain the hypothesis test. The findings obtained from The Effect of using Duolingo on students' speaking ability at SMA Negeri 5 Bungo from pre-test and post-test in the form of conversation with the title Talking About an Idol by using IBM *SPSS Statistics 26 Software*. The findings showed that Hypothesis null was rejected and Hypothesis alternative was accepted.

Research Finding

1. Pre-test and Post-test result

After the last test was conducted by students, the researcher then inputted the data of the results before and after students used Duolingo into SPSS. It means that the researcher sees the comparison of scores between the pre-test and post-test. The

final results determine the effect of using Duolingo on students' pronunciation and fluency.

Sample	Pre-test	Post-test
Student 1	63	75
Student 2	50	63
Student 3	50	88
Student 4	63	88
Student 5	75	88
Student 6	50	75
Student 7	50	75
Student 8	75	100
Student 9	63	75
Student 10	63	88
Student 11	50	63
Student 12	63	100
Student 13	75	100
Student 14	63	88
Student 15	50	63
Student 16	50	75
Student 17	50	88
Student 18	75	88
Student 19	63	88
Student 20	50	63
Student 21	50	50
Student 22	50	63
Student 23	50	50
Student 24	63	75
Total	1404	1869

2. Data Description

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
hasil pre	24	50	75	58.50	9.596
hasil post	24	50	100	77.88	14.742
Valid N (listwise)	24				

Based on the table above, there are 24 students as samples in this research. In the pre-test the minimum student score was 50 and the maximum score was 75 with an average score of 58.50. Meanwhile in the post-test the minimum student score was 50 and the maximum score was 100 with an average score of 77.88. Then, there is an improvement in scores between the pre-test and post-test with the mean score of the post-test higher than the mean score of the pre-test.

3. Normality Test

Tests of Normality						
	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
PRE	.156	24	.138	.950	24	.265
POST	.205	24	.010	.918	24	.052

a. Lilliefors Significance Correction

Data obtained using SPSS can be declared normally distributed if the sig value is > 0.05 . If the value < 0.05 then the data is declared to be abnormally distributed. Based on the table above, using on Shapiro Wilk, the sig value of the pre-test and post-test values is > 0.05 , which means that the data is normally distributed.

4. Homogeneity Test

Test of Homogeneity of Variances					
		Levene Statistic	df1	df2	Sig.
Pre-testpost-test	Based on Mean	1.891	4	42	.130
	Based on Median	.706	4	42	.593
	Based on Median and with adjusted df	.706	4	29.783	.594
	Based on trimmed mean	1.710	4	42	.166

Data is declared homogeneous using SPSS if the mean value > 0.05 and abnormal if the mean value < 0.05 . Based on the table above proves that the mean value > 0.05 , then the data is homogeneously distributed.

5. Hypothesis Test

Paired Samples Test									
		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	pre-test - post-test	-19.375	10.400	2.123	-23.766	-14.984	-9.127	23	.000

Based on the table above, it is known that the sig value. (2-tailed) is 0.000, in SPSS calculations if the sig value. (2-tailed) < 0.05 , then H_0 is rejected and H_a is accepted. It means Duolingo has a positive impact on students' pronunciation and fluency at SMA Negeri 5 Bungo.

DISCUSSION

The purpose of this research was to determine how Duolingo use affected the pronunciation and fluency of the students' at SMA Negeri 5 Bungo. There were two phases to the test that the researcher administered to the sample: the pre-test and the post-test. After the students received particular attention and used Duolingo for six weeks, the post-test was administered.

The data analysis table, which indicates that there are notable changes in student's pronunciation and fluency after using Duolingo, can be used to infer the study's findings. Based on Paired T-Test data analysis with an established 2-tailed sig value of 0.000, H_0 is rejected and H_a is accepted in SPSS computations if the 2-tailed sig value is less than 0.05. This indicates that there has been a notable shift in the impact of Duolingo on students' fluency and pronunciation at SMA Negeri 5 Bungo. It is said that Duolingo can enhance students' speaking abilities.

These findings are in line with previous research that utilized Duolingo to enhance students' speaking ability, encompassing pronunciation and fluency. Hafifah (2019) conducted a study titled Effectiveness of Duolingo in Improving Students' Speaking Skill at Madrasah Aliyah Bilingual Batu School Year 2019/2020, analysis revealed that the results calculated t-value of are surpasses the critical t-value at a significance level of 0.05 (5%). The research outcomes indicate a significant improvement in speaking abilities, particularly in pronunciation and fluency, at MA Bilingual Batu during the academic 2019–2020 year.

In a recent research conducted by Kusuma et al. (2024), the efficacy of Duolingo as a technology-driven instructional tool was examined. The research aimed to assess the influence of utilizing the Duolingo application on the enhancement of English-speaking skills. To measure the students' speaking proficiency before and after using Duolingo, a paired dialog speaking test was administered by the researchers. The Wilcoxon Signed Rank Test was employed to analyze the collected data. The findings indicated a significant improvement in

students' speaking abilities after incorporating Duolingo as a learning aid. Furthermore, the study demonstrated that Duolingo was beneficial in improving various aspects of speaking skills, including vocabulary, pronunciation, accuracy, and fluency. In conclusion, the study underscores the effectiveness of Duolingo as a technology-based educational tool for enhancing English speaking proficiency.

Lastly, the research conducted by Niah & Pahmi (2019) titled Utilization of Duolingo to Improve the Speaking and Listening Skills of Junior High School Students in Pekanbaru of the Duolingo program in enhancing students' speaking and listening abilities. The research findings indicated that the speaking ability of students in class VIII.1 showed a significant improvement from 2.042 to 5.5, while their listening ability increased from 2.042 to 4.48. Similarly, students in class VIII.2 demonstrated enhanced speaking ability from 2.052 to 5.17 and improved listening ability from 2.042 to 5.10. The results, where the "t" table value exceeded the "t" value for both speaking and listening abilities, suggest that the utilization of Duolingo can effectively enhance the listening skills of junior high school students, as well as improve their speaking abilities, including fluency and pronunciation.

CONCLUSION

This research found a significant improvement in students' pronunciation and fluency after using Duolingo. This also shows that it is important to use learning support media for students. In addition to helping students improve their English language skills, it can also increase their learning motivation.

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