THE ROLE OF DUOLINGO APPLICATION TO IMPROVE STUDENTS' VOCABULARY MASTERY AT JUNIOR HIGH SCHOOL IN ACADEMIC YEAR 2023/2024

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ABSTRACT

Learning is essential; we must comprehend technology in today's fast-paced technological society. Regarding education, it is very simple for us to learn a new language using our cell phones. Duolingo is a language-learning program that allows students to learn English through translation, comparing, dictation, fill-in-the-blank, speaking, listening, multiple choice, and competition. Therefore, this research analyses the implementation of Duolingo in language learning and its potential for facilitating the full development of the English language. The study discovered that using the Duolingo application was highly successful at strengthening students' interest in learning English: two classes, each containing 30 students who participated. Two groups, the experimental class and the control class, are involved in this investigation. Based on this study, Duolingo is an app where any newcomer can begin learning an additional language because it encourages them to keep learning.

Keywords: Duolingo application; Vocabulary, Educational Language Tool

ABSTRAK

Belajar adalah hal yang esensial; dalam masyarakat teknologi yang serba cepat saat ini, kita perlu memahami teknologi. Dalam hal pendidikan, sangat mudah bagi kita untuk belajar bahasa baru menggunakan ponsel kita. Duolingo adalah program pembelajaran bahasa yang memungkinkan siswa untuk belajar bahasa Inggris melalui kegiatan seperti menerjemahkan, membandingkan, mendikte, mengisi bagian yang kosong, berbicara, mendengarkan, pilihan ganda, dan kompetisi. Oleh karena itu, penelitian ini menganalisis implementasi Duolingo dalam pembelajaran bahasa dan potensinya untuk memfasilitasi pengembangan bahasa Inggris secara penuh. Penelitian ini menemukan bahwa penggunaan aplikasi Duolingo sangat berhasil dalam memperkuat minat siswa untuk belajar bahasa Inggris. Dua kelas dan masing-masing berisi 30 siswa yang berpartisipasi. Dua kelompok, yaitu kelas eksperimen dan kelas kontrol, dilibatkan dalam penelitian ini. Berdasarkan penelitian ini, Duolingo adalah aplikasi di mana setiap pendatang baru dapat mulai belajar bahasa tambahan karena aplikasi ini mendorong mereka untuk terus belajar.

Kata Kunci: Aplikasi Duolingo, Kosa kata, Perangkat Bahasa pendidikan

A. Introduction

English is the primary second language of study and instruction in educational institutions throughout Indonesia; English is an essential foreign language to be taught in

Indonesia, even though it is not widely used in society, is not in use as a means of communication in formal institutions such as government, the judiciary, or the educational system, under the country's language laws, it has no special status (Simatupang, 1999: 64). For students who want to pursue further education abroad or who need it for jobs, around the world, English is often taught as a foreign language. Reality is that numerous reasons contribute to the failure of learning objectives in English language classes, starting with students' reluctance to learn English because they understand it to be difficult, their lack of motivation, the fact that teachers are less qualified to teach the material, their use of vocabulary that they perceive to be difficult, learning that places a heavy focus on theory than practice, as well as the lack of techniques apps and many more. Some students in Indonesia are interested in studying English, but they don't know where to start because English is not their first language. Besides, the teacher only discusses theory in class without any activities like games or other distractions; pupils become quickly disinterested and lose focus in addition to their lack of motivation. It is recommended that teachers use various teaching methods and media to address this issue so that students can enjoy studying English, particularly when it comes to mastering vocabulary. Furthermore, we can learn through our phones, and most of this generation have social media already.

Vocabulary is the comprehension of words and their meanings. Understanding the definitions of words and how they relate to one another is called vocabulary. It is mainly concerned with the types of sentences that children must comprehend. To read more complex texts (Kamil & Hiebert, 2005). It is something that grows and becomes more profound with time. Vocabulary is essential for language proficiency and is a component of good speaking, listening, reading, and writing. Vocabulary is a prominent feature of language and one of the main areas that applied linguistics has focused on, according to Richards (2002). Lotfi Ghazal (2007) views words as the essential components that create a second language comprehension, so it is

hard to comprehend what we'll be learning if learners don't understand the words' meanings or lack sufficient vocabulary. One of the most crucial aspects of learning a new language is vocabulary; in other words, learners can't use the language without knowing the meaning of the language. It can be inferred that having a strong vocabulary is essential to mastering any language skill.

Launched in November 2011, the free language-learning program Luis von Ahn and Severin Hacker founded *Duolingo. Duolingo* is a language-learning tool that helps people learn new languages. The program employs various learning strategies, including gamification, interactive courses, and linguistic difficulties, and it provides lessons in over 40 languages. *Duolingo's* language education approach, founded on "gamification," employs game-like aspects to make language learning more enjoyable and exciting. Users can gain points, level up, and compete with others as they learn new languages. The program includes several language activities and seminars, including reading, writing, speaking, and listening. These exercises are designed to improve users' pronunciation, grammar, and vocabulary. *Duolingo*, in general, is a well-known language-learning tool that attempts to boost users' accessibility and excitement for language learning. As a result, this application is an excellent tool for learning a new language, particularly for expanding our vocabulary

B. Methodology

The researchers used a quantitative method in this research. In quantitative analysis, the theory is applied deductively and placed near the planned research's beginning; the researchers prefer to use a quasi–experimental study because it uses the existing organized group sample. The researchers believe that a quasi-experimental study is more suitable to use a quasi-experimental study in this research because

The researchers believe that a quasi-experimental study is more convenient for this study. Two groups are involved in this research: the experimental and control classes. The researchers will administer the same pre-test to the other groups before treatment. Both groups will receive the identical post-test at the lesson's conclusion to determine the

extent of significant adjustments after treatment. This study focused on 8th-grade students of SMPN 1 Welahan, Jepara, during the academic year 2023/2024. The researchers assigned VIII E as the experimental group, while the control group comprised 30 students in VIII F. The total sample size for this study was 60 students.

C. Finding And Discussion

The researchers wanted to know if there was a significant difference before students used the *Duolingo* application as a medium and after students used the *Duolingo* application as a medium to enhance vocabulary students in the research findings.

1. Students' vocabulary master mastery before and after being taught with the Duolingo application

Table 1 Descriptive SPSS

	N	Minimum	Maximum	Mean	Std. Deviation
Pre-Test Experiment	30	10	60	36.33	12.172
Post-Test Experiment	30	65	90	81.50	6.842
Pre-Test Control	30	20	60	41.33	11.442
Post-Test Control	30	35	85	56.17	12.844
Valid N (listwise)	30				

A histogram representing the mean and standard deviation of the experimental class's pre-test scores is shown below: the average score among practical students was 36.33, with a lowest grade of 10 and an optimal grade of 60. The pre-test scores for the control class resulted in the lowest result of 20 and a maximum result of 60, and the mean rate of the pre-test was 41.33 from 30 students.

After the experimental group got treatment, two groups received the post-test procedure.

The experimental group had a median test score of 81.50, with a relatively low result of 65 and a relatively high grade of 90. The post-test in the control group improved as well, with an average score of 56.17, with 35 being the lowest and 85 being the best.

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Considering the experimental group's post-test average has been higher than the control group, it is possible to conclude that the intervention was beneficial because the practical group grade was greater than the control group, and the intervention was considered successful.

To see if using the *Duolingo* application boosts students' vocabulary, we must evaluate how well the method works. Various techniques are employed to test this theory. We can perform the study's analysis after we obtain all of the necessary data. To carry out an analysis, the researcher evaluates the ultimate results of the experimental group to those of the control group.

2. To investigate the effectiveness of used *Duolingo* application in improving students' vocabulary.

   To evaluate the effectiveness of a procedure applied to a sample, the researchers used the Wilcoxon test; in *Duolingo* application, the students can learn a word and phrases in order to increase their vocabulary The Wilcoxon test is a method for assessing the efficacy of the experimental group before and after treatment. Students' vocabulary understanding increases between pre-test and post-test, if Asymp.Sig is less than 0.05, Duolingo has a significant impact on vocabulary comprehending in the experimental class.

Table 2 The Wilcoxon test

		N	Mean Rank	Sum of Ranks
Post-Test Pre-Test Exp group	Negative Ranks	0[a]	.00	.00
	Positive Ranks	30[b]	15.50	465.00
	Ties	0[c]		
	Total	30		
Post-Test Pre-Test Control group	Negative Ranks	2[d]	4.00	8.00
	Positive ranks	25[e]	14.80	370.00
	Ties	3[f]		
	Total	30		

We can conclude that no students' grades decreased in the experimental class, 30 children's grades boosted and no tests taken by pupils in the experimental class remained unchanged from the pre-test. We can see that in the control class, two students decreased, three students did not improve, and the other remained unchanged from previous-test levels.

Table 3 Statistic Wilcoxon

	Post-Test ExpClass - Pre-Test Exo	Post-Test Pre-Test Control Class
Z	-4.794[b]	-4.367[b]
Asymp. Sig. (2-tailed)	.000	.000

the analysis of the information provided in the output, the Asymp. Sig (2-tailed) value has been determined to be 0.000. Considering the value of 0.000 is less than 0.05, we can draw the conclusion that the "hypothesis is accepted". As a result, we can draw the conclusion that the Duolingo application has had an effective effect on students' vocabulary growth at SMPN 1 Welahan.

3. To determine the significant difference between using Duolingo application in experimental group and control group

Table 4 Mann Whitney-U SPSS

	Class	N	Mean Rank	Sum of Ranks
Students' total score	Experimental Class	30	44.20	1326.00
	Control Class	30	16.80	504.00
	Total	60		

Table 5 Table statistic Mann Whitney

	Students' total score
Mann-Whitney U	39.000
Wilcoxon W	504.000
Z	-6.126
Asymp. Sig. (2-tailed)	.000

This researchers analyzes two independent groups to see there is a statistically significant disparity in the independent variable. This test is also used to determine whether the means of two unpaired samples differ. It determines whether the distribution of the independent variable is the same in the experimental group as it is in the control group. If the Asymp.Sig value is lower than 0.05, it means there is a substantial difference in vocabulary knowledge between the experimental and control groups.

The data shown in the table support the conclusion that the experimental and control classes' median post-test scores differ, with the experimental class achieving 44.20 points and the control class scoring 16.80 points, accordingly and It demonstrates that the students getting the treatment (experimental class) have had an enormous effect on enhancing their vocabulary using the *Duolingo* application. Additionally, the test data suggest that Asymp.Sig. (2 tailed) is 0.00 0.05, showing that the treatment is effective.

Furthermore, to demonstrate that the Duolingo application has a substantial influence on vocabulary development in students who received therapy (experimental class), students were expected to learn to improve their vocabulary skills using the *Duolingo* application as a learning medium.

D. Conclusion

Based on the findings of the test, to find out the result of the test, the researchers had 20 multiple-choice respondents chosen by cluster sampling. After each class, experimental and control classes answered the question, the researchers introduced a *Duolingo* application only in the experimental class, following treatment, the researchers administered a post-test to each class to determine substantial vocabulary mastery.

The pupils' vocabulary mastery of those taught before and after the *Duolingo* application as the potential medium learning English of the experimental class is acceptable when the mean pre-test and post-test scores are compared. The average of the experimental group with the pre-test score is 36,33 and the post-test 81.50. Referring to the Mann-Whitney test, the Asymp.The Sig (2-tailed) value is 0.00, suggesting that the value is less than 0.05. The result shows that pupils' in the experimental group can improve their vocabulary mastery; there is plenty of variation between the pre-test and post-test, demonstrating that the *Duolingo* application has the potential to enhance the pupils' vocabulary mastery.

Based on the findings of this study, the Duolingo application is one of the most efficient strategies for improving students' adjective vocabulary mastery. Overall, the results of this research conducted by the researchers have significant impacts.

There are considerable disparities in students before and after lessons with the *Duolingo* application through the pre-test and post-test. For the pre-test, many students still got less than the maximum score. When they had been taught with the *Duolingo* application as a potential learning medium, they significantly differed in

scores in the post-test. This media can improve students' vocabulary mastery.

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