

The effect of using Duolingo application on students' English vocabulary mastery at SMPN 3 Natar

Mira Astuti¹, Endang Komariah², Novita Nurdiana²

FKIP Universitas Lampung, Jl. Prof. Dr. Soemantri Brojonegoro No. 1, Bandar Lampung^{1,2,3}

¹Correspondence E-mail: miaasti211@gmail.com

ABSTRACT

The aims of the research are to find out if there is a significant difference in students' vocabulary achievement after being taught through the Duolingo application and students' perceptions after being taught through the Duolingo application. The design used in this research is One group Pre-test and Post-test design. The design used in the qualitative approach is descriptive qualitative analysis. The sample consisted of 27 students in class VIII A of SMP Negeri 3 Natar. The Instruments are vocabulary tests and interview questions. The data are in the form of scores taken from the pre-test and post-test. The results of this research show that students' vocabulary have increased which is influenced by the use of Duolingo. It is proven by students' vocabulary score gain is 17,97 from 56,66 in the pre-test to 78,85 in the post-test. It also can be seen from the value of the t test is 15,64 higher than t-table which is 2,052. Furthermore, the result of the interview shows that students found it easy and fun when learn vocabulary by using of Duolingo application. Therefore, it can be concluded that students have different perceptions when using the Duolingo application in classroom learning and the Duolingo application provides a positive impact on students when applied in class as a learning medium.

Keywords: *Duolingo application, improving, teaching vocabulary*

I. INTRODUCTION

Vocabulary is a fundamental part of language and an important fundamental aspect of language development (Zhihong Bai, 2018: 854). Vocabulary is the core of language learning and includes the types of vocabulary, namely word content in the form of nouns, verbs, adjectives and adverbs that give meaning to the language. Vocabulary is also the basis for forming sentences and expressing ideas and meanings, and is a major requirement for verbal communication, then a large and stable vocabulary is important. However, vocabulary learning does not only focus on mastering a certain number of words and phrases, it also includes the ability to use vocabulary correctly, the memorization and recall of simple and compound words, especially the ability to automatically use them in different situations.

This is a fact based on the researcher's experience while studying in junior high school and some opinions from the English teacher and the eighth grade students. . Based on the English teacher's statement there are still some students who have poor grades in learning English. A student's poor English vocabulary is generally influenced by several factors, including: Lack of knowledge or understanding of student vocabulary, difficulty in pronouncing English words, use of media to learn less interesting English, use of monotonous learning methods. Concerning this, teachers should add the use of media to vocabulary learning. By using a learning medium that utilizes the technology of the Android application, students can easily understand the text and learn in a fun and enjoyable way. Therefore, researchers would like to conduct experimental research using an Android application that is easy for students to use, especially for learning English. Teachers can use many educational smartphone and computer applications, websites, or both as modern learning media. We hope that using this technology will make students more

interested and motivated to learn vocabulary. Technology is typically used as an additional support in teacher-centered education. Basie (2002:81) suggests that technology is becoming more diverse in the teaching and learning process, enabling students, teachers and parents to interact anytime, anywhere, thereby organizing and distributing teaching materials to students. It claims to help At the moment, one of the technologies he is known to help support learning, including vocabulary learning, is the Duolingo application. Putri & Islamiati (2018), defines the Duolingo application is a technology used to deliver learning materials. In addition, according to the Duolingo application is a technology that is used as the delivery of learning material which is very fun with a game-like system that makes users feel learning while playing, then a very attractive visual display is supported by audio. Duolingo is a free language learning app available on the Play Store. Duolingo also has an educator forum so application users can exchange subjects and topics as either teachers or students for learning, besides that the application can also be used to measure student achievement and dedication in a more fun way, of course. How to use the duolingo application is also very easy to understand for beginners to learn a new language.

II. METHODS

This research used mixed method (quantitative and qualitative approach) with the aims to find out there was significant difference in students' vocabulary achievement after being taught through using the Duolingo application. The research design used of this research on a quantitative approach was One Group Pretest-Posttest Design and on a qualitative approach was descriptive qualitative analysis. The instruments used in this research were vocabulary test in the multiple choice and interview adapted from Fujimoto (2012). The population of this research was the eighth grade students of SMP Negeri 3 Natar and class VIII A became the sample of this research for the experimental class. The researcher used Paired Sample T-test with significance level of 0.05 in analyzing the data.

III. RESULTS AND DISCUSSION

Results of Students' Writing Achievement Pre-test and Post Test

Before the researcher gave treatment, the researcher held a pre-test to find out students' vocabulary achievement before the implementation of the Duolingo Application. The pre-test was given in vocabulary test in the multiple choice form. After getting the data from the pre-test, the researcher carried out the treatment by implementing the Duolingo Application in 3 meetings. After implementing the Duolingo Application, the held a post test to find out students' vocabulary achievement after the implementation of the Duolingo Application. Thus, the distribution frequency results of the pre-test and post test were listed as follows:

Table 1. The Distribution of Pre-test and Post Test

The Distribution of Pretest					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	45-54	5	18,5	18,5	18,5
	55-64	13	48,1	48,1	66,7
	65-74	9	33,3	33,3	100,0
	Total	27	100,0	100,0	

The Distribution of Posttest					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	65-74	8	29,6	29,6	29,6
	75-84	16	59,3	59,3	88,9
	85-94	3	11,1	11,1	100,0
Total		27	100,0	100,0	

	Pre-test	Post-test	Improvement
Mean	58,88	76,85	17,97

From the result of pre-test and post-test, it can be seen that there is an improvement in students' vocabulary achievement after being taught using the Duolingo Application. The mean score improved from 58.88 to 76.85 with the gain score in 17.97 points. To know the significant of students' writing achievement, the data were analyzed using Paired Sample T-test in SPSS version 22.

Table 2 Paired Sample Statistics

		Paired Differences					T	Df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	posttest – pretest	17.9630	5.9661	1.1482	15.6028	20.3231	15,645	27	,000

Based on the table, it can see that the results showed that the computation of the value of two tailed significance is 0.000. It means that H1 is accepted because $0.00 < 0.05$. It proves that there is improvement on students' vocabulary mastery from pre-test to post test after being taught by the Duolingo Application. Then, if the value (15,645) is compared with t table (2.052), it can be seen that students' vocabulary skills increase when the value of t value $>$ t table. It can be concluded that in class VIII students of SMP Negeri 3 Natar there was an increase in the vocabulary mastery of descriptive texts after learning to use the Duolingo Application media.

Results of Interviews

Data on student perceptions were obtained from oral interviews. In the interview, the researcher took 8 students to become respondents in the interview. They were asked about their perceptions after implementing the use of Duolingo Application media in learning descriptive text. In the first question about whether or not learning is interesting using the media. Of the 8

students, all of the answers were quite interesting, on the grounds that the media has an image feature and there is a correction feature for wrong answers in the application. Second, the question about students' feelings when applying the Duolingo application media, 3 out of 8 students feel a little stressed because when working on questions that are always wrong up to 5 times because this makes them have to repeat answering questions from the beginning, but some others answer if applying this media in learning becomes fun. In the third question about whether or not there was additional vocabulary for students, all respondents answered yes they became aware of new vocabulary and its meaning. In the fourth question about the effectiveness of using the media whenever and wherever, the 8 respondents agreed that the application of this media can be used anywhere and anytime because we can find this media only by using cellular phones. The last question regarding students' opinions between conventional learning and using the Duolingo application media, all students agree that learning using media is more fun and not boring and students are more motivated in learning and understand material more easily.

Discussion

In this research, the researcher implemented the use of the Duolingo application in teaching English for class VIII A students of SMP Negeri 3 Natar. From the results presented earlier, it appears that the post-test score is higher than the pre-test score. It is in line with De Castro (2016) who states that Duolingo can motivate the students to practice using the foreign language daily because it is found that the Duolingo application contributed to increasing the vocabulary, improving pronunciation, and simple grammar. It can be seen from the average pre-test score of 58.88 which increased to 76.85 in the post-test with the gain 17.97. The results of Paired Sample t-test, t-value (15,645) compared with t- table (2.0526), it can be seen that the students' vocabulary improves when t-value > t- table. It can be concluded that there is an increase in students' vocabulary in descriptive text after learning using the Duolingo application for second grade students of SMP Negeri 3 Natar.

In this research, it was not only to find the improvement in students' vocabulary, this research also to find about students' perceptions during learning using the Duolingo application. In this research there were at least five questions about student perceptions adapted from Fujimoto (2012). The results of these perceptions indicate that there are more positive perceptions but there are also a few negative perceptions from some students. Positive perceptions such as; students are motivated in learning; easy to understand the material; interesting because of the image features in the application; get corrections for wrong answers; fun in learning; and makes it easier for students to use the application to study anywhere at any time. It is in line with Muddin (2018) who states that the Duolingo application can be accessed anywhere and anywhere, so that teachers have no difficulty implementing it in indoor and outdoor learning. Munday (2015 p.88) also supports this idea by saying it has been explained that the combination of several aspects of learning with games such as the Duolingo application can motivate and involve students in learning because learning is interesting and more fun. While for the negative perceptions felt by students for the use of this application in learning, namely; students experience difficulties when working on questions that are always wrong up to 5 times because this makes them have to repeat answering questions from the beginning.

There are several previous studies about the use of the Duolingo application in English vocabulary mastery. The first research was done by Kusumadewi and Widyastuti (2018) in their research entitled "The Effect of Using Duolingo Towards Students' Vocabulary Mastery". The result is that students who learn English using the Duolingo application have a positive effect compared to the conventional student approach. The second research was done by Fatah, cecep. (2019) with the title "The effects of using Duolingo to develop students' vocabulary knowledge". This study shows that Duolingo application is effective to develop students' vocabulary knowledge at the seventh grades students of SMP Islam Taman Quraniyah Jakarta Selatan. Therefore, there are differences between this research and previous research. First, the difference is another researchers only found whether the Duolingo application can improve students' vocabulary or not, while this research also conducted to find students' perceptions during learning

using the Duolingo application. The second, this research uses two classes with different treatments, namely the experimental class and the control class.

Based on these findings from previous research and this research, students gained an increase after learning using the Duolingo application, while this research also finds that all students have different perceptions after the implementing of the Duolingo application as a learning medium. However, some of the students stated that they still found some difficulties when learning to use the Duolingo application. In addition, the use of the Duolingo application media can actually improve students' vocabulary mastery besides a good perceptions from the students.

IV. CONCLUSIONS AND SUGGESTIONS

Conclusions

The main purpose of this study was to investigate the effect of using Duolingo in teaching English to improve students' vocabulary mastery, and also to find out students' perceptions of learning using the Duolingo application. Based on the discussion of research results in chapter IV, the researchers draw the following conclusions:

1. Using the Duolingo application is effective in increasing students' vocabulary because it has a good effect on vocabulary learning. The Duolingo application can make student learning more fun because Duolingo can help students easily acquire new words with attractive image features to understand the meaning of words. This makes students more active and enthusiastic in improve their vocabulary. It could be seen from the improvements in student' scores in the pre-test and post-test was 17.97 from 58.88 in the pre-test to 76.85 in the post-test. Therefore it can be concluded that the treatments using the Duolingo application as a learning medium were done successfully.
2. Based on the results of interviews, students have different perceptions after using the Duolingo application as a learning medium. This can be seen from the results of interviews with several students. The majority of respondents showed a good response, but the students' responses were also inseparable from the difficulties they felt from the weaknesses of this application. With that, it can be concluded that the Duolingo application has a positive impact on students when applied in class as a learning medium.

Suggestions

Observing the results of students' vocabulary mastery in descriptive text, the researcher provides the following suggestions:

1. Suggestion for School
Keeping in view the importance and impact of using the Duolingo application on the teaching and learning process in class, it is recommended that schools provide a supportive internet connection so that students can easily and smoothly participate in the learning process. In addition, schools can provide training opportunities for teachers to know how to use media in the classroom effectively.
2. Suggestion for Further Researchers
The results of this study can be used by future researchers as a reference and Duolingo application can be applied in other classes when teaching vocabulary. Besides that, further researchers are also advised not only to find out the perceptions of students, but also to try to find out the students' responses, motivations, or attitudes.

REFERENCES

- Bai,Z, (2018). *An analysis of English vocabulary learning strategies*, 854. Shanxi Normal University,Linfen,China.
- Bajcsy, R. (2002). *Technology and learning. In Visions 2020: Transforming education and training through advanced technologies*. Washington, DC: U.S. Department of Commerce. [<http://www.technology.gov/reports/TechPolicy/2020Visions.pdf>]
- Fatah, Cecep. Abdul. 2019. The effects of using Duolingo to develop students' vocabulary knowledge (a quasi-experimental study at seventh grade of SMP Islam Taman Quraniyah Jakarta Selatan). Universitas Islam Negeri Syarif Hidayatullah, Jakarta, Indonesia.
- Fujimoto, C. 2012. "Perceptions of mobile language learning in Australia : How ready are learners to study on the move?" *The Jaltcalljournal*, 8 (3). 165—195. http://journal.jaltcall.org/articles/8_3_Fujimoto.pdf.
- Kusumadewi, H. and Widyastuti, M. 2018. *The Effect of Using Duolingo Towards Student's Vocabulary Mastery*. *International Journal of Emerging Technologies in Learning*, Vol 6 (2), 172-186.
- Munday, P. 2016. *The case for using DUOLINGO as part of the language classroom experience/DUOLINGO como parte del curriculum de lasclases de lengua extranjera. Revista Iberoamericana de Educación a Distancia*, 19(1), pages 83-101.
- Putri, Li. M., & Islamiati, A. (2018). Teaching Listening Using Duolingo Application. *Journal of English Education*), 1(4), 460. <https://doi.org/10.22460/project.v1i4.p460-465>