THE USE OF DUOLINGO APPLICATION TO INCREASE STUDENTS' VOCABULARY MASTERY

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Abstract : The objective of this study is to find out if the Duolingo Application could aid students to improve their vocabulary mastery especially adjective. This research was conducted in quantitative method with pre-test and post-test design through a written test. The subject of this study were 31 students from SMP Negeri 1 Manganitu class 8 B. According to the data obtained, the mean Pre-Test score is 43,32, with the greatest Pre-Test score is 83 and the lowest is 10, and the highest Post-Test score is 97 and the lowest is 63, and the Post-Test's average score is 79.80. Significant improvements can be noted in this data, and it can be concluded that the use of Duolingo application successful for increase students' vocabulary mastery.

Keywords : *Vocabulary mastery, Duolingo Application, English Learning*

INTRODUCTION

Humans are social beings who need to interact with each other. In the process of interaction, humans need language to communicate with each other. Language is a tool to express ideas, information, concepts, or feelings that emerge from the heart , (Salipadang et al., 2021). Among the several languages spoken in different nations, English is an international language and the language most widely used by mankind in this world. In Indonesia, English is one of the foreign languages studied at various levels of education. This is based on realizing the importance of mastering English to face the current era of globalization.

The four skills that are taught in the English language are listening, speaking, writing, and reading. Of course, to learn, all these abilities, it is necessary to have good vocabulary mastery. Students may not fully comprehend the dialogue when listening. They are unable to converse effectively without a sufficient vocabulary. Students may struggle to comprehend the text when reading. Student may find it challenging to express their thoughts in writing (Maru, et al, 2022). It will greatly assist kids in the process of learning English if they have a large vocabulary. It will be difficult for foreigners to understand a new language if they do not acquire the vocabulary of the language. "Since vocabulary affects how successfully speakers, listeners, readers, and writers communicate, it is a crucial component of language ability." (Richard and Renandya, 2002:255 in Jaelani & Sutai, 2020). Students must study vocabulary in order to improve other language skills, such as speaking, writing, reading, and listening. If pupils are having trouble understanding or comprehending the material they are reading, it is because they are unfamiliar with the meaning of terms. If they only have a few vocabulary words, it will be difficult for them to converse in a new language. Mastering a language is difficult if you do not begin with the easiest, and learning a new language without mastering vocabulary is impossible Because vocabulary plays such an important part in all languages, it is one of the English components or sub-skills that students should be taught. According to to Cameron (2001:73) cited in Zikriyati & Syafei (2018) knowing words is what

vocabulary is all about. Children are not only required to know the word itself, but also its definition. Additionally, vocabulary can be described Children are not only required to as a list of words that are organized alphabetically and explained. In addition, it refers to all of the words in a language, all of the words a person is familiar with, all of the words used in certain book's subject, etc. Anyone studying a language must be able to master their vocabulary. Vocabulary education is one of the five essential components of reading instruction that must be included for children to become effective readers. Phonemic awareness, phonics and word study, fluency, vocabulary, and understanding are some of these essential elements (National Reading Panel, 2000 in Sedita, 2005). Because it contains all the words we need to access our prior knowledge, clearly express our ideas and communicate with others, and learn about new subjects, our vocabulary is crucial. The importance of vocabulary in communicating cannot be overstated. especially Words are used to communicate. Words come in contact with them. If someone wishes to speak in a specific language, he must be familiar with the language's vocabulary. When we learn reading, pronunciation, organization, and discourse, we will come across terminology. As previously stated, developing your vocabulary is essential to understanding the language. Both verbally and orally, the pupils are capable of communicating. It will be challenging for students if they do not acquire and grasp an adequate vocabulary. They won't be able to understand the language they will learn, and they won't be able to communicate effectively in it.

To teach vocabulary, there are so many ways that this can be done by the teacher. The methods used must be creative in order to attract students' attention to learning. However, at SMP Negeri 1 Manganitu, due a lack of English teachers, they have to divide their time to attend several classes at the same time. This makes them only leave notes for students to copy, so that an active and interesting learning atmosphere is not created, so that students feel bored while studying and their English vocabulary does not increase.

Apart from what they are taught by teachers in school, there are numerous more techniques to help students acquire and master a broad vocabulary. Students can increase their English vocabulary by watching films with English dialogue and subtitles, or by listening to songs or reading books. Teacher can also use learning media to make students feel interested in learning vocabulary. According to Rorimpandey (2019), learning media is a teaching and learning tool that includes everything that may be utilized to stimulate students' thoughts, feelings, attention, abilities, or skills in order to enhance the learning process in students. The use of media in vocabulary is crucial since it contributes to the learning process, can inspire and motivate students, and can make English lesson enjoyable. The utilization of media can help build an engaging learning environment so that students are not bored while taking classes and are better able to comprehend and retain the vocabulary being taught. In this research, researcher use Duolingo as a learning media

The Duolingo application is one of the most widely used applications today that is known to help students improve their English vocabulary. This app is designed with a variety of practice questions with fun and interesting features. When using this application, students will not get bored easily because the exercises are designed like games, and there are exciting challenges that students must achieve every day. Furthermore, this application has a reminder mascot, namely "Duo the owl," which will always remind users to log in to the app and do the exercises every day. This application is a free language learning application that

teaches its users the ability to read, listen, and speak effectively and efficiently. Duolingo can be downloaded via the play store, and this application can be used anywhere and anytime. According to Mahmudah (2015), the goal of this program is to make online learning a new vehicle and incentive system for human computation. Education may be a major driver of distributed human computation participation, with millions of people learning online. Based on the background above, the researcher would like to conduct a study entitled "The Use of Duolingo Application to Increase Students' Vocabulary Ability at the Eight Grade of SMP Negeri 1 Manganitu".

RESEARCH METHOD

The study used pre-experimental research with one group pre-test and post-test in this study, which is in line with the research problem. One group is pretested (O1), subjected to a treatment (X), and tested again (O2) in the one-group pretest-posttest design (Gay, Mills, & Airasian, 2012). If the post-test score is higher than the pre-test score, it indicates that the students' vocabulary has improved and that the treatment is as affective as the media in teaching vocabulary. The design is stated below:

$$O1 \rightarrow X \rightarrow O2$$
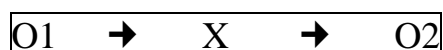
Bryman (2001) cited in Muddin (2018) stated the population is the entire population from which a researcher selects a sample, whereas the sample is the portion of the population that he selects to represent the entire unit or group. He went on to say that the population and sample need not always be people or individuals, but may be country, a school, certain theories, or something else entirely. The population of the research is the eighth-grade students of SMP Negeri 1 Manganitu in the academic year 2022/2023. According to McMillan

Schumacer, "a sample is a group of subjects chosen from the population" Andries et al., (2019). The samples in this case are class VIII B, consist of 31 students.

The instruments employed in this study is a written test. The goal of the exam is to determine the effectiveness of Duolingo after it has been implemented with pupils. Pre-test and post-test are use in this study. Prior to installing Duolingo, a pre-test is conduct. Before beginning treatment, the researcher asks the children 30 fundamental vocabulary questions. The test's goal is to ascertain students' fundamental vocabulary levels. The researcher conducts another test, after treatment. This test's objective is to evaluate how much students' vocabulary has grown as a result of using Duolingo. In a post-test, the researcher asks the pupil 30 questions. This score, along with the outcome of the pre-test, will be examined to see how effective Duolingo is at enhancing students' vocabulary.

Overall, this study takes a quantitative approach, which implies that the information employ is in the form of numbers. Overall, this study takes a quantitative method. Research techniques known as quantitative methods are used to collect quantitative information about numbers and other things that may be measured, according to Khun (2008:3) in Hamise (2022). Then researcher examine the data using formulas that are suite for the researcher's goal and descriptively explain the results. This study test consists of multiple choices, matching pictures with words, filling in the blanks, and true or false questions.

This research took a quantitative method. To gained quantifiable data, before and after implementing Duolingo, the researcher gave students a test to collect quantitative data. In this situation, researcher gather all of the information obtain. When analyzing the numerical data, researchers try to calculate the mean

of the students' verbal scores between the pre- and post-test. It is used to assess how well a class of students performs together on language that the researcher has taught and supplied.

It made use of the formulas supplied by Mills, Gray, & Airasian (20012, p.342).

$$\bar{x}(mean) = \frac{\sum X \;(total\; score)}{n\;(total\; students)}$$

FINDINGS AND DISCUSSION

The study was conducted at the 8th B Class of SMP Negeri 1 Manganitu. The study collected test result from the students (Pre-test and Post-test) to conduct the study. Both pre-test and the post-test are administered prior to and following treatment. 31 students took part in this study. Before the treatment is conduct, the researcher give the Pre- Test for the students to know their vocabulary ability first. The following result of the data presented below in table 1 which are:

Table 1. Students' score in Pre-test and Post-test

Students	Pre-Test	Post-Test
1	27	63
2	33	87
3	43	73
4	33	87
5	40	80
6	53	77
7	23	70
8	37	77
9	37	77
10	30	83
11	60	77
12	60	73
13	33	90
14	33	70
15	37	77
16	50	90
17	37	87
18	50	80
19	37	73
20	30	80

21	50	83
22	60	83
23	83	97
24	40	87
25	10	73
26	53	83
27	57	77
28	73	83
29	50	77
30	47	83
	37	77
Total (Σ)	1.343	2.474
Mean ($\bar{x}$)	**43,32**	**79,80**

The result above show that students' vocabulary mastery. The highest scores of pre-test was 83, and it obtained by one student. Then the lowest result of pre-test was 10 and it was obtained by one student. After the Pre-test and the treatment was conducted, the researcher gives the Post-Test. The result above show that students' vocabulary mastery. The post-test's top score was 97, and it earned by one student. Then the lowest result of post-test was 63 which was attained by one student.

Based on these findings, the researcher concludes that the Post-Test Mean score significantly increased from the previous Pre-Test Mean score of 43.32 to 79.80. This proves that the usage of learning media enhances student's enthusiasm for learning. In the next table the writer wants to describe Frequency Distribution Matrix of Pre-test. The following result of the data Frequency Distribution Matrix of Pre-test presented below in table 2 which are:

Table 2. Frequency Distribution Matrix of Pre-test

Score	Tally	Frequency	Freq-%
83			1	3%
73			1	3%
60	|||	3	10%
57			1	3%
53	||	2	6%
50	||||	4	13%
47			1	3%

43	|	1	3%
40	||	2	6%
37	‖‖ |	6	19%
33	||||	4	13%
30	||	2	6%
27	|	1	3%
23	|	1	3%
20	|	1	3%

From the data above the researcher concluded that of the 31 students who took the pre-test, the scores obtained by the students were at most 37 (19%). The highest score was 83, and the lowest score was 10. The following result of the data Frequency Distribution Matrix of Post-test presented below in table 3 which are:

Table 3. Frequency Distribution Matrix of Post-test

Score	Tally	Frequency	Freq-%
97	|	1	3%
90	|	2	6%
87	|||	4	13%
83	|	6	19%
80	||	3	10%
77	||||	8	26%
73	|	4	13%
70	|	2	6%
63	||	1	3%

An obvious conclusion that can be derived from the statistic above is that there has been increase. There was a change in score, with just 1 or 3% students having low Post-test scores. Of 31 students who took the Post-test, the scores obtained by the students were at most 77 (26%). The highest score was 97, and the lowest score was 63.
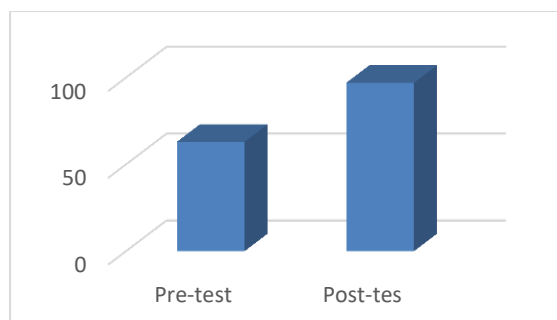

Figure 1. Comparison between Pre-test and Post-test.

According to the graph in figure 1, the highest Pre-test score is 83 and the lowest is 10, while the greatest Post-test score is 97 and the lowest is 63. As demonstrated, the Duolingo Application is an excellent learning medium and may be suggested as a helpful medium in learning English, particularly vocabulary.

Based on the finding in SMP Negeri 1 Manganitu grade 8 B, the ability to master vocabulary, especially adjectives still very low; they still do not understand and have not mastered words that are adjectives This was also proven when the researcher conducted a pre-test to find out the students' abilities in vocabulary mastery.

The pre-test was held with a written test, which consisted of 10 multiple-choice questions, 10 questions matching the words, 6 questions of truth or false, and 4 questions of fill-in-the blank. The results showed that of 31 students, one (3%) student scored 10, one (3%) student scored 23, one (3%) student scored 27, two (6%) students scored 30, four (13%) students scored 33, six (19%) students scored 37, two (6%) students scored 40, one (3%) scored 43, one (3%) student scored 47, four (13%) students scored 50, two (6%) students scored 53, one (3%) student scored 57, three (10%) students scored 60, one (3%) student scored 73, and one (3%) student scored 83.

After carrying out the pre-test, the researcher carried out the treatment through the Duolingo application. The purpose of the Duolingo application was initially explained to the students. The researcher explained the guidelines for completing the application and provided an example to show how to complete it. Students are asked to install Duolingo and then play it for 4 days. During the treatment given, students felt enthusiastic, excited, and interested in learning vocabulary. So, when the post-test was

held, the results changed drastically to an increase.

The post-test was held with a written test, which consisted of 10 multiple-choice questions, 10 questions matching the words, 6 questions of truth or false, and 4 questions of fill-in-the blank. The results stated that of the 31 students, one (3%) student earned 63, two (6%) students earned 70, four (13%) students earned 23, eight (26%) students earned 77, three (10%) students earned 80, six (19%) students earned 83, four (13)) students scored 87, two (6%) students earned 90, and one (3%) student earned 97.

According to the statistical analysis above, it is clear that using Duolingo to study vocabulary results in a significantly different average score than learning vocabulary without it. Due to the Duolingo application's interest in learning and the fact that all students desire to utilize it for teaching and learning, this study employed it to help students boost their vocabulary mastery. They develop a passion for learning and take vocabulary seriously. The Duolingo application was enjoyable and improved the students' attitude toward studying English. They actively participate in the learning process. One of the most useful tools for teaching and learning vocabulary is Duolingo. Due to the positive responses they have received from these apps and the fact that they are simple to understand and give each learner an equal chance to practice the material, Duolingo can help students say engaged in their studies and even inspire them to try out new learning strategies, Ajisoko (2020). According to Nushi and Eqbali (2017), Learning a language is challenging, but Duolingo gives user confidence that they can succeed in their learning objectives and allays their anxiety about it. Duolingo makes learners feel like they have accomplished something even with just 5 to 10 minutes of daily practice, which keeps them motivated. Duolingo has proven successful in keeping learners motivated and less self-conscius about

learning by "gamifying" the process. Once someone becomes "addicted" to the games on this incredibly user-friendly software, they are compelled to play them on the trip to home from school when they are bored. A helpful language learning tool, Duolingo can give users step-by-step instructions on how to learn a new language independently. Learners of various ages and cultural backgrounds can utilize Duolingo because of its user-frendly interface and stylish design. Although the program teaches English for free to millions of users, some have questioned the creators' strategy for making money by having users translate messages for free as a side effect of learning a language. It is adaptable and simple to utilize in teaching. This is demonstrated by the rising students test result. It is backed up by Clark (2013), who that using technology can make teaching vocabulary more effective. In addition, they said that using technology in and around the classroom may be challenging, innovative, and useful. (Handrianto, Rasool, Rahman, Musta'in, & Ilhami 2021) stated that using technology to enhance learning English is a crucial component of interactive learning that the student can accept. The majority of them are familiar with a variety of technological elements, such as devices, programs, and social media, and can therefore most surely accept the idea of utilizing them for educational reasons. It is also reinforced by Rodger (2010:1), who claims that the usage of games can be used to create activities that help students forget they are in class and that doing so helps to calm them. It implies that games provide a range of engaging activities through which students can explore many fun aspects of learning. Games aid the students in maintaining their focus on the topics covered during class.

After implementing the use Duolingo application to increase students' vocabulary, the researcher got the data of pre-test and post-test. The Duolingo Application tends to increase scores in the

range of 39, according to the data above. This is in accordance with previous studies, where the result show that Duolingo can improve vocabulary ability. Previous research such as: Muddin (2018), "The Use of Duolingo to Improve Students' Vocabulary." In this study, Duolingo increased scores in the range of 16. Fatah (2019), "The Effect of Using Duolingo Application to Develop Students' Vocabulary Knowledge," Duolingo increases scores in the range of 15. Hardiyanti (2021), "The Implementation of Duolingo Application as Media to Improve Students Vocabulary Knowledge," Duolingo increases scores in the range of 10. Megawati (2022), "Improving the Vocabulary of the Students By Using Duolingo Application At The Second Grade Of SMP Negeri 1 Kelara," Duolingo increases scores in the range of 46. This shows that Duolingo really can improve vocabulary, but this research is not in line with previous research because of the difference in the range of scores obtained. So, it can be said that there is no fixed range of scores that students will get when using Duolingo.

CONCLUSION

Based on the findings and discussion, the researcher came to the conclusion that Duolingo Application can increase students' vocabulary mastery based on research conducted at SMP Negeri 1 Manganitu in grade 8 B students. This technique gave positive contributions and better result in students' English vocabulary ability. The data were collected from written test of vocabulary through Pre-test and Post-test. It was proven by getting 1,343 for Pre-test and 2,474 for Post-test. The mean for the Pre-test was 43,32 and 79,80 for Post-test. Post-test result were better than Pre-test results in the end. Therefore, it can be concluded that the use of Duolingo Application is effective in increase students' vocabulary ability.

REFERENCES

Ajisoko, P. (2020). The Use of Duolingo Apps to Improve English Vocabulary Learning. *International Journal of Emerging Technologies in Learning (iJET), 15*(7), 149-155.

Andries, F., Hammp, P., Rombepajung, P., & Lengkoan, F. (2019). *The Application of Special Self-Made Word Card for Vocabulary Teaching Particularly Irregular Verbs*. Advances in Sosial Science, Education and Humanities Research, 969-971.*383*(Icss), 841–843. https://doi.org/10.2991/icss-19.2019.47

Clark, M. 2013. The Use of Technology to Support Vocabulary Development of English Language Learners. Education Masters.

Fatah, C. A. (2017). The Effect of Using Duolingo Application To Develop Students ' Vocabulary Knowledge. *International Journal of Media, Journalism and Mass Communications (IJMJMC)*, *3*(3), 1–120.

Gay, L. R., Mills, G. E., & Airisan, P. W. (2012). Educational Research Competence for Analysis and Application. USA : Pearson.

Hamise, N. K., Mogea, T., & Tuna, J. R. (2022). *Using Numbered Head Together Learning Model To Improve Students' Vocabulary. JoTELL : Journal of Teaching English, Linguistics, and Literature, 1*(12), 1406–1415. https://doi.org/10.36582/jotell.v1i12.5237

Handrianto, C., Rasool, S., Rahman, M. A., Musta`in, M., & Ilhami, A. (2021). Teachers` Self-Efficacy and Classroom Management in Community Learning Centre (CLC) Sarawak. Spektrum: Jurnal Pendidikan Luar Sekolah (PLS), 9(2), 154-163.

Hardiyanti, H. H., Muliati, M. M., & Samtidar, S. S. (2021). Penerapan Aplikasi Duolingo sebagai Media untuk Meningkatkan Pengetahuan Kosakata Siswa. *Pinisi Journal of*

Education, *1*(1), 121–127.

Jaelani, A., & Sutari, D. R. (2020). Students' Perception of Using Duolingo Application As a Media in Learning Vocabulary. *The 2nd Bogor English and Teacher (BEST) Conference*, 40–47. ISSN 2721-0219.

Mahmudah, L. (2015). *An Analysis of Pronunciation Exercises In Duolingo Application And Its Contribution As English Learning Media*.

Megawati. (2022). Improving The Vocabulary Of The Students By Using Duolingo Application At The Second Grade Of SMP Negeri 1 Kelara.

Maru, M. G., Mokal, J, M., Saroinsong, H. Y., & Liando, N. (2022). Students' Perception Toward E-Learning Experience On Writing Skill During Covid-19 Pandemic, *Syntax Literate: Jurnal Ilmiah Indonesia, 7(5)*.

Muddin, A. (2018). The Use of Duolingo To Improve Students' Vocabulary.

Nushi, M., & Eqbali, M. H. (2017). Duolingo: A mobile application to assist second language learning. *Teaching English with Technology*, *17*(1), 89–98.

Rodgers, S. (2010). Approaches and Methods in Language Teaching. The University of Cambridge Press.

Rorimpandey, R. (2019). Youtube Videos in Teaching Basic Listening. Journal of English Language and Literature Teaching, 4(1), 43-52.

Salipadang, E. N., Hampp, P., & Andries, F. (2021). *Improving Students' Vocabulary Through Spelling Bee Game*. *Socul: International Journal of Research in Social Cultural Issues*, *1*(5), 309–314.

Sedita, J. (2005). Effective vocabulary instruction. *Insights on Learning Disabilities*, *2*(1), 33–45.

Zikriyati, & Syafei, A. F. R. (2018). Teaching vocabulary to young learners through snake and ladder game. *Journal of English Language Teaching*, *7*(1).