

THE USE OF DUOLINGO TO IMPROVE STUDENTS' VOCABULARY AT SMP NEGERI 8 SATU ATAP TONDANO

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Abstract: This research aims to determine the use of Duolingo to improve students' vocabulary in English subjects at SMP Negeri 8 Satu Atap Tondano. This research uses a pre-experimental design with a one group pretest-posttest design. This research was carried out at SMP Negeri 8 Satu Atap Tondano. The sample of 24 students. The research instruments given were pretest and posttest, with a total of 20 questions. The research results show that the use of Duolingo can improve students' vocabulary. This is proven by the students' posttest average score 74.04 with a standard deviation of 12.22 which is greater than the pretest average score 41.08 with a standard deviation of 8.76. Apart from that, the results of the hypothesis test show that the value of tcount (6.057) is greater than t-table (2.069). Therefore, it can be concluded that the use of Duolingo can improve students' vocabulary at SMP Negeri 8 Satu Atap Tondano.

Keywords: *Duolingo, Improving, Vocabulary, EFL, Junior high School*

INTRODUCTION

In his works Nation (1994) and Muttahidah (2011), the author presents compelling arguments for the meticulous planning of vocabulary components in language courses. The variation in vocabulary usage yields distinct outcomes in the context of learning (Liando et al., 2022; Liando & Tatipang, 2022). Furthermore, the majority of language teaching courses unnecessarily complicate the process of acquiring vocabulary. Furthermore, the meticulous design of vocabulary and other skill activities can significantly enhance vocabulary learning opportunities and the quality of vocabulary acquisition (Liando et al., 2023). In order to assist junior high school students in forming basic sentences, it is recommended that English teachers employ appropriate approaches, methods, or techniques during the teaching and

learning process. English teachers have a range of techniques and approaches at their disposal for teaching simple sentence construction (Aki & Rorintulus, 2023; Kumayas & Lengkoan, 2023; Nur et al., 2023). Hence, the writer aims to examine the impact of incorporating Duolingo into classroom instruction for the students of SMP Negeri 8 Satu Atap Tondano. The aim was to determine whether it helped them enhance their vocabulary or not. The classroom is anticipated to have a positive atmosphere. It can also serve as an alternative method for maintaining students' vocabulary. The writer's intention, as explained, is to carry out an experimental research titled: "The Use of Duolingo to Improve Students' Vocabulary at SMP Negeri 8 Satu Atap Tondano". Based on observations, students at SMP Negeri 8 Satu Atap Tondano still have difficulty in learning vocabulary especially noun. The reason for choosing this topic is to make the students improve their vocabulary because the lack of media at their school. Based on the background above, the formulation of the research problem Is duolingo effective in improving students' vocabulary. Richards (2002) in Kartika (2011) stated that vocabulary is the foremost factor to consider when acquiring a language. Vocabulary is an essential element in language learning as it is necessary for learners to develop their speaking, reading, writing, and comprehension skills in a foreign language. It involves or includes. The acquisition of a new language was hindered by difficulties in mastering vocabulary. "Vocabulary is a crucial element of language proficiency and significantly influences the effectiveness of learners' speaking, listening, reading, and writing skills". Individuals lacking an extensive lexicon and the ability to acquire new vocabulary are hindered from capitalizing on opportunities for language acquisition, including activities such as listening to the radio, engaging in conversation with native speakers, utilizing the language in diverse settings, reading, or watching television.

RESEARCH METHOD

The researcher conducted a pre-experimental study utilizing a one-group experiment design, consisting of a pre-test, treatment, and post-test. The purpose of the study was to determine the improvement in students' vocabulary skills by

using the Duolingo Application at SMP Negeri 8 Satu Atap Tondano. Experimental research is a form of research that utilizes quantitative methods. Khotari (2004: 3) stated that quantitative research as a method that relies on the measurement of quantity or amount. Put simply, the aim of this study is to assess the measurement of the quantity of the observed topics. The researcher administered a pre-test to assess the students' vocabulary proficiency before to receiving any intervention. Subsequently, the students had a course of treatment utilizing the Duolingo application. At the concluding session, a post-test was administered to assess the students' vocabulary proficiency following the treatment. The purpose of this analysis is to assess the importance of the students' pre-test and post-test scores. Sugiyono (2016) provides the following description of a pre-test and post-test conducted on a single group :

Design	Pre-test	Treatment	Post-test	O ₁	X	O ₂
Design	Pre-test	Treatment	Post-test	O ₁	X	O ₂

This study was carried out at SMP Negeri 8 Satu Roof Tondano, encompassing the entire student population. There are 7 students in the 7th class, 19 kids in the 8th class, and 18 students in the 9th class, making a total of 42 students. The research sample consisted of 24 children from the 7th and 8th grades. The research involved a pre-test and post-test as part of the testing process. The pre-test was conducted prior to the implementation of Duolingo. Prior to the therapy, the writer administers a set of 20 questions to the pupils, which mostly focus on fundamental terminology related to the Duolingo language learning platform. The purpose of the test is to determine the fundamental level of pupils' vocabulary proficiency. Following the treatment, the writer proceeded to conduct another test. The objective of this assessment is to determine the proficiency levels of students' vocabulary following their utilization of Duolingo. In addition, the writer provides the pupils with a post-test consisting of 20 questions. The score, together with the pre-test result, was examined to determine the efficacy of Duolingo in enhancing students' vocabulary. In summary, this study employs a quantitative methodology, indicating that the data collected is in numerical form. Suharsimi (1993) was mentioned by Hisan (2012: 20).

Subsequently, he scrutinized the data using formulas that were suitable for the research objective and provided a descriptive explanation of the results. The research involved conducting tests that required participants to match pictures with words, translate sentences from their home language to the target language and vice versa, and fill in gaps in sentences. 3. The mean score of students' answers is searched using the formula: It was the formulas which suggested in Sudjana (2002).

$$\bar{X} = \frac{\sum X}{N}$$

Information:

\bar{X} : Mean Score

$\sum X$: Total Score

N : Total Samples

Calculate the frequency and rate percentage using the following formula:

$$P = F/N \times 100 \%$$

Information:

P : Percentage

F : Frequency of the correct answers

N : Total of samples

Calculate the standard deviation of pretest and posttest students, using the formula:

$$SD = \frac{\sqrt{\sum x^2 - \frac{(\sum x)^2}{n}}}{(n-1)}$$

information:

SD : Standard Deviation

$\sum x^2$: The sum of score

$(\sum x)^2$: The square of the sum of score

n : The total number of objects

Find out which pre-test and post-test are significant by using the formula below:

$$t = \frac{\sqrt{\frac{\sum D^2 - \frac{(\sum D)^2}{N}}{n(n-1)}}}{n(n-1)}$$

Information:

t : Significance test

D : Difference in average scores

$\sum D^2$: Total score

$(\sum D)^2$: The square of the total difference scores

n : Total number of objects

FINDINGS AND DISCUSSION

Duolingo is a widely used language learning application. This study employs a quantitative approach and incorporates both a pre-test and post-test. This study included a sample of 24 students from SMP Negeri 8 Atap Tondano Tondano. This research primarily centers around the topic of vocabulary. The Duolingo application serves as the research medium. The objective of this study is to determine the efficacy of the Duolingo application in enhancing students' vocabulary. Researchers evaluated the extent to which students' vocabulary skills improved by administering written exams. The researcher gave the students a pretest before the treatment begins, so they may measure their language proficiency.

Table 1. Student Pretest Scores.

Students	Pretest Score
1	40
2	50
3	57
4	40
5	37
6	30
7	48
8	41
9	40
10	45
11	30
12	40
13	50
14	36
15	51
16	40
17	31
18	56
19	36
20	56
21	31
22	40
23	31
24	30

Table 2. Percentage of Pretest Classification

Classification	Score	Frequency	Percentage
Excellent	86-100	-	-
Good	71-85	-	-
Fair	56-70	3	12%
Bad	41-55	6	25%
Very bad	0-40	15	63%

The results in Table 2 indicate that the first classification of 24 students on the pretest was poor. No student achieved the rank of outstanding or good. Out of the total number of students at SMP Negeri 8 Satu Atap Tondano, 12% were classified

as fair, 25% were classified as bad, and 63% were classified as very bad. This indicates that the vocabulary skills of the kids at this school are still quite poor.

Table 3. Mean Score of Students' Pretest.

Test	Mean Score	Standard Deviation
Pratest	41,08	8,76

According to the data in table 3, the mean pretest score for students is 41.08, with a standard deviation of 8.76. This indicates that students' vocabulary proficiency remains in the extremely poor group. Researcher gave students a post-test to measure their level of vocabulary improvement after the pre-test and treatment.

Table 4. Student Posttest Scores

Students	Posttest score
1	71
2	90
3	95
4	75
5	58
6	56
7	75
8	71
9	70
10	75
11	58
12	75
13	87
14	75
15	86
16	75
17	71
18	95
19	71
20	95
21	60
22	75
23	60
24	58

Table 5. Posttest Percentage Classification

Classification	Score	Frequency	Percentage
Excellent	86-100	6	25%
Good	71-85	11	46%
Fair	56-70	7	29%
Bad	41-55	-	-
Very bad	0-40	-	-

Table 5 presents the results indicating that 25% of students were classified as Excellent 6, 46% as Good 11, and 29% as Fair 7. It is evident that the utilization of educational media significantly enhances pupils' enthusiasm for learning.

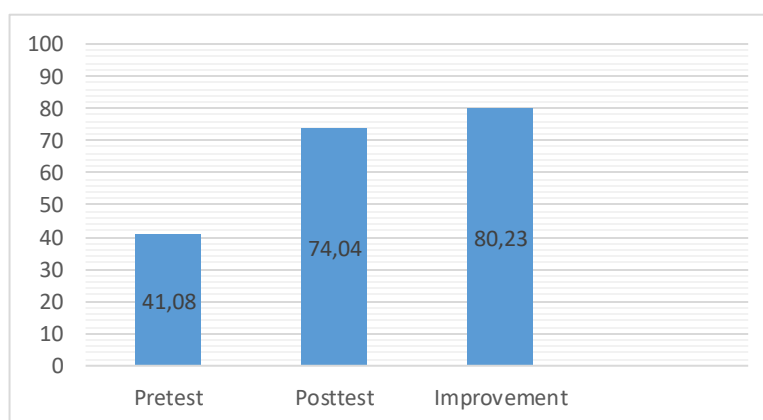
Table 6. Mean Score Posttest Score

Test	Mean Score	Standard Deviation
Posttest	74,04	12,22

The table above shows the average posttest score is 74.04 and the standard deviation is 12.22. This means that the student's vocabulary is in the good category.

Indicator	Vocabulary		Improvement
	Pretest	Posttest	(100%)
Values	41,08	74,04	80,23%

An improvement in students' vocabulary reached 80.23% after being given treatment using the Duolingo application as a teaching medium.



The graph above illustrates a notable disparity between the mean pretest score and the mean posttest score. The pretest administered prior to implementing the treatment with the Duolingo application yielded a mean score of 41.08. The posttest score obtained after implementing the treatment with the Duolingo program yields a mean score of 74.04. This demonstrates the efficacy of the Duolingo application in enhancing students' vocabulary following the implementation of the treatment. Therefore, it is reasonable to assert that the utilization of the Duolingo application has the potential to enhance the lexicon of seventh-grade pupils at SMP Negeri 8 Satu Atap Tondano. To assess the disparities in students' vocabulary skills before and after the test, a statistical analysis using the t-test was conducted. The analysis was performed with a significance level of 0.05 and degrees of freedom (df) of 4. If the count exceeded the value in the t-table, the results of the t-test were included in the table. The following table provides a clearer depiction:

Table 8. Student Vocabulary T-Test

Component	T-test	T-table	Comparasion	Classification
Vocabulary	6.058	2.069	$T_{count} > T_{table}$	Accepted

According to the data in the table, the Ttest value of 6.058 is higher than the Ttabel value of 2.069. This indicates that the vocabulary of the students is significantly different both before and after they are treated with the Duolingo program. The pupils' vocabulary significantly improved after treatment compared to before. The results show that pupils' vocabulary grows significantly when they use the Duolingo program. Discussion Even with the new vocabulary, students at SMP Negeri 8 Satu Atap Tondano are having a hard time understanding. Researchers confirmed this by administering a pre-test to gauge the extent to which students' vocabulary had improved. The preliminary assessment is administered by a written examination of twenty multiple-choice questions. Out of the 24 pupils surveyed, 15

(or 63% of the total) had extremely poor categorization scores, 6 (25% of the total) received good scores, and 3 (12%) received decent scores. The presentation table served as the basis for the pretest results, which revealed that no student had achieved exceptional or excellent categorization scores. Researchers used the Duolingo app to administer the treatment after the pre-test. After downloading Duolingo, students were given four days to practice their language skills. The children were engaged and excited throughout the treatment, which boosted their vocabulary learning. Consequently, the findings improved significantly when a post-test was administered. There were a total of twenty multiple-choice questions administered as the post-test. We found that out of 24 pupils, 7 (or 29%) got fair classification scores, 11 (or 46%) got good scores, and 6 (or 25%) got excellent scores. The results of the posttest, as shown in the presentation table I am, demonstrated an improvement over the pretest categorization; as a result, no pupils received poor or extremely poor scores. Also, with a significance level of 0.05 and degrees of freedom (df) 4, the hypothesis testing results reveal that the computed value (6.058) is higher than the table value (2.069), and the students' posttest average score (74.04) differs from the pretest average score (41.08). This indicates that the pre- and post-treatment levels of vocabulary improvement are significantly different from one another. The administration of treatment brought about this change. The results show that pupils' vocabulary improved after using the Duolingo program for treatment.

REFERENCES

- Aki, A. N., & Rorintulus, O. A. (2023). A systematic review: The use of pictures in teaching simple present tense sentence construction to junior high school students. *Journal of English Language Teaching, Literature and Culture*, 2(1), 40-50.
- Hisan, K. (2012). *Improving Students' Vocabulary Through English Song*. Banda Aceh: UIN Ar-Raniry.

- Kartika, W. (2011). *The Effectiveness of Using Environmental Technique to Students' Achievement in Learning Vocabulary (For Second Year Student of MTsN Tungkop)*. Banda Aceh. UIN Ar-Raniry.
- Kumayas, T., & Lengkoan, F. (2023). The challenges of teaching grammar at the university level: Learning from the experience of English lecturer. *Journal of English Culture, Language, Literature and Education*, 11(1), 98-105.
- Kothari, C. R. (2004). *Research Methodology: Methods and Techniques. Second Revised Edition*. New Delhi: New Age International.
- Liando, N. V. F., Tatipang, D. P., Tamboto, G., Poluan, M., & Manuas, M. (2022). Pictures as a learning media in teaching vocabulary. *Jurnal Ilmiah Universitas Batanghari Jambi*, 22(3), 1944-1949.
- Liando, N. V. F., & Tatipang, D. P. (2022). English or Indonesian Language? Parents' Perception Toward Children's Second Language Learning Context. *Jurnal Lingua Idea*, 13(1), 61-75.
- Liando, N. V., Dallyono, R., Tatipang, D. P., & Lengkoan, F. (2023). Among English, Indonesian and local language: Translanguaging practices in an Indonesian EFL classroom. *Indonesian Journal of Applied Linguistics*, 13(1), 204-216.
- Munday, P. (2016). The case for using DUOLINGO as part of the language classroom experience/DUOLINGO como parte del curriculum de las clases de lengua extranjera. *Revista Iberoamericana de Educación a Distancia*, 19(1), 83-101.
- Muttahidah, N. (2011). *Improving Students' Vocabulary Through Vocabulary Card (a Classroom Action Research in The First Grade of Mts. Nurul Falah School at Pondok Ranji Ciputat Tangerang)*. Jakarta: UIN Syarif Hidayatullah.
- Nur, S., Lakoro, Q., & Lengkoan, F. (2023). The Effectiveness of Digital Learning Curriculum 2013 in Pandemic. *Journal of English Culture, Language, Literature and Education*, 11(2), 264-276.
- Nation, P. (1994). *New Ways in Teaching Vocabulary*. Alexandria: TESOL.
- Suharsimi, A. (1993). *Prosedur Penelitian*. Jakarta: Rineka Cipta