



## Improving Student's Vocabulary Through the Duolingo Application for Seventh Grade at SMP Negeri 3 Lahewa

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**Abstract:** This study aims to improve students' vocabulary. Students still lack vocabulary, which prevents them from achieving the Minimum Mastery Criterion (KKM). The subjects of this study were 26 seventh-grade students at SMP Negeri 3 Lahewa. The method used was Classroom Action Research (CAR), which was conducted in two cycles. There are two cycles, and in the first cycle, many students were still unable to achieve the Minimum Mastery Criterion (KKM). The results showed a significant improvement in students' vocabulary, with the average score increasing from 50.38 (19.23%) in cycle I to 68.46 (88.46%) in cycle II. Additionally, student activity levels improve from 93.75% in cycle I to 100% in cycle II. This study concludes that the Duolingo app is effective in helping students improve their vocabulary and encouraging active participation in the learning process. Therefore, this study successfully improved students' vocabulary in nouns, verbs, adjectives, and adverbs using the Duolingo app. It is hoped that teachers can continue to apply methods that can improve students' vocabulary and creativity.

**Keywords:** Duolingo Application, Vocabulary, CAR

### Introduction

Language is a communication tool used to convey ideas, feelings, and thoughts. In communicating, vocabulary is used, which must be understood by the speaker and listener so that communication can run smoothly. Vocabulary plays a very important role in learning a language.

Vocabulary refers to the set of words used to convey something. Vocabulary includes not only individual words, but also their meaning, usage and relationship to other words. Vocabulary is one of the key aspects of language learning, as it is the basis for speaking, reading comprehension, writing, and listening. This notion is supported by Wangdi, (2022) said that vocabulary is the fundamental understanding of a language that determines the quality of a learner's speaking, listening, reading, and writing. Rosyada-AS

& Apoko, (2023) stated that nobody can learn a language without acquiring vocabulary first and highlighting the importance of vocabulary in language learning. In addition Wahyuni & Asri (2023) vocabulary is one of the most important components of language.

Vocabulary is seen as the key to successful language learning. Sadyva et al. (2024), said that vocabulary refers to a set of words or phrases that are employed to facilitate effective communication and understanding of the intended message, whether it is conveyed orally or in written form. Supported by Hamdani (2020), defined that vocabulary is a core component of language proficiency and provides much of the basis for how well learners speak, listen, read, and write. Thus we can conclude that vocabulary is an element that is the basis for knowing and understanding a language.

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So it is very necessary to build vocabulary in learning a language. Vocabulary is central to English language teaching because without sufficient vocabulary students cannot understand others or express their own idea Adnyani & Dewi, (2020). Adequate vocabulary allows students to understand and convey their ideas, thus creating fluent communication. In this modern era, technological advances have opened up many new opportunities to support vocabulary learning in the classroom through various interactive applications, online platforms, and digital media that appeal to students.

In the Merdeka Belajar Curriculum, *Capaian Pembelajaran* (CP) emphasize students' ability to demonstrate progress in the use of specific vocabulary. Similarly, in the learning activity objectives, students are expected to be able to use vocabulary properly and correctly. The Minimum Mastery Criterion (KKM) is 60, so every student is expected to achieve this MMC score.

Based on observations and interviews conducted at SMP Negeri 3 Lahewa, specifically for seventh grade students, Mrs. Beni Fati Zebua, an English teacher at SMP Negeri 3 Lahewa, stated that students lack vocabulary, therefore the researcher wants to improve their vocabulary, especially nouns, verbs, adjectives, and adverbs through the researcher's explanation of the four types of words and the use of applications. Additionally, students are unable to read the words that appear during classroom learning activities correctly and accurately. As a result, students are unable to achieve the Minimum Mastery Criterion (KKM), with an average English language learning score of 50, necessitating remedial classes to reach a score of 60. Furthermore, their limited vocabulary makes it difficult for them to complete homework assignments, as this limitation hinders their ability to understand instructions or express their thoughts effectively.

Based on the preceding paragraph, the following is the problem formulation in this study.

1. Does the Duolingo app improve students' vocabulary for seventh grade at SMP Negeri 3 Lahewa?
2. And Is the Duolingo app effective for improving students' vocabulary?

Based on the problems experienced by grade VII students in English, the researcher offers the Duolingo app as an innovative solution to the vocabulary challenges faced by students at SMP Negeri 3 Lahewa. Duolingo is a free language learning app, with a variety of interesting and easy to learn features. Duolingo is an effective tool for instructing and acquiring vocabulary for students Rihana et al. (2024). White, in (Permatasari & Aryani, 2023) said that Duolingo is a web-based

learning program that allows everyone to participate in inexpensive language instruction since they interact in a foreign language. It offers a variety of innovative learning methods specifically for vocabulary. It can help students in improving the vocabulary they learn, interesting and easy learning makes students interested in learning.

Savira (2020) defined that Duolingo is effective on students' vocabulary mastery and able to assist their language learning process. Doulingo as a supplementary learning tool, particularly for vocabulary acquisition and reading comprehension Fathi et al., (2024) in (Fitriani 2024). Moreover, Pangkuh (2020) defined that Duolingo is one of the effective media in teaching-learning vocabulary. Fitri et al., (2023) said that Duolingo App is an effective teaching media for improving students' vocabulary mastery.

The app is designed to support students in building vocabulary, grammar and pronunciation through interactive and engaging exercises. This application has also been widely used by various groups in learning various languages. So Duolingo is one of the most popular apps for language learning. So, this study purposes to improve students' vocabulary through the Duolingo application and to examine the effectiveness of this application in the vocabulary learning process.

The engaging and adaptive features of the app make vocabulary learning fun and accessible to students of different proficiency levels. By integrating Duolingo into their learning activities, it enables them to improve their vocabulary. The app's ability to personalize lessons based on student progress ensures that each student receives targeted practice, helping them overcome vocabulary limitations.

## Method

Research methods are the steps or procedures used to collect, process, and analyze data to accomplish the research objectives. This includes a rational, empirical, and logical approach supported by factual evidence, rather than personal assumptions.

Research methods are scientific ways of obtaining data/information as it is, rather than as it should be, for specific purposes and uses Priadana and Sunarsi (p43, 2021). In addition Mundir (p4 2013), research methods are general strategies adopted in the collection and analysis of data needed to answer the problems encountered. Research methods are processes or approaches specifically selected to solve problems raised in a study Purnia & Alawiyah (p17 2019).

In this research, the researcher used Classroom Action Research as a solution to the problem

of students' vocabulary lack. Parnawi, (2021) defined that Classroom Action Research is research conducted in a class to determine the effects of actions applied to a research subject in that class. This means that classroom action research identifies how the effects of actions taken affect learning outcomes, enabling teachers to improve teaching practices. Gaspersz and Uktolseja (2020) cited in Marsevani and Habeebanisya (2022), stated that Classroom Action Research (CAR) is reflective research by taking certain actions aimed at improving learning practices in the classroom professionally and has an essential role in scientific research because it determines the quality of research results. This means that CAR is very important to improve the quality of learning to get better results. The instruments are use, including observation, tests, and documentation.

Classroom Action Research (CAR) is a systematic study of various actions taken by teachers as researchers, ranging from planning to assessing actual teaching and learning activities in the classroom to improve the quality of learning Aminarti et al. (2024). Moreover, Classroom Action Research is a research activity conducted by teachers in the classroom in the form of self-reflection through actions that are planned, systematic, and repeated in action cycles Utomo, (2024).

The data were analyzed using the qualitative method by Sugiono (2018), suggested that three stages that must be done in analyzing qualitative research data, namely (1) Data reduction is the process of simplifying, summarizing, and focusing the data that has been collected to make it more organized and relevant to the research objectives. The goal is to select relevant data, eliminate unnecessary information, and organize the data to make it more structured. (2) Data display is the presentation of data that has been reduced in an organized and easy-to-understand format. The goal is to facilitate the interpretation and decision-making process. (3) conclusion drawing/verifying. This stage involves interpreting the data to find meaning, patterns, or significant relationships in the context of the research. Conclusions drawn need to be verified to ensure the validity and consistency of the findings.

The researchers calculated the average scores and class percentage of all students to determine their vocabulary improvement based on Monika's (2020).

The formula is as below:

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

Where:

M: Mean

$\sum X$ : Total scores all students

N : Total of students in class (VII)

**Table 1** The classification means score for test

No.	Scores	Category
1.	85-100	Very Good
2.	75-84	Good
3.	60-74	Enough
4.	40-59	Less
5.	$\leq 39$	Fail

## Result and Discussion

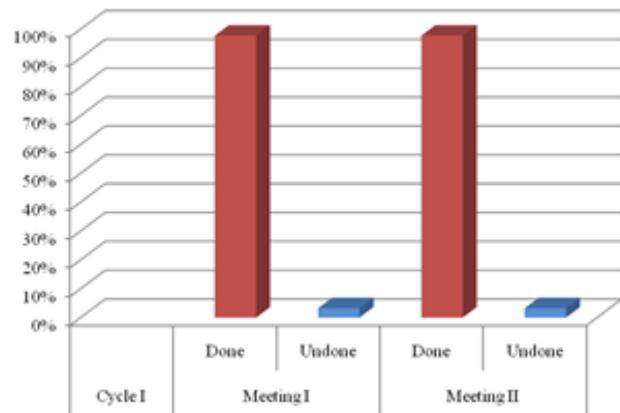
Based on the observation results for research activities during the learning process carried out by the collaborating teacher, the following is the description.

### Cycle I

**Table 1.** Presentation of Researcher Activities

Cycle I		
Meeting I	Done	16 active (100 %) of 16 activities
	Undone	0 activities (0 %) of 16 activities
Meeting II	Done	16 activities (100 %) of 16 activities
	Undone	0 activities (0 %) of 16 activities

From the results of the implementation of the activity data above, the implementation of the cycle I can be categorized as "Very Good", both for the first meeting and for the second meeting. The following is a graph of the activities carried out by researchers during the process of learning activities.



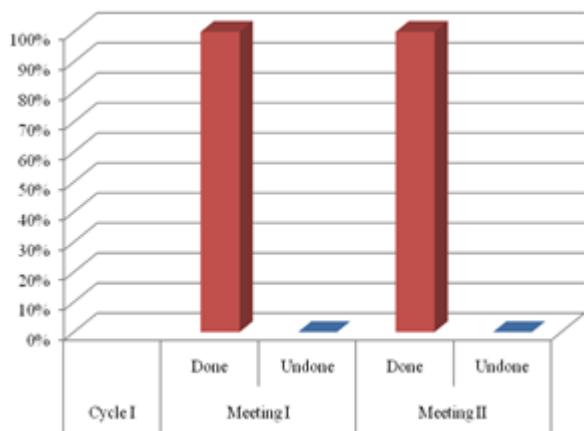
**Graphic 1.** Presentation of researcher activities in cycle I

The following are the results of observations of student activities during learning in cycle I at the first and second meetings.

**Table 2** Presentation of student activities

		Cycle I				
Meeting I	Done	15	active	(93,75 %)	of	16 activities
	Undone	1	activities	(6,25 %)	of	16 activities
Meeting II	Done	15	active	(93,75 %)	of	16 activities
	Undone	1	activities	(6,25 %)	of	16 activities

Based on the above results for both the first and second meetings in cycle I, researchers can categorize student activity as "Very Good". Each of these meetings there was one activity that had not been carried out by students.

**Graphic 2.** Presentation of student activities in cycle I

The results shows the students' scores in the cycle I of learning, which were assessed based on their ability to recognize nouns, verbs, adjectives and adverbs. Each student has a score for each of these categories, which is then summed up into a total score. Out of a total of 26 students, only 5 students managed to complete the task with "Completed" status, while the other 21 students were still "Uncompleted". So, the highest score obtained by 1 student is a score of 80, then 1 student who gets a score of 75, 1 student who gets a score of 70, 2 people who get a score of 60, 5 people who get a score of 55, 3 people who get a score of 50, then a score of 45 there are 6 students who can, and 5 people who get a score of 40 while the score of 35 there are 2 students and the score is the lowest score based on the data above. Meanwhile, the overall score of the students is 1013, and their average score is 50.385, and for the percentage is 19.230% with the number of words successfully mentioned by all students is 262 words.

**Table 3** The classification means score for test (cycle I)

MCC	Scores	Category	Frequency
85-100		Very Good	0
75-84		Good	2
60	60-74	Enough	3
	40-59	Less	19
	≤ 39	Fail	2

The mean score classification results for the tests in cycle I are shown in the table above. It shows that no participants scored in the "Very Good" range (85-100). Three were in the "Enough" category (60-74), and only two were in the "Good" category (75-84). Nineteen participants, or the majority, fell into the "Less" category (40-59). Meanwhile, two people scored "Fail" ( $\leq 39$ ). Based on this finding, the researcher proceeded to Cycle II.

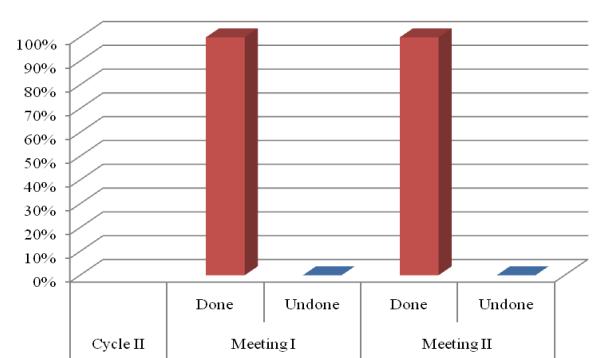
#### Cycle II

This is the result of observation of activities carried out by researchers during learning activities at two meetings in cycle II. Here is the overview.

**Table 4** Presentation of Researcher Activities

Cycle II			
Meeting I	Done	13	active (100 %) of 13 activities
	Undone	0	activities (0 %) of 13 activities
Meeting II	Done	11	activities (100 %) of 11 activities
	Undone	0	activities (0 %) of 13 activities

From the above results, it can be concluded that the activities carried out by researchers fall into the "Very Good" category. Both for the first meeting where 13 activities have been carried out and as well as the second meeting 11 activities have been carried out as well. And the following is an explanation graph.

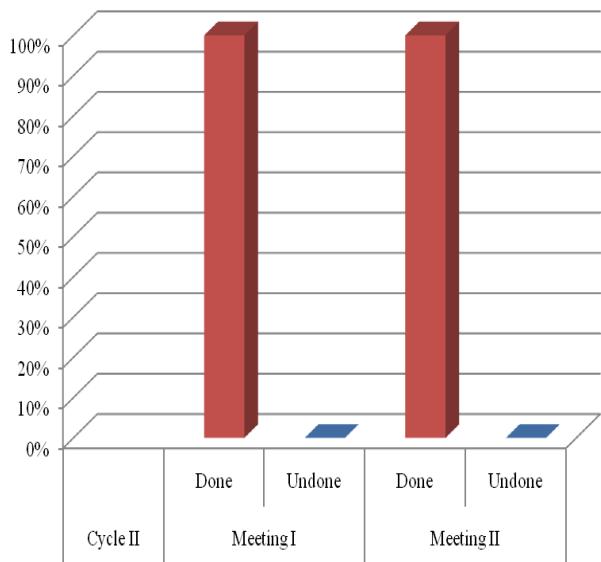
**Graphic 3** Presentation of researcher activities in cycle II

The results of observations made by researcher on student activities during learning activities in the first and second meetings of cycle II. Below is an overview Table 5.

**Table 5** Presentation of student activities

Cycle II			
Meeting I	Done	13 active (100%) of 13 activities	
	Undone	activities (0 %) of 13 activities	
Meeting II	Done	11 active (100 %) of 11 activities	
	Undone	activities (0 %) of 11 activities	

In the results above, it can be concluded that the learning activities carried out by students are well implemented so that they fall into the "Very Good" category. For cycle II in the first and second meetings. Below is a graph of this description.



**Graphic 4** Presentation of student activities in cycle II

The result shows the results of student assessment in cycle II consisting of 26 students. The students were assessed based on their ability to know or recognize nouns, verbs, adjectives, and adverbs. From the data presented, it can be seen that the majority of students succeeded well, as evidenced by the 23 students who obtained "Completed" status. Only 3 students have not succeeded with the status of "Uncompleted". The highest score in this table was 85 by 2 students, followed by 2 students who scored 80, 3 students who scored 75, then 9 students who scored 70, and 4 students who scored 65, 4 students who scored 60 and 1 student who scored 55 while the lowest score was 50 obtained by 2 students. The average score of the students was 68.46, which shows that in general the

students' achievement was quite good, although there were still some students who had not been able to reach the expected standard. Nouns obtained the highest total score of 110, followed by verbs with a score of 87, adjectives with a score of 82, and adverbs with a score of 78, the total of all words obtained was 356. This shows that students' understanding of nouns is quite good, while adverbs obtained the lowest score.

**Table 6** The classification means score for test (cycle II)

MCC	Scores	Category	Frequency
60	85-100	Very Good	2
	75-84	Good	5
	60-74	Enough	16
	40-59	Less	3
	≤ 39	Fail	0

The test results from cycle II are divided into five groups according to the score range, as shown in the above table. Two participants out of the entire group received scores between 85-100, placing them in the "Very Good" category. Five students then received scores between 75-84, falling into the "Good" category. 16 participants, or the majority, received scores between 60-74, earning them the designation of "Enough". Additionally, three students were classified as "Less" or sufficient after receiving scores between 40-59. Since no participant received a score lower than or equal to 39, the "Fail" category remained empty. The data shows that none of the participants are poor, and most are now good.

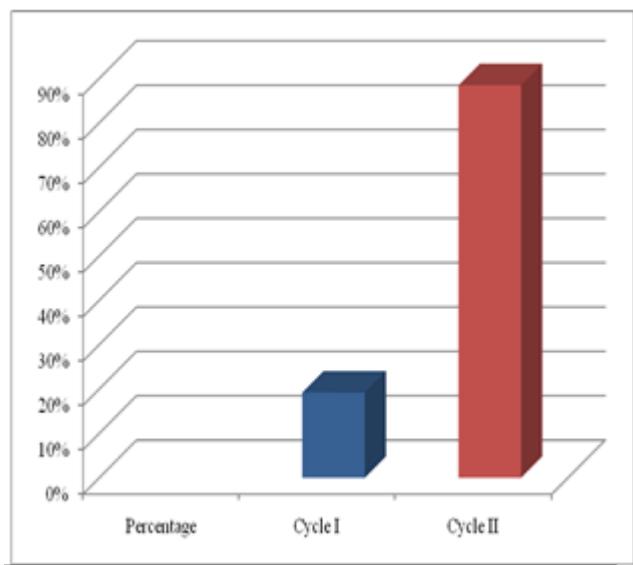
The test results for students in cycles I and II are displayed in the table below.

**Table 7** The students' vocabulary score in cycle I and II

No.	Student' Initial	Cycle I	Cycle II
1	BHZ	35	60
2	DCLL	60	85
3	DAZ	55	70
4	EZ	50	70
5	EPZ	45	70
6	EKZ	45	55
7	FRZ	40	65
8	FZ	40	70
9	FSZ	55	70
10	GFZ	40	80
11	IJZ	45	75
12	ISZ	70	75
13	JFN	35	50
14	JKL	55	65
15	KG	40	60
16	MZ	40	50
17	MPG	50	70
18	MKZ	75	70
19	NMZ	55	75

20	PFL	80	85
21	RSL	50	60
22	SPZ	55	65
23	SDZ	45	80
24	WMZ	45	65
25	YPZ	60	70
26	YKL	45	70
$M = \frac{\sum X}{N}$		<b>50,385</b>	<b>68,461</b>
$P = \frac{R}{T} \times 100\%$		<b>19,230%</b>	<b>88,461%</b>

The researchers took several steps to compare the test results from the first and second cycles. In these steps, the average test scores of the students were calculated, as well as the percentage increase in student scores from the first and second cycles. The following graph shows the percentage scores on the exam.



**Graphic 5** Presentation of student test percentages in cycle I and cycle II

In the first cycle, most students still lacked vocabulary, especially adjectives and adverbs. This shows that they have not yet mastered the vocabulary found in the text. Two students scored 35, five students scored 4, six students scored 45, three students scored 50, five students scored 55, two students scored 60, one student scored 70, one student scored 75, and one student scored 80.

It can be concluded that 5 out of 26 students in class VII met the Minimum Mastery Criterion (KKM) 60 score. However, 21 students failed to meet the Minimum Mastery Criterion (KKM) 60 score.

The average score in the first test was 50.385. This shows that the use of the Duolingo application only slightly increases students' vocabulary in teaching reading, including in the less category. The second step

is to find out the percentage of students who passed the Minimum Mastery Criterion (KKM) 60 score.

For the second cycle, researchers calculated the results of the second cycle to ensure an improvement in student scores compared to the first test results. In the second test, most students were able to recognize the words. This indicates that they have become more proficient in vocabulary than before. There were 2 students who scored 85, 2 students who scored 80, 3 students who scored 75, 9 students who scored 70, 4 students who scored 65, 3 students who scored 60, 1 student who scored 55, and 2 students who scored 50. It can be concluded that 23 out of 26 seventh-grade students have achieved the Minimum Proficiency Criteria (KKM) of 60. Three students have not yet reached the Minimum Proficiency Criteria (KKM) of 60. The average score was determined by the researcher after analyzing the data from the second exam.

The result of the calculation shows that the average score in the second test is 68.46. This shows that the use of the Duolingo application can increase students' vocabulary in learning to read is included in the sufficient category. Then, to find out the percentage of students who pass the Minimum Mastery Criterion (KKM) 75.

From the explanation above, it can be concluded that the average score and percentage of the second test (second cycle) showed an increase from the first test (first cycle). In the second test, the average percentage score was 88.461, this is included in the "Very Good" category.

Therefore, it can be concluded that the Duolingo application provides a good improvement in learning reading and vocabulary learning where students become interested and active in the process of identifying vocabulary. This is proven by the test that has been conducted on students. Knowledge of vocabulary will be the basis for them to master the language.

## Conclusion

The problem in this study is the lack of vocabulary among students, especially nouns, verbs, adjectives, and adverbs, as well as reading skills. This causes the learning process to be less smooth. The purpose of this study is to determine whether the use of the Duolingo application can improve students' vocabulary. The solution was to implement the app in the learning process.

This research explores how the Duolingo app can improve students' vocabulary. The study consisted of two cycles, each with two meetings. The assessment in cycle I had an average score of 50.385 with a percentage of 19.230%. This shows that the application

of the Duolingo application in the two meetings. In cycle I, it is still inadequate, so it falls into the category of "less". This encouraged researchers to continue to Cycle II, where the average score reached 68.461, categorized as "enough", with a percentage of 88.461%, falling into the category of "very good". The students' scores have reached the Minimum Mastery Criterion (KKM) of 60. This shows that the application of Duolingo application can improve students' vocabulary.

Therefore, the researchers concluded that the use of Duolingo application can improve the vocabulary of students for seventh grade of SMP Negeri 3 Lahewa, with a significant comparison in students' scores between the two cycles.

The implications found from the research results are as follows:

- The use of the Duolingo application encourages students to learn to solve problems.
- The Duolingo application provides opportunities for students to improve their vocabulary.
- The application of the Duolingo application motivates them, making them more active.
- Students can learn vocabulary and read easily and comfortably without feeling stressed or overwhelmed. They will enjoy the learning process, which involves changes and supports their comfort..

The researcher provided several recommendations as follows:

- English teacher at SMP Negeri 3 Lahewa are encouraged to continue applying the Duolingo application in the learning process, especially in teaching vocabulary and other materials contained in English textbooks.
- This research can be a guideline for further research on technology and education.

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