

**THE EFFECT OF DUOLINGO USAGE ON STUDENTS' VOCABULARY  
MASTERY OF SEVENTH-GRADE STUDENTS  
AT MTs PAB 1 HELVETIA**

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**ABSTRACT**

Due to Covid-19 pandemic, most of teaching learning process was not conducted at class. The teacher and students had the teaching learning process via online on the internet. This situation occurred serious problem for the students related to the teaching learning goals. Most of students found more difficulties in learning English. Less interactions at class made their vocabulary knowledge and ability became low. They had no chance to explore their vocabulary. In fact, they were difficult to mention some vocabularies around them. They also felt difficult to share their opinion by using English. This research aimed to know the difference, increase or improvement and effect of Duolingo usage on students' vocabulary mastery. This research was a quantitative approach. The research location was at MTs PAB 1 Helvetia on Jl. Veteran Pasar IV Helvetia with sixty students as the sample. The sample was divided into Experimental and Control group. The Experimental group was taught vocabulary by using Duolingo while the Control group was taught vocabulary by common method. The students' score result was the primer data and analyzed by using T-Test formula. The calculation used SPSS (*Statistical Package for Social Science*) 20.0 to count the data as valid as it was. *The research finding proved that there was a significance difference, increase or improvement and effect of Duolingo usage on students vocabulary mastery. Duolingo usage affected students' vocabulary mastery of the seventh-grade students at MTs PAB 1 Helvetia.*

**Keywords : Duolingo, Vocabulary Mastery**

## **I. INTRODUCTION**

Regarding to the development of global information era, people get used to do many activities through online. This phenomenon also happens to education. Smartphones as the sophisticated technology right now are really easy to get by everyone. When people buy a new smartphone, most of them will directly download apps (applications) (Robert, 2011). Therefore, the teachers and educators begin to create thousands of apps for people to use in their daily life. Along the past two decades, there are many applications of educational activities on the Internet. Teachers and students in different areas can communicate each other on the Internet everytime and everywhere (Chen & Li, 2010).

This development of technology gives a change to the learning style and method (Littlejohn et al, 2010). This development forces the teachers to be creative to make a meaningful yet challenging learning. There are some reasons why education needs to get along with the technology and here are the possible answers : 1) It connects teachers and students. In the traditional classroom, teachers and students only communicate in the classroom. However, with the development of the Internet, they can interact through instant messaging application, like Facebook, or Whatsapp. 2) Teaching and learning environment has been changed. In the past time, it is fine to only teach by using visual or audio media but since the smartphones exists, the teachers can use various media (Lambert & Cuper, 2008).

This learning breakthrough is also useful for teaching and learning condition like now. Covid-19 pandemic has spread out since March 2020 in Indonesia. Many schools must be closed by the government. It really impacts to the education process. All of teaching and learning process are directed to be online. The teachers teach from home and the students learn also from home. The teachers are asked to make and explain learning materials through video conference such as Zoom, Google Meet or others through the internet. This condition is really new for both of the teachers and the students. It also makes the

students are difficult to achieve the learning goals even though the teachers try their best to make the learning process runs well.

If some schools conduct online learning, but it is different for MTs PAB 1 Helvetia. MTs PAB 1 Helvetia is one of many schools which are permitted to have face to face meeting at class in some requirements from the Ministry of Religion. The students regularly come to learn at school in twice a week. They are divided into two groups for each class as the right way to follow the health protocol. The learning duration is quite short. It is only twenty minutes for each subject. At least, the students still can interact with the teachers related to the learning process.

The students at MTs PAB 1 Helvetia gets difficulties to learn their subject, one of the subjects is English. In the traditional class, English is quite difficult for them to learn even though they interact face to face in the classroom. It can be seen from the students ability to master English vocabulary. They have lack of vocabulary when they are asked to share their opinion in English. In fact, they still don't know the English vocabulary of the things around them.

This situation can impact a serious problem for the students. Most of previous scholars agree that vocabulary is one of the language components that decides the success of language acquisition. Schmitt (2000) states that vocabulary is fundamental to both of communicative ability and the second language acquisition. On the other hand, Alqahtani (2015) defines that vocabulary is a critical component for second or foreign language learners because having lack of vocabulary can affect to unsuccessful communication in the conversation practice. The correlation between vocabulary and language acquisition is explained by Wilkins (1972) who tells that : "without grammar, very little can be conveyed, without vocabulary, nothing can be conveyed."

Nation (2008) categorized vocabulary into four categories based on how often it occurs in the language (its frequency) and how great it occurs (its range). The four categories are : 1)

High frequency words are words which occur very often in all kinds of language uses. They are used often in formal or informal condition, written and oral communication such as on the magazines, daily conversation, newspapers, and and so on. They are also very popular words in which that a very young native speaker of English seems to know them. We need them in our daily life. The words should be taught on the first place of the target words in the vocabulary mastery. 2) Academic words are are the words which occur very often in academic texts. These words mostly occur in magazine, newspaper, very formal conversation or correspondence, academic writing, children's books, and another particular purposed texts. It is a must for university students to use academic words once they have mastered the high frequency words. 3) Technical words are particular words which are very specific to the certain subject area that people will know what subject area these words derive from. The technical words can only be found in one specialized subject (Sudarman & Chinokul, 2018). 4) Low frequency words are the rest of the words in a language. Schmitt and Schmitt (2014) states that it is important to arrange the difference between high frequency words and low frequency words.

Considering the limitation of time to learn English vocabulary that the students get at school, the teacher needs to add a learning media which can help the students learn more at home. The teacher can use Duolingo to enhance students' vocabulary mastery. Duolingo is one of mobile applications to learn English vocabulary on smartphone that can be accessed by everyone, everytime and everywhere. People only need smartphone and internet and the students certainly have those things.



Figure 1. Duolingo Appearance

Source : [www.duolingo.com](http://www.duolingo.com)

Duolingo is a game-based language learning that focuses on enriching students' vocabulary. The vocabulary topics are presented in different modules such as basic, food, animal, common phrases, plurals, clothing, and so on.



Figure 2. Duolingo Modules

Source : [www.duolingo.com](http://www.duolingo.com)

For the first time, the users are asked to choose the language that they want to learn. They are also asked about the native language to help them easy to use Duolingo. Then, they are asked to take the test to evaluate their basic knowledge and ability about vocabulary. Next, the users are given a lot of words or phrases related to each topic in the modules then it is also followed by a series of exercises in various question types. The exercises focuses on translating Bahasa to English or vice versa, matching words, listening to the words, pronouncing the words, and arranging scramble words. Once the users make a mistake in answering the question, there will be direct feedback given in the form of the correct answer.

The questions of incorrect answer are repeated several times until the users get them correctly. The more mistakes the users make the longer the session lasts. The users can only go to the next modules or level if they have answered the previous one (Hidayati & Diana, 2019).



Figure 3. Learning Vocabulary on Duolingo  
Source : [www.duolingo.com](http://www.duolingo.com)

Teaching vocabulary by using any online media is really required since this Covid-19 pandemic has impacted education aspects. By using Duolingo, the students can learn more about vocabulary at home. They can learn how to know, listen, use, and translate the vocabulary well. They also can do the exercises in order to make their vocabulary mastery gets better. By using Duolingo, the students's vocabulary mastery will be enhanced. Based on the explanation above, the researcher conducted a research which aimed to know and analyze :

1. The difference of score result on students vocabulary mastery.
2. The increase of score result on students vocabulary mastery.
3. The effect of Duolingo usage on students' vocabulary mastery.

## II. RESEARCH METHODOLOGY

The Quasi-Experimental was used in this research with the quantitative approach. The reasearch location was at MTs PAB 1 Helvetia on Jl. Veteran Pasar IV Helvetia.

### 2.1 Research sample

The population of this research was the seventh-grade students of MTs PAB 1 Helvetia in academic year of 2020/2021. There are five classes in the seventh-grade. While the sample of this research was class of 7-C and 7-A students who divided into two groups. Class of 7-C which consisted of thirty students were gathered in the experimental group and Class of 7-A which consisted of thirty students students were gathered in the control group.

### 2.2 Research instrument

The instrument of this research was a test. Djiwandono (2011) explains that a test is an instrument of assessing a person's knowledge, capability, or performance in a certain aspect. The test was in multiple choices form. The test was conducted twice, they were Pre-test and Post-test. Moreover, the result of students' score became the data of this research.

### 2.3 The procedure of data collection and data analysis

The students in both of experimental group and control group were given the Pre-test. Then, the students in the experimental group were taught vocabulary by using Duolingo as the treatment. While, the students in the control group were taught vocabulary by using common method. In the last, the Post-test were given to both of the groups.

The data were analyzed by using T-Test formula which was calculated by SPSS (*Statistical Package for Social Science*) 20.0.

### 2.4 Research Hypothesis

Based on the problems explanation on introduction, then the hypohthesis in this research were :

H<sub>1</sub> : There was a difference of score result on students vocabulary mastery of the seventh-grade students at MTs PAB 1 Helvetia.

H<sub>2</sub> : There was an incease/improvement of score result on students vocabulary mastery of the seventh-grade students at MTs PAB 1 Helvetia.

H<sub>3</sub> : There was an effect of Duolingo usage on students' vocabulary mastery of the seventh-grade students at MTs PAB 1 Helvetia.

### III. RESEARCH FINDINGS AND DISCUSSION

Having the data analyzed, the following description explained the research findings and discussions.

#### 3.1 Research findings

##### 3.1.1 The Difference of Score Result on Students Vocabulary Mastery

On Table 1, there was a description about the test score of students in the experimental group or class of VII-C. The description showed the Pre-Test and Post-Test score result.

Table 1. The Pre-Test and Post-Test Score of The Experimental Group

No.	Sample	Pre-Test	Post-Test	N-Gain
1.	AM	66	88	0,65
2.	AA	56	70	0,32
3.	AFR	60	76	0,40
4.	AA	50	76	0,52
5.	AW	76	98	0,92
6.	ADR	62	94	0,84
7.	DPP	64	76	0,33
8.	DP	64	78	0,39
9.	FAT	66	86	0,59
10.	HTH	60	78	0,45
11.	FF	46	78	0,59
12.	JAZ	72	76	0,14
13.	LR	50	60	0,20
14.	MFK	72	70	-0,07
15.	MI	64	94	0,83
16.	MAL	54	78	0,52
17.	MA	80	94	0,70
18.	MIL	54	80	0,57
19.	MRK	62	70	0,21
20.	NB	60	96	0,90
21.	NI	62	88	0,68
22.	NR	60	78	0,45
23.	PA	76	84	0,33
24.	RA	66	94	0,82

25.	SP	60	92	0,80
26.	SN	68	80	0,38
27.	STF	68	88	0,63
28.	SAFF	50	84	0,68
29.	WY	64	90	0,72
30.	YH	70	88	0,60
Maximum Score		80	98	
Minimum Score		46	60	

Source : Data analysis from SPSS 20.0

On Table 2, there was a description about the test score of students in the experimental group or class of VII-A. The description showed the Pre-Test and Post-Test score result.

Table 2. The Pre-Test and Post-Test Score of The Control Group

No.	Sample	Pre-Test	Post-Test	N-Gain
1.	ARH	58	66	0,19
2.	AP	64	68	0,11
3.	AM	68	78	0,31
4.	AS	58	64	0,14
5.	AN	64	68	0,11
6.	DA	52	76	0,50
7.	DVR	62	58	-0,11
8.	DAP	44	66	0,39
9.	FF	56	68	0,27
10.	HS	76	76	0,00
11.	IWS	48	56	0,15
12.	IZ	64	74	0,28
13.	KN	60	64	0,10
14.	MFHN	68	72	0,13
15.	MRF	66	70	0,12
16.	MSR	54	66	0,26
17.	MFR	56	56	0,00
18.	MF	76	90	0,58
19.	MH	76	90	0,58
20.	MI	64	88	0,67
21.	MA	64	76	0,33
22.	NAZ	54	84	0,65
23.	NZ	76	60	-0,67
24.	NHI	80	90	0,50
25.	RR	56	88	0,73
26.	RAA	56	76	0,45
27.	RS	66	84	0,53
28.	RML	70	80	0,33

29.	SR	64	76	0,33
30.	SHN	66	78	0,35
Maximum Score		80	90	
Minimum Score		44	56	

Source : Data analysis from SPSS 20.0

After obtaining the Pre-Test and Post-Test score from both of the experimental and control group, the next calculation was testing the difference of Pre-Test and Post-Test score from each group.

Table 3. The T-Test Calculation of The Difference Score Result in The Experimental Group

Group	Mean	N	Std. Deviation	T <sub>count</sub>	T <sub>table</sub>	Sig. (2-tailed)
Experimental Group	Pre-Test	62,73	30	8,246	11,551	2,045
	Post-Test	82,73	30	9,270		

Source : Data analysis from SPSS 20.0

Table 3 showed that in the experimental group, the average score of Pre-Test was 62,73 and Post-Test was 82,73 and it increased 20,00. It also showed that T<sub>Count</sub> value was higher than T<sub>Table</sub> value or 11,551 was higher than 2,045 with the significance value 0,000 < 0,05.

Table 4. The T-Test Calculation of The Difference Score Result in The Control Group

Group	Mean	N	Std. Deviation	T <sub>count</sub>	T <sub>table</sub>	Sig. (2-tailed)
Control Group	Pre-Test	62,87	30	8,752	5,844	2,045
	Post-Test	73,53	30	10,275		

Source : Data analysis from SPSS 20.0

Table 4 showed that in the control group, the average score of Pre-Test was 62,87 and Post-Test was 73,53 and it increased 10,66. It also showed that T<sub>Count</sub> value was higher than T<sub>Table</sub>

value or 5,844 was higher than 2,045 with the significance value 0,000 < 0,05.

### 3.1.2 The Increase of Score Result on Students Vocabulary Mastery

In this calculation, it only focused on the Post-Test score from the both of experimental and control group where Duolingo was used in teaching vocabulary in experimental group while common method was used in teaching vocabulary in control group.

Table 5. The T-Test Calculation of The Increase of Post-Test Score in The Experimental and Control Group

Group	Mean	N	Std. Deviation	T <sub>count</sub>	T <sub>table</sub>	Sig. (2-tailed)
Post-Test Experimental Group	82,73	30	9,270	3,641	2,001	0,001
Control Group	73,53	30	10,275			

Source : Data analysis from SPSS 20.0

Based on Table 5, it could be seen that the average score of Post-Test in experimental group was 82,73 and Post-Test in control group was 73,53 and it increased 9,20. It also showed that T<sub>Count</sub> value was higher than T<sub>Table</sub> value or 3,641 was higher than 2,001 with the significance value 0,001 < 0,05.

### 3.1.3 The Effect of Duolingo Usage on Students' Vocabulary Mastery

Independent Sample T-Test was used to find the effect of research variables in this calculation.

Table 6. The T-Test Calculation of The Increase of The Whole Score in The Experimental and Control Group

	Group	Mean	N	Std. Deviation	T <sub>count</sub>	T <sub>table</sub>	Sig. (2-tailed)
Score Improve ment	Experimental Group	20,00	30	9,483	3,710	2,001	0,000
	Control Group	10,67	30	9,998			

Source : Data analysis from SPSS 20.0

Based on Table 6, it could be seen that the average of increased score in experimental group was 20,00 and the average of increased score in control group was 10,67 and it increased 9,33. It also showed that T<sub>Count</sub> value was higher than T<sub>Table</sub> value or 3,710 was higher than 2,001 with the significance value  $0,000 < 0,05$ .

### 3.2 Research discussions

#### 3.2.1 The Difference of Score Result on Students Vocabulary Mastery

Based on the previous calculation description, it was found that T<sub>Count</sub> value was higher than T<sub>Table</sub> value or 11,551 was higher than 2,045. It proved that there was a significance difference of Pre-Test and Post-Test score on students' vocabulary mastery in the experimental group.

Moreover, T<sub>Count</sub> value was higher than T<sub>Table</sub> value or 5,844 was higher than 2,045, it also proved there was a difference of Pre-Test and Post-Test score on students' vocabulary mastery in the control group even though the improvement was quite lower than in the experimental group.

Finally, it meant that there was a significance difference of Pre-Test and Post-Test score on students' vocabulary mastery in the experimental and control group. It also meant that Hypothesis 1 was accepted.

#### 3.2.2 The Increase of Score Result on Students Vocabulary Mastery

Based on the previous calculation description, it was found that T<sub>Count</sub> value was higher than T<sub>Table</sub> value or 3,641 was higher than

2,001. It proved that there was a significance improvement of Post-Test score on students' vocabulary mastery in the experimental and control group. Therefore, it meant that Hypothesis 2 was accepted.

#### 3.3.3 The Effect of Duolingo Usage on Students' Vocabulary Mastery

Based on previous calculation description, it was found that T<sub>Count</sub> value was higher than T<sub>Table</sub> value or 3,710 was higher than 2,001. It proved that there was an effect of Duolingo usage on students' vocabulary mastery of the seventh-grade students at MTs PAB 1 Helvetia. Therefore, it meant that Hypothesis 3 was accepted. Duolingo can be an alternative online media to teach vocabulary. The advantages of Duolingo features can help the students to enhance their vocabulary mastery. The students can access Duolingo not only at school by also at home. It will make students' vocabulary mastery improve better.

The finding in this research was in line with the research which was conducted by Pramesti (2020). She found that Duolingo is a useful tool for learning English because it has many benefits to support students' learning process. This application is easy to use and motivates them to learn English. They also felt comfortable and enjoyed learning English using Duolingo. Furthermore, the majority of the students agreed that using Duolingo is useful for interestingly learning Basic English.

### IV. CONCLUSION

Based on the previous description of data analysis, it could be concluded that there was a significance difference, increase or improvement and effect of Duolingo usage on students vocabulary mastery of the seventh-grade students at MTs PAB 1 Helvetia.

The usage of Duolingo contributed the good effect on students' vocabulary mastery of the seventh-grade students at MTs PAB 1 Helvetia. The teachers can choose Duolingo as an one of

effective online learning medias to enhance students' vocabulary mastery.

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