THE USE OF DIGITAL FLASHCARD TO DEVELOP VOCABULARY MASTERY OF THE SEVENTH GRADE STUDENTS OF SMP LAB SCHOOL PALU

Ummi Nurhasanah[1], Mochtar Marhum[2], Wahyudin[3]
umminurhasanah2402@gmail.com[1], mochtarmarhum66@gmail.com[2],
wahyudin007untad@gmail.com[3]
Universitas Tadulako

ABSTRAK

Penelitian ini bertujuan untuk mengetahui apakah penggunaan digital flashcard dapat mengembangkan penguasaan kosakata siswa kelas tujuh SMP Lab School Palu. Metode yang digunakan dalam penelitian ini adalah desain kuasi-eksperimental dengan dua kelompok: kelompok eksperimen dan kelompok control. Populasi penelitian ini adalah siswa kelas tujuh SMP Lab School Palu. Sampel penelitian ini adalah 16 siswa kelas VII.C sebagai kelompok eksperimen dan 17 siswa kelas VII.A sebagai kelompok control. Instrumen penelitian berupa pre-test dan post-test yang digunakan untuk mengukur kemampuan kosakata siswa sebelum dan sesudah perlakuan. Instrumen penelitian ini berupa tes kosakata. Jenis tes yang digunakan adalah pilihan ganda dan melengkapi kata. Teknik analisis data menggunakan uji statistic inferensial dengan uji-t untuk mengetahui perbedaan yang signifikan antara kedua kelompok. Berdasarkan analisis data, hasil penelitian menunjukkan bahwa terdapat perkembangan yang signifikan pada penguasaan kosakata siswa yang diajar dengan menggunakan digital flashcard dibandingkan dengan siswa yang diajar dengan metode konvensional. Hal ini dibuktikan dengan nilai rata-rata pada kelompok eksperimen sebesar 93.56 sedangkan nilai rata-rata pada kelompok kontrol sebesar 73.94. Berdasarkan hasil, t-hitung 3.64 lebih besar dari t-tabel 2.04 yang artinya hipotesis penelitian ini diterima. Dapat disimpulkan bahwa penggunaan digital flashcard dapat mengembangkan penguasaan kosakata siswa.
Kata Kunci: Digital Flashcard, Vocabulary Mastery, English Vocabulary Development, English Learning, Teaching Media.

ABSTRACT

This research aims to find out whether the use of digital flashcard can develop the vocabulary mastery of the seventh-grade students of SMP Lab School Palu. The method used in this research was a quasi-experimental design with two groups: an experimental group and control group. The population of this research were the seventh-grade students of SMP Lab School Palu. The research sample was 16 students of class VII.C as the experimental group and 17 students of class VII.A as the control group. The research instruments were pre-test and post-test which were used to measure students' vocabulary skills before and after the treatment. The instrument of this research was vocabulary test. The kind of test are multiple choice and completion word. The data analysis technique used inferential statistical test with t-test to determine the significance difference between the two group. Based on the data analysis, the results showed there was a significance development in the vocabulary mastery of students who were taught by using digital flashcard compared to students who taught by conventional method. This is evidenced by the means score of experimental group was 93.56 while the means score of control group was 73.94. Based on the results, the t-count was 3.64 is higher than t-table was 2.04 it means that the hypothesis of this research is accepted. It can be concluded that the use of digital flashcard can develop students' vocabulary mastery.
Keywords: Digital Flashcard, Vocabulary Mastery, English Vocabulary Development, English Learning, Teaching Media.

INTRODUCTION

Indonesian students learn English to improve their four language skills: listening, speaking, reading, and writing. To master those four skills, students must learn language elements like structure, sounds and vocabulary. According to Evenddy & Hamer (2016)

vocabulary is the first thing that people should learn. Besides, knowing the whole meaning of words also make them easier to read, listen, write, speak, and listen. From vocabulary, they will be organized and arranged by grammatical, it will create a good sentence. According to Agung et al., (2021) vocabulary is a basic element of language that is needed by someone in learning a language, especially to communicate effectively with other people. Vocabulary has an important role in learning English because it is one of the elements that connect the four language skills, namely speaking, listening, reading, and writing simultaneously.

Vocabulary mastery is an important foundation in one's ability to communicate in a particular language. According to Yulsardi & Ratmanida (2021) vocabulary is the key to success in language learning. It can help people read well and comprehend the text well. Therefore, mastering vocabulary can help people to convey their idea in a spoken and written form easily.

Regarding vocabulary mastery, many researchers find a problem with students' vocabulary. According to Azzahra et al., (2024) one of the problems that causes students to have difficulty in improving their English skills is the lack of vocabulary mastery. Furthermore, Siddiqua et al., (2010) explored the students' difficulty in learning vocabulary in terms of kinds and factors causing it. The finding reveals that pronunciation, spelling, inflectional process, word meaning and word use are the types of difficulties found.

Based on researcher's observation conducted through interview with English teacher and observations of the learning and teaching in the classroom, the researcher found that the seventh-grade students faced problems with English vocabulary mastery. Many students have difficulty in findings idea in sentences, word meaning, low motivation to learn, and the lack of use of interesting learning media that makes students bored and unenthusiastic in learning English. Therefore, the researcher offers the use of innovative media such as digital flashcard that can be a solution to develop students' vocabulary mastery. Vocabulary mastery is very important for students because it is the basis for language skills such as speaking, reading, listening, and writing.

In the current era, the use of media in the vocabulary learning process varies greatly. One effective learning media is the use of digital flashcard. Digital flashcard are digital tools or applications that present information in a question-and-answer style to aid learning and memorization. According to Nur et al., (2023) one of the media that is considered effective in improving the English vocabulary students is the flashcard media. However, the use of digital flashcard in teaching and learning English vocabulary in schools is still limited. Most previous studies have shown the effectiveness of conventional flashcard but research on the use digital flashcard in developing vocabulary mastery is still lacking.

The use of digital flashcards has been found to have a significant effect on students' vocabulary mastery. This is supported by a study conducted at SMPN 12 Padang, which found that students who were taught using digital flashcards had better vocabulary mastery than those who were taught using conventional media. In addition, research by Nugroho investigated Improving Students Vocabulary Mastery Using Flashcard. Based on his research, flashcards can improve students' vocabulary mastery.

METHOD

This research intends to investigate the use of digital flashcard to develop vocabulary mastery of the seventh-grade students. To address that, the researcher used a quasi-experimental design. According to Sugiyono (2015) quasi-experimental research is development research of true experiment design which has experimental group and control group. The experimental group will be given a treatment, but the control group will not be

given any treatment.

The researcher presents the design of the research as proposed by Arikunto (2013) as follows,

Table 1 The Experimental Design

E	O1	X	O2
F	O3		O4

Where:
O1   : group pre-testing of experimental
O2   : group post-testing of experimental
O3   : group pre-testing of control
O4   : group post-testing of control
X: Treatment

RESULTS AND DISCUSSION
Results of the Research

The results of this research are analyzed statistically. In collecting the data, the researcher used the test as the instrument of the research. There were two kinds of tests in this research, they were pre-test and post-test. The researcher gave a pre-test of both experimental and control group to find out the prior knowledge of the students. The post-test was given after the research applied the treatment. The pre-test was conducted on 8th November 2024 and the post-test on 2nd December 2024.

1. Results of the Validity and Reliability Test

Validity and Reliability are closely related to each other, they express different properties of the measuring instruments. Generally, a measuring instrument may be reliable without being valid, but if a measuring instrument is valid, it also likely to be reliable. According to Anastasi and Urbina (1997) Validity refers to whether the measuring instrument measures the behavior or quality it is intended to measure and is a measure of how well the measuring instrument performs its function. Validity is determined by the meaningful and appropriate interpretation of the data obtained from the measuring instrument as a result of the analysis. According Surucu & Maslakci (2020) Reliability refers to the stability of the measuring instrument used and its consistency over time. In other words, Reliability is the ability to measure instruments to give similar results when applied at different times. Validity and Reliability are testing in this research was conducted using the SPSS application.

2. Validity and Reliability Test of Pre-Test

In the pre-test, a validity and reliability test were conducted after the pre-test results were obtained from the students. This validity test is used to see the validity of the test given to the students.

The result of validity and reliability test of pre-test can be seen in the following table1:

Table 1 Validity Test of Pre-Test

Question Number	Person Correlation	Significant Value	Conclusion
1	0,084	0,643	INVALID
2	0,372	0,033	VALID
3	0,472	0,006	VALID
4	0,525	0,002	VALID
5	0,466	0,006	VALID
6	0,284	0,109	INVALID
7	0,652	0,000	VALID
8	0,576	0,000	VALID
9	0,378	0,030	VALID
10	0,495	0,003	VALID
11	0,502	0,003	VALID
12	0,186	0,300	INVALID
13	0,338	0,055	INVALID
14	0,382	0,028	VALID
15	0,381	0,029	VALID
16	0,420	0,015	VALID
17	0,361	0,039	VALID
18	0,404	0,020	VALID
19	0,498	0,003	VALID
20	0,505	0,003	VALID
21	0,518	0,002	VALID
22	0,499	0,003	VALID
23	0,443	0,010	VALID
24	0,306	0,084	INVALID
25	0,015	0,933	INVALID
26	0,495	0,003	VALID
27	0,691	0,000	VALID
28	0,874	0,000	VALID
29	0,673	0,000	VALID
30	0,722	0,000	VALID

Based on the table 1, the researcher concluded that the total of questions proven valid were 24 questions, including 19 multiple choice and 5 completion word questions, while the questions proven invalid were 6 questions which were part of multiple choice.

Table 2 Reliability Test of Pre-Test

Case Processing Summary

		N	%
Cases	Valid	33	100.0
	Excluded[a]	0	.0
	Total	33	100.0

Reliability Statistics

Cronbach's Alpha	N of Items
0.860	30

Based on the table 2, the researcher concluded that the reliability of pre-test was reliable with the Cronbach's Alpha is 0.860.

3. Validity and Reliability Test of Post-Test

In the post-test, a validity and reliability test were conducted after the post-test results were obtained from the students. This validity test is used to see the validity of the test given to the students after the treatment was done.

The result of validity and reliability test of post-test can be seen in the following table:

Table 3 Validity Test of Post-Test

Question Number	Person Correlation	Significant Value	Conclusion
1	0,276	0,120	INVALID
2	0,430	0,013	VALID
3	0,558	0,001	VALID
4	0,681	0,000	VALID
5	0,621	0,000	VALID
6	0,657	0,000	VALID
7	0,002	0,993	INVALID
8	0,455	0,008	VALID
9	0,161	0,370	INVALID
10	0,689	0,000	VALID
11	0,653	0,000	VALID
12	0,285	0,108	INVALID
13	0,520	0,002	VALID
14	0,535	0,001	VALID
15	0,349	0,046	VALID
16	0,182	0,311	INVALID
17	0,552	0,001	VALID
18	0,431	0,012	VALID
19	0,440	0,010	VALID
20	0,430	0,013	VALID
21	0,023	0,897	INVALID
22	0,530	0,002	VALID
23	0,794	0,000	VALID
24	0,440	0,010	VALID
25	0,237	0,184	INVALID
26	0,388	0,026	VALID
27	0,503	0,003	VALID
28	0,620	0,000	VALID
29	0,346	0,049	VALID
30	0,592	0,000	VALID

Based on the table 3, the researcher concluded that the total of questions proven valid were 23 questions, including 18 multiple choice and 5 completion word questions, while the questions proven invalid were 7 questions which were part of multiple choice.

Table 4 Reliability Test of Post-Test

Case Processing Summary

			N	%
Cases	Case	Valid	33	100.0
	da	Exclude	0	.0
		Total	33	100.0

Reliability Statistics

Cronbach's Alpha	N of Items
0.865	30

Based on the table 4, the researcher concluded that the reliability of post-test was reliable with the Cronbach's Alpha is 0.865.

4. The Result of Pre-Test

The researcher conducted pre-test for experimental group and control group on 8th November 2024. The pre-test was conducted at the same date but in different time. The use of pre-test is to measure the prior knowledge of the students in vocabulary before the experimental group treated with Digital Flashcard and control group treated with conventional teaching vocabulary usually applied in the school.

The results of pre-test both of experimental group and control group in detail can be seen in the following table:

Table 5 The Result of Pre-test in Experimental Group

No	Initial	Multiple Choice	Completion Word	Obtained Score	Maximum Score	Standard Score
1	AKR	9	0	9	30	30
2	AKB	19	3	22	30	73
3	AS	24	5	29	30	97
4	CAG	20	5	25	30	83
5	KS	18	5	23	30	77
6	KA	15	5	20	30	67
7	MS	18	3	21	30	70
8	MVA	18	5	23	30	77
9	MFH	8	0	8	30	27
10	MR	9	1	10	30	33
11	MRP	18	3	21	30	70
12	MSY	13	3	16	30	53
13	NA	16	3	19	30	63
14	NAS	10	0	10	30	33
15	RMP	19	5	24	30	80
16	RZ	21	5	26	30	87
Total						**1020**
Means Score						**63.75**

Based on the table 5, it shows that the highest score is 97 and the lowest score is 27. After getting the total score of the students, the researcher analyzed the students "mean score" by using the formula as stated in previous chapter. The mean calculation as follows:

$$M = \frac{\sum X}{N}$$
$$M = \frac{1020}{16}$$
$$M = 63.75$$

The means score of experimental group in pre-test is 63.75 it indicates that the students vocabulary of the seventh grade of SMP Lab School Palu was poor before giving the treatment. The researcher also analyzed the results of control class on the pre-test as follows:

Table 6 The Result of Pre-Test in Control Group

No	Initial	Multiple Choice	Completion Word	Obtained Score	Maximum Score	Standard Score
1	AAD	20	3	23	30	77
2	AQ	17	5	22	30	73
3	AAM	10	0	10	30	33
4	AXI	21	5	26	30	87
5	AMA	18	5	23	30	77
6	AMM	16	6	21	30	70
7	ATA	14	3	17	30	57
8	IZA	8	0	8	30	27
9	KMF	17	2	19	30	63
10	MAA	19	5	24	30	80
11	MDA	9	1	10	30	33
12	NN	12	5	17	30	57
13	SAP	23	5	28	30	93
14	SRR	14	2	16	30	53
15	SHT	18	5	23	30	77
16	SAA	19	5	24	30	80
17	ZO	9	2	11	30	37
Total						**1073**
Means Score						**63.12**

Based on the table 6, it shows that the highest score is 93 and the lowest score is 27. After getting the total score of the students, the researcher analyzed the students "mean score" by using the formula as stated in previous chapter. The mean calculation as follows:

$$M = \frac{\sum X}{N}$$
$$M = \frac{1073}{17}$$
$$M = 63.12$$

From the two calculations above, the means score of the experimental group is 63.75 while the means score of control group is 63.12. It means that the experimental group got the highest score than the control group before treatment.

5. The Result of Post-Test

After the researcher applied the Digital Flashcard as the treatment in the experimental group and conventional teaching vocabulary in the control group, the researcher conducted the post-test on 2nd December 2024 in the experimental group and control group but in different time. In analyzing the data taken from post-test, the researcher elaborated the results of the post-test in both experimental and control group by providing them on the next page.

Table 7 The Result of Post-Test in Experimental Group

No	Initial	Multiple Choice	Completion Word	Obtained Score	Maximum Score	Standard Score
1	AKR	20	5	25	30	83
2	AKB	23	5	28	30	93
3	AS	25	5	30	30	100
4	CAG	22	5	27	30	90
5	KS	24	5	29	30	97
6	KA	22	4	26	30	87
7	MS	25	4	29	30	97
8	MVA	23	5	28	30	93
9	MFH	20	5	25	30	83
10	MR	23	5	28	30	93
11	MRP	24	5	29	30	97
12	MSY	24	5	29	30	97
13	NA	25	5	30	30	100
14	NAS	25	4	29	30	97
15	RMP	24	5	29	30	97
16	RZ	23	5	28	30	93
Total						1497
Means Score						93.56

Based on the table 7, it indicates that the highest score of the students is 100 and the lowest score is 83. After getting the results, the researcher found the mean score by applying the formula:

$$M = \frac{\sum X}{N}$$
$$M = \frac{1497}{16}$$
$$M = 93.56$$

The means score in post-test of experimental group is 93.54. It indicates that it had a significant progress of mean score from 63.75 in the pre-test to 93.54 in the post-test. The researcher also analyzed the results of control class on the post-test as follows:

Table 8 The Result of Post-Test in Control Group

No	Initial	Multiple Choice	Completion Word	Obtained Score	Maximum Score	Standard Score
1	AAD	20	5	25	30	83
2	AQ	20	5	25	30	83
3	AAM	9	2	11	30	37
4	AXI	23	5	28	30	93
5	AMA	21	5	26	30	87
6	AMM	21	2	23	30	77
7	ATA	18	5	23	30	77
8	IZA	10	2	12	30	40
9	KMF	17	3	20	30	67
10	MAA	22	5	27	30	90
11	MDA	13	2	15	30	50
12	NN	15	3	18	30	60
13	SAP	25	3	28	30	93
14	SRR	15	5	20	30	67
15	SHT	21	5	26	30	87
16	SAA	23	5	28	30	93
17	ZO	17	5	22	30	73
Total						**1257**
Means Score						**73.94**

Based on the table 8, it indicates that the highest score of the students is 93 and the lowest score is 37. After getting the results, the researcher found the mean score by applying the formula:

$$M = \frac{\sum X}{N}$$
$$M = \frac{1257}{17}$$
$$M = 73.94$$

The means score in post-test of control group is 73.94 It shows that the mean score of control group also increased from 63.12 in the pre-test to 73.94 in the post-test.

From the two calculations above, the mean score of the experimental group is 93.56 while the mean score of control group is 73.94. It means that the experimental group got the highest score than the control group after the treatment applied.

6. Deviation

After having the data of both experimental group and control group on pre-test and post-test, the researcher continued analyze the data by finding out the deviation and square deviation of the data both experimental and control group. The result of the data can be seen in the following table 9:

Table 9 Deviation of Pre-test and Post-test of Experimental Group

No	Students	Pre-test 1	Post-test 2	deviation (d) (2-1)	Square Deviation
1	AKR	30	83	53	2809
2	AKB	73	93	20	400
3	AS	97	100	3	9
4	CAG	83	90	7	49
5	KS	77	97	20	400
6	KA	67	87	20	400
7	MS	70	97	27	729
8	MVA	77	93	17	289
9	MFH	27	83	57	3249
10	MR	33	93	60	3600
11	MRP	70	97	27	729
12	MSY	53	97	43	1849
13	NA	63	100	37	1369
14	NAS	33	97	63	3969
15	RMP	80	97	17	289
16	RZ	87	93	7	49
Total				478	20188
Means Score				29.88	1261

By looking at the table 9, it can be seen that the highest deviation (d) score of experimental group is 63 and the lowest deviation is 3, while the highest square deviation (d^2) is 3969 and the lowest square deviation is 9. Moreover, the total of deviation was 478 and the total square deviation was 20188.

After getting the score, the next step was to find out the mean deviation of the experimental group by using the following formula:

$$Mx = \frac{\sum X}{N}$$
$$Mx = \frac{478}{16}$$
$$Mx = 29.88$$

The means score of deviation of the pre-test and post-test of the experimental group is 29.88. Furthermore, to find out the control group, the researcher also provides the following table 10:

Table 10 Deviation of Pre-test and post-test of Control Group

No	Students	Pre-test 1	Post-test 2	deviation (d) (2-1)	Square Deviation
1	AAD	77	83	7	49
2	AQ	73	83	10	100
3	AAM	33	37	3	9
4	AXI	87	93	7	49
5	AMA	77	87	10	100
6	AMM	70	77	7	49
7	ATA	57	77	20	400
8	IZA	27	40	13	169
9	KMF	63	67	3	9
10	MAA	80	90	10	100
11	MDA	33	50	17	289
12	NN	57	60	3	9
13	SAP	93	93	0	0
14	SRR	53	67	13	169
15	SHT	77	87	10	100
16	SAA	80	93	13	169
17	ZO	37	73	37	1369
Total				**183**	**3139**
Means Score				**10.76**	**184**

The table shows that the highest deviation (d) of control group is 37 and the lowest deviation is 0. Then, the highest square deviation (d^2) is 1369 and the lowest square deviation is 0. As the result, the total deviation is 183 and the total square deviation is 3139.

After getting the score, the next step was to find out the mean deviation of the experimental group by using the following formula:

$$My = \frac{\sum y}{N}$$
$$My = \frac{183}{17}$$
$$My = 10.76$$

The means score of deviation of the pre-test and post-test of the control group is 10.76. After finding the deviation and square deviation of the both groups, the researcher counted the sum of square deviation score in both groups. The researcher used formula as the following:

a. The sum of square deviation of experimental group

$$\sum x^2 = \sum x^2 - \frac{(\sum x)^2}{n}$$
$$\sum x^2 = 20188 - \frac{(478)^2}{16}$$
$$\sum x^2 = 20188 - \frac{228.484}{16}$$
$$\sum x^2 = 20188 - 14280.25$$
$$\sum x^2 = 5907.75$$

b. The sum of square deviation of control group

$$\sum y^2 = \sum y^2 - \frac{(\sum y)^2}{n}$$
$$\sum y^2 = 3139 - \frac{(183)^2}{17}$$
$$\sum y^2 = 3139 - \frac{33489}{17}$$
$$\sum y^2 = 3139 - 1969.94$$
$$\sum y^2 = 1169.06$$

Therefore, the sum of square deviation of experimental group and control group from those statistical data above is 5907.75 and 1169.06. After getting the square deviation score, the researcher counted whether the result is significant or not by applying the t-count formula by Arikunto (2006) as follow:

$$t = \frac{Mx - My}{\sqrt{\left\{\frac{\sum x^2 + \sum y^2}{nx + ny - 2}\right\}\left\{\frac{1}{nx} + \frac{1}{ny}\right\}}}$$

$$t = \frac{29.88 - 10.76}{\sqrt{\left\{\frac{5907.75 + 1169.06}{16 + 17 - 2}\right\}\left\{\frac{1}{16} + \frac{1}{17}\right\}}}$$

$$t = \frac{19.12}{\sqrt{\left\{\frac{7076.81}{31}\right\}\{0.121\}}}$$

$$t = \frac{19.12}{\sqrt{\{228.28\}\{0.121\}}}$$

$$t = \frac{19.12}{\sqrt{\{27.621\}}}$$

$$t = \frac{19.12}{5.258}$$

$$t = 3.64$$

Thus, by having the formula, it can be determined that the t-counted of this research is 3.64.

7. **Testing Hypothesis**

Testing hypothesis aims to find out whether the hypothesis is accepted or rejected. In other words, to find out whether digital flashcard was conducted successfully or not. Researcher intended to reveal whether applying digital flashcard develops vocabulary mastery of grade VII Students of SMP Lab School Palu. The rule of testing hypothesis the t-counted is higher than t-table value, the hypothesis is accepted, but if t-counted is lower than t-table the hypothesis is rejected.

However, before deciding whether the hypothesis is accepted or rejected, the researcher needed to find out the critical t-table. The way to find out the critical t-table was by applying the formula. The calculation is as follows:

Degree of freedom (df) = Nx + Ny – 2
                                    = 16 + 17 – 2
                                    = 31

Level significance = 0.05

t-table   = 2.04

   After having the obtained the critical t-table of df 31, the researcher found that the t-table (2.04) lower than the t-counted (3.64) by applying the 0.05 level of significance. It means that the hypothesis is accepted. In conclusion, the use of Digital Flashcard can develop vocabulary mastery of the seven grade students of SMP Lab School Palu.

Discussion

   The objective of this research is to find out whether or not the use of digital flashcard can develop vocabulary mastery or vice versa. The use of Digital Flashcard helped students be more active and enthusiastic to get more vocabulary by using Digital Flashcard during the learning process. The students seem more easily to memorize the vocabulary and enjoy the learning by using Digital Flashcard.

   This research was conducted at SMP Lab School Palu. The population of this research is seventh grade students and the sample of this research are VII.C as experimental group and VII.A as control group. In this research, the test was given twice; pre-test and post-test. The types of the test that the researcher used are multiple choice and completion word. The total number of tests are 30. Multiple choice consists of 25 numbers and completion word consists of 5 numbers. Based on data description of the data which was taken from 33 students of experimental and control group, the researcher found that there are differences between students using Digital Flashcard and using conventional media.

   Based on the data analysis, the researcher found that the students in the experimental group showed development in vocabulary mastery compared to the control group. This is evidenced by the statistical analysis of the means score in the experimental group increased significantly from pre-test (63.75) to post-test (93.56). Meanwhile, the t-count (3.64) is higher than t-table (2.04) at the 0.05 level of significance. Therefore, the results of hypothesis testing shows that the alternative hypothesis (Ha) is accepted, while the null hypothesis (Ho) is rejected. This finding confirms that the use of digital flashcard can develop students' vocabulary mastery of the seventh-grade students of SMP Lab School Palu.

   The results align with various perspective on vocabulary mastery. Nation (1990) emphasized the importance of repetition and exposure in vocabulary learning, which digital flashcard facilitate effectively. Digital flashcard allows students to engage in repeated to new words, reinforcing memory retention and recall efficiency.

   Moreover, the findings are supported by previous related studies. A research by Yulsardi & Ratmanida (2021) stated that students taught using digital flashcard showed the significantly higher vocabulary mastery than those taught using traditional method. Similarly, Rahmawati & Liskinasih (2022) found that Socrative digital flashcard led to greater vocabulary mastery than conventional power point-based instruction. Additionally, research by Astuti et al., (2022) demonstrated that using flashcards increased students' vocabulary retention rates compared to other instructional strategies. These studies confirm that digital flashcard serves as an effective medium for vocabulary learning, supporting the results of the previously research.

   The effectiveness of digital flashcard in developing vocabulary mastery is supported by the structured teaching procedure. The teaching outlines consists of six teaching sessions focusing on different vocabulary topics, including family, describing people, food and drink, describing feelings, places, and shapes. Each session is described as follow; first, introduction to digital flashcard and how it works, the teacher introduces and explain what digital flashcard are and how to use digital flashcard in vocabulary learning. Second, vocabulary introduction, the teacher introduces new vocabulary through digital flashcard, providing visual and textual representations to facilitate comprehension. Third, interactive

exercises, students engage in interactive activities such as matching words with pictures, guessing missing words, and answering questions based on digital flashcard. Fourth, assessment and feedback, each session ends with a brief evaluation to measure students' vocabulary development and provide feedback on areas of vocabulary that need improvement. Last, review and reinforcement, previously learned vocabulary is reviewed in the next session to strengthen students' retention or recall ability on previously learned vocabulary.

During the research, the researcher found some advantages by using Digital Flashcard. First, the students enjoy the learning process. Second, all of them very actively and enthusiastic during the learning process. Third, Digital Flashcard can motivate the students to learn independently by using Digital Flashcards because it easily to access. This aligns with the findings of Senzaki et al., (2017), who suggested that gamified learning media, such as flashcards can improve students' motivation and retention. However, the researcher also found the obstacle in conducted Digital Flashcard. The obstacle is the researcher was difficult to manage all students because the class became noisy when the researcher asked them to answer the questions. The way researcher faced this obstacle was give them opportunity one by one to answer the questions when researcher applied the activity during learning process by using Digital Flashcard.

The findings of this research show that digital flashcard is not only effective but also practical in vocabulary teaching. Their accessibility and ease of use make them a valuable medium for both teachers and students. In conclusion, this research contributes to the growing body of research supporting digital media in language education. By demonstrating the effectiveness of digital flashcard, this research provides a strong case for their application in effective vocabulary instruction.

CONCLUSION

Based on the research conducted at seventh grade students of SMP Lab School Palu, it could be concluded that there is effect of using Digital Flashcard to develop students' vocabulary mastery. It was proved by the students average or mean score of post-test in the experimental group was higher after given the treatment than the control group. It means that the use of digital flashcard can develop students' vocabulary mastery at the seventh-grade students of SMP Lab School Palu.

Based on the data of research finding, the collected data was analyzed by t-test to find out whether there was effect of using Digital Flashcard to develop students' vocabulary mastery or not. The researcher obtained that t-counted 3.64 is higher than t-table 2.04 in the significant level 0.05. It indicates that the alternative hypothesis (Ha) is accepted and the null hypothesis (Ho) is rejected. In conclusion, this research has proved that the use of digital flashcard can develop students' vocabulary mastery.

Suggestion

Based on the findings and discussion of this research, the researcher would like to give suggestions and solutions for teachers to use digital flashcard in vocabulary mastery. Teachers are suggesting to establish clear procedures when using digital flashcard to maintain order and ensure effective learning. Teachers are also suggesting to implement turn-taking and structured participation strategies for students to prevent learning disruptions such as classroom commotion. Ensure that the necessary digital tools such as projectors or computers are available and working before the lesson starts to help minimize disruptions in the learning process. To maintain student engagement, teachers can implement game activities such as Quizlet, awards, and team-based challenges when using digital flashcard. Then, periodically review previously learned vocabulary to ensure students

level of vocabulary mastery. As well as, teachers are also advised to provide individualized feedback and monitor students' progress regularly to help students better master the vocabulary.

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