

CHAPTER IV

RESEARCH FINDING AND DISCUSSION

In this chapter the researcher discuss about the statistical result based on the instruments that are used in conducting the research. The data is presented which are presentation of the data, hypothesis testing, and discussion.

A. Presentation of Data

In this part as stated in the previous chapter there are two research problems in this research. The problems are Do the fifth grade students of SDN Duko Timur 1 taught by using picture card games have better vocabulary mastery and also how significant is the effect of using picture card games on the fifth grade students' English vocabulary mastery of SDN Duko Timur 1. The treatment conducted by researcher are: first researcher conduct the pre-test, treatment. The treatment did by researcher by the all students define to 3 groups, each groups consst of 5 students than researcher show the picture and the leader the students guess the meaning of picture. The picture twhich is showing to the students are 15 pictures. Last researcher conduct the post-test. Treatment that was hold on Monday, 23th August 2021 at 08.00 and Tuesday, 24th August 2021 at 08.30 a.m.

After collecting the data, the researcher needs to presentation the data. The researcher has to presents the data to know the comparison of both variable as including dependent and independent

variables after computing all of the data during the researcher process as a form of result. The independent variable in this research is picture card games (variable X) and dependent variable is vocabulary mastery (variable Y). The researcher use test and documentation as instruments to collecting the data. The data will be described as the data that the researcher got during the research process.

1. Data Presentation of Test

a. Presentation of Pre-Test

In this part will present the result of the test. To measure students' English vocabulary mastery, the researcher got the score from the test that has been given by multiple choice. There are 10 multiple choice for pre-test and post-test also. 1 score if the question is correct and 0 if the answer incorrect, so if the respondents answer the question correctly, they will get 10 score. The score of students' test namely pre-test in the table below:

Table 4.1

Result of Pre-test Score

No	Correspondents	Pre-test Score
1	Ulil	6
2	Agil	6



3	Arin	7
4	Arika	6
5	Aura	9
6	Dafi	6
7	Dewi	7
8	Adit	4
9	Riza	5
10	Mala	6
11	Ariel	5
12	Hafi	5
13	Faisol	8
14	Novi	8
15	Syukron	6
SUM		94

Based on the table above it can be known that the first column is number of students, the second column is the name of students, and the third column is the score of pre-test each students. The total of the score of pre-test is 94 before giving treatment. There are many various scores. No body students get score 10 but student who got 9 only one student, student who got 8 there are two students, student who got 7 there are two students, student who got 6 there

are six students, student who got 5 there are three students, and one students only got 4. Student who got under 7 it means lack of vocabulary mastery.

a. Presentation of Post-Test

After giving the pre-test the researcher give a treatment. Than after giving treatment the researcher give a post-test. The score of students' post-test in the table below:

Table 4.2

Result of Post-test Score

No	Correspondents	Post-test Score
1	Ulil	10
2	Agil	8
3	Arin	10
4	Arika	9
5	Aura	10
6	Dafi	9
7	Dewi	9
8	Adit	7
9	Riza	8

10	Mala	9
11	Ariel	9
12	Hafi	7
13	Faisol	10
14	Novi	10
15	Syukron	9
SUM		134

Based on the table above it can be known that the first column is number of students, the second column is the name of students, and the third column is the score of post-test each students. The total of the score of post-test is 134 after giving treatment. There are many various scores. There are five students who got score 10, six students who got score 9, and there are two students got 8, than two students who got 7.

b. Data Presentation of Documentation

The data obtained from the documentation are:

Table 4.3

The students' name list

No	Name of Students
1	Ahmad Ulil azmi
2	Fanzi Aditya F

3	Muhammad Hafir Ritaji
4	Novia Irawati
5	Mohammad Faisol Rahman
6	Moh. Ilham Safariel
7	Hartiyati Mala
8	Farizah Septiani Efendi
9	Ahmad Swidagil Pratama
10	Arin Nazila Wahyuni
11	Ariqoh Raihana Fahira
12	Auratul Islamia Aprilianti
13	Dafi Ul Haq
14	Dewi Nur Fadhilah
15	Syukron Jazilan

Table 4.4
The Result of Pre-test and Post-test

No	Correspondents	Pre-test	Post-test
1	Ahmad Ulil azmi	6	10
2	Fanzi Aditya F	6	8
3	Muhammad Hafir Ritaji	7	10
4	Novia Irawati	6	9
5	Mohammad Faisol Rahman	9	10

6	Moh. Ilham Safariel	6	9
7	Hartiyati Mala	7	9
8	Farizah Septiani Efendi	4	7
9	Ahmad Swidagil Pratama	5	8
10	Arin Nazila Wahyuni	6	9
11	Ariqoh Raihana Fahira	5	9
12	Auratul Islamia Aprilianti	5	7
13	Dafi Ul Haq	8	10
14	Dewi Nur Fadhilah	8	10
15	Syukron Jazilan	6	9

2. Data Analysis

After the researcher conduct the pre-test and post-test, the researcher compared it to analyze the data. The researcher would like to analyze the data to take the result of this research. The researcher used the dependent t-test to analyze the data which included the pre-test and post-test.

The calculation of dependent t-test as follow:

Table 4.5
The Calculation of Paired Sample t-test

N	Name of	Vocabulary	D=	D²=
o	Correspond	Mastery		

	Subjects	Test		(X-Y)	(X-Y) ²
		Pre-test	Post-test		
1	Ulil	6	10	4	16
2	Agil	6	8	2	4
3	Arin	7	10	3	9
4	Arika	6	9	3	9
5	Aura	9	10	10	100
6	Dafi	6	9	3	9
7	Dewi	7	9	2	4
8	Adit	4	7	3	9
9	Riza	5	8	3	9
10	Mala	6	9	3	9
11	Ariel	5	9	4	16
12	Hafi	5	7	2	4
13	Faisol	8	10	2	4
14	Novi	8	10	2	4
15	Syukron	6	9	3	9
N = 15		SUM = 94	JM = 134	ΣD =	ΣD² =

			49	21
				5

Based on the table above the calculation of paired sample t-test pre-test post-test as follow:

$$N = 15$$

$$\sum D = 49$$

$$\sum D^2 = 215$$

The counting steps of t-test are as follow:

- Looking for D (difference) between score of pre-test and post-test, the calculation is $D = (X_2 - X_1)$ see in the table 4.5
- Summing D (difference) until $\sum D = 49$ it is obtain by summing all of the score D. see in the table 4.5
- Looking for mean of difference by formula $M_D = \frac{\sum D}{N}$

$$M_D = \frac{49}{15} = 3.2666$$

- Square all of D score, then add all of square D

- Determining standard deviation from D by formula $SD_D = \sqrt{\frac{\sum D^2}{N} -$

$$\left(\frac{\sum D}{N}\right)^2$$

$$SD_D = \sqrt{\frac{215}{15} - \left(\frac{49}{15}\right)^2}$$

$$SD_D = \sqrt{14.3333 - 10.6706}$$

$$SD_D = \sqrt{3.6627}$$

$$SD_D = 1.91381$$

f. Determining standard error of mean D by formula $SE_{mD} = \frac{SD_D}{\sqrt{N-1}}$

$$SE_{mD} = \frac{1.91381}{\sqrt{15-1}}$$

$$SE_{mD} = \frac{1.91381}{\sqrt{14}}$$

$$SE_{mD} = \frac{1.91381}{3.7416}$$

$$SE_{mD} = 0.51149$$

g. determining t by formula $t_0 = \frac{\sum d_i}{\sqrt{\frac{N\sum d_i^2 - (\sum d_i)^2}{N-1}}}$

$$t_0 = \frac{49}{\sqrt{\frac{15 \cdot 215 - 49^2}{15-1}}}$$

$$t_0 = \frac{49}{\sqrt{\frac{3225 - 2401}{14}}}$$

$$t_0 = \frac{49}{\sqrt{\frac{824}{14}}}$$

$$t_0 = \frac{49}{\sqrt{58.857}}$$

$$t_0 = \frac{49}{7.67183}$$

$$t_0 = 6.3870$$

Based on the calculation of dependent t-test, the researcher finds $t_0 = 6.3870$. To know the null hypothesis is rejected it must be done the hypothesis testing.

B. Hypothesis Testing

Based on the result of $t_0 = 6.3780$ to determine whether H_0 is accepted or rejected it must be consulted with t-value in t-table by using significant level 5%. The researcher should determine df (degree of freedom) by formula $df = N - 1$. So the calculation of df as follow:

$$N = 15$$

$$df = N - 1$$

$$df = 15 - 1$$

$$df = 14$$

Based on the df score above, in the level significance 5% obviously, in $df = 14$, t-value that can be obtained in t-table in the level significance 5% is 2.145.

After $t_0 = 6.3780$ then compare with t-value in t-table of 2.145. The researcher stated that null hypothesis (H_0) is rejected and alternative hypothesis (H_a) is accepted because $t_0 \geq t_t (6.3780 \geq 2.145)$.

In conclusion researcher infers that alternative hypothesis (H_a) is accepted. It means that there is an impact of using picture card game on the fifth students' English vocabulary of SDN Duko Timur 1.

1. Validity and Reliability of the Instruments

a. Validity of the Instrument

The researcher use content validity to measure students on the vocabulary mastery. The test indeed and explain clearly to students. The researcher asked to the students how teacher made the test in every indicator. And before giving the test, the researcher observed the phenomena and some references for assessing test.

b. Reliability of the Instruments

After validity of test, next step is reliability of the instrument. The reliability is tasted by Spearman Brown



formula because is suitable to measure reliability of performance test such as multiple choice test.

In this research, the reliability testing is applied individually, namely reliability testing pre-test and reliability testing of post-test. Those are presented as follow:

1. Reliability Testing of Pre-test

To know the reliability coefficient, the researcher would find sum of variance of vocabulary mastery.

The researcher counts the score as follow:

a. The Variance of Pre-test Score

Before establish the variance of pre-test score, the researcher should determine the mean score of it. In determining the mean score, the researcher should sum X_i (the score of pre-test) of vocabulary mastery on the table as follow:

Table 4.6

Calculation of determining Variance of Pre-Test Score

No	Name of Correspondents	Pre-test Score (X_i)	$(X_i - \bar{X})$	$(X_i - \bar{X})^2$

1	Ulil	6	-0,26	0.0676
2	Agil	6	-0.26	0.0676
3	Arin	7	0.74	0.5476
4	Arika	6	-0.26	0.0676
5	Aura	9	2.74	7.5076
6	Dafi	6	-0.26	0.0676
7	Dewi	7	0.74	0.5476
8	Adit	4	-2.26	5.1076
9	Riza	5	-1.26	1.5876
10	Mala	6	-0.26	0.0676
11	Ariel	5	-1.26	1.5876
12	Hafi	5	-1.26	1.5876
13	Faisol	8	1,74	3.0276
14	Novi	8	1.74	3.0276
15	Syukron	6	-0.26	0.0676
N = 15		94	0	249.340

Based on the table above the sum of X_i (the score of pre-test of vocabulary mastery) is 94. Then the researcher calculated the mean score of X_i which is gotten from sum of X_i divided by amount of participants. After that researcher calculated the variance of $(X_i - \bar{X})^2$. The sum of $(X_i - \bar{X})^2$ is 249.340

To find the mean score and variance of pre-test score, the formula as follow:

a. Determining the Mean Score

$$\chi = \frac{\sum X_i}{N}$$

$$\chi = \frac{94}{15} = 6.266$$

b. Determining the Variance

$$S_i^2 = \frac{\sum (X_i - \chi)^2}{N - 1}$$

$$S_i^2 = \frac{6.266}{15 - 1}$$

$$S_i^2 = \frac{6.266}{14}$$

$$S_i^2 = 0.4471$$

From the formula above it can be obtained that the mean score of pre-test is 6.266 and the variance is 0.4471.

2. Reliability Testing f Post-test

To know the reliability coefficient, the researcher would find sum of variance of vocabulary mastery. The researcher to count the

score as follow:

a. The Variance of Post-test Score

Before establish the variance of post-test score, the researcher should determine the mean score of it. In determining the mean score, the researcher should sum X_i (the score of post-test) of vocabulary mastery on the table as follow:

Table 4.7

Calculation of Determining Variance of Post-test Score

No	Name of Correspondents	Post-test Score (X_i)	$(X_i - \bar{X})$	$(X_i - \bar{X})^2$
1	Ulil	10	1.0667	1.137848
2	Agil	8	-0.9333	.8710488
3	Arin	10	1.0667	1.137848
4	Arika	9	0.667	0.44488
5	Aura	10	1.0667	1.137848
6	Dafi	9	0.667	0.44488
7	Dewi	9	0.667	0.44488
8	Adit	7	-1.9333	3.737648
9	Riza	8	-0.9333	.8710488
10	Mala	9	0.667	0.44488
11	Ariel	9	0.667	0.44488
12	Hafi	7	-1.9333	3.737648

13	Faisol	10	1.0667	113.7848
14	Novi	10	1.0667	113.7848
15	Syukron	9	0.667	0.44488
N = 15		134	0	0.852.440

Based on the table above, the sum of X_i (the score of post-test) of vocabulary mastery is 134. Then the researcher calculated the mean score of post-test (\bar{X}) which is gotten from the sum of X_i divided amount of participants. After that researcher calculated the variance $(X_i - \bar{X})^2$. The sum of $(X_i - \bar{X})^2$ is 30.852.440

To find the mean score and variance of post-test score, the formula as follow:

c. Determining the Mean Score

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

$$\bar{X} = \frac{134}{15} = 8.93333$$

d. Determining the Variance

$$S_i^2 = \frac{\sum (X_i - \bar{X})^2}{N - 1}$$

$$S_i^2 = \frac{30.852.440}{15 - 1}$$

$$S_i^2 = \frac{30.852.440}{14}$$

$$S_i^2 = 2.203745$$

From the formula above it can be obtained that the mean score of post-test is 8.93333 and the variance is 2.203745

3. Reliability of Pre-test and Post-test vocabulary Mastery

Based on the data calculation above, the variance and mean of pre-test and post-test vocabulary mastery. In checking reliability of the instrument of this research, the researcher uses Spearman-Brown as a formula.

Table 4.8

Reliability of Pre-test

No	Corr e s p o n d e	Item Number										T o t a l S c o	Fi r s t (1 - 5	La s t (6 - 1 0	
		1	2	3	4	5	6	7	8	9	10				

	n											r	)	(X	)	(Y
	t											e	)	)	)	(Y
1	l	1	0	1	0	1	1	1	0	1	0	6	)	3	)	3
2	il	1	1	0	1	1	1	0	1	0	0	6	)	4	)	2
3	in	1	1	1	1	1	0	1	0	0	1	7	)	5	)	2
4	ika	1	0	1	0	1	0	1	0	1	1	6	)	3	)	3
5	ira	1	1	1	1	1	1	1	1	1	0	9	)	5	)	4
6	ifi	1	0	1	1	1	0	1	0	1	0	6	)	4	)	2
7	ewi	1	0	1	1	1	1	0	0	1	1	7	)	4	)	3
8	lit	1	0	0	1	1	0	1	0	0	0	4	)	3	)	1
9	za	1	0	1	1	1	1	0	0	0	0	5	)	4	)	1
10	ala	1	1	1	0	1	0	1	1	0	0	6	)	4	)	2
11	iel	1	0	1	0	1	1	1	0	0	0	5	)	3	)	2
12	ifi	1	1	1	0	0	0	0	1	0	1	5	)	3	)	2
13	isol	1	1	1	1	1	1	1	0	1	0	8	)	5	)	3
14	ovi	1	0	1	1	1	1	1	1	0	1	8	)	4	)	4
15	ukron	1	1	1	0	1	1	0	1	0	0	6	)	4	)	2

Table 4.9

The result of ΣX , ΣY , ΣXY , ΣX^2 , ΣY^2

No	X	Y	XY	X ²	Y ²
1	3	3	9	9	9
2	4	2	8	16	4
3	5	2	10	25	4
4	3	3	9	9	9
5	5	4	20	25	16
6	4	2	8	16	4
7	4	3	12	16	9
8	3	1	3	9	1
9	4	1	4	16	1
10	4	2	8	16	4
11	3	2	6	9	4
12	3	2	6	9	4
13	5	3	15	25	9
14	4	4	16	16	16

15	4	2	8	16	4
	5	3	42	32	98
	8	6			

Based on the table above the researcher uses the first way to analyze the item of questions divide to two part, are item 1 – 5 (first) and item 6 – 10 (last).

$$\Sigma X = 58$$

$$\Sigma Y = 36$$

$$\Sigma XY = 142$$

$$\Sigma X^2 = 232$$

$$\Sigma Y^2 = 98$$

$$r_{xy} = \frac{N\Sigma XY - (\Sigma X)(\Sigma Y)}{\sqrt{(N\Sigma X^2 - (\Sigma X)^2)(N\Sigma Y^2 - (\Sigma Y)^2)}}$$

$$= \frac{15 \times 142 - (58)(36)}{\sqrt{(15 \times 232 - (58)^2)(15 \times 98 - (36)^2)}}$$

$$= \frac{2.130 - 2.088}{\sqrt{3.480 - 3.364 (144.060 - 1.296)}}$$

$$= \frac{42}{\sqrt{116 \times 142.764}}$$

$$= \frac{42}{\sqrt{16.560.624}}$$

$$= \frac{42}{\sqrt{4.06947}}$$

$$= 20.82$$

Based on the reliability statistics of pre-test the researcher got is 20.82 and the level significance is 5%, so $r_{xy} > r$ table is reliable.

Table 4.10

Reliability of Post-test

No	Respondent	Item Number										Total Score	First (1-5) (X)	Last (6-10) (Y)
		1	2	3	4	5	6	7	8	9	10			
1	Ulil	1	1	1	1	1	1	1	1	1	1	10	5	5
2	Agil	1	1	1	1	1	1	0	0	1	1	8	5	3
3	Arin	1	1	1	1	1	1	1	1	1	1	10	5	5
4	Arika	1	1	1	1	1	1	1	0	1	1	9	5	4
5	Aura	1	1	1	1	1	1	1	1	1	1	10	5	5
6	Dafi	0	1	1	1	1	1	1	1	1	1	9	4	5
7	Dewi	1	1	1	1	1	1	1	1	1	0	9	5	4
8	Adit	0	1	1	1	1	1	1	0	0	1	7	4	3
9	Riza	1	1	1	1	1	0	1	0	1	1	8	5	3
0	1 Mala	1	1	1	1	1	1	1	0	1	1	9	5	4
1	1 Ariel	1	1	1	1	1	1	0	1	1	1	9	5	4
2	1 Hafi	1	1	1	1	1	0	1	0	1	0	7	5	2
3	1 Faisol	1	1	1	1	1	1	1	1	1	1	10	5	5
4	1 Novi	1	1	1	1	1	1	1	1	1	1	10	5	5
	1 Syukron	1	1	1	1	1	1	1	0	1	1	9	5	4

Table 4.11

The result of ΣX , ΣY , ΣXY , ΣX^2 , ΣY^2

No	X	Y	XY	X ²	Y ²
1	5	5	25	25	25
2	5	3	15	25	9
3	5	5	25	25	
4	5	4	20	25	16
5	5	5	25	25	25
6	4	5	20	16	25
7	5	4	20	25	16
8	4	3	12	16	9
9	5	3	15	25	9
10	5	4	20	25	16
11	5	4	20	25	16
12	5	2	10	25	4
13	5	5	25	25	25
14	5	5	25	25	25
15	5	4	20	25	16
	7	6	97	57	61
	3	1			

Based on the table above the researcher uses the first way to analyze the item of questions divide to two part, are item 1 – 5 (first) and item 6 – 10 (last).

$$\Sigma X = 73$$

$$\Sigma Y = 61$$

$$\Sigma XY = 297$$

$$\Sigma X^2 = 357$$

$$\Sigma Y^2 = 261$$

$$\begin{aligned}
 r_{xy} &= \frac{N\Sigma XY - (\Sigma X)(\Sigma Y)}{\sqrt{(N\Sigma X^2 - (\Sigma X)^2)(N\Sigma Y^2 - (\Sigma Y)^2)}} \\
 &= \frac{15 \times 297 - (73)(61)}{\sqrt{(15 \times 357 - (73)^2)(15 \times 261 - (61)^2)}} \\
 &= \frac{4.455 - 4.453}{\sqrt{5.355 - 5.329(3.915 - 3.721)}} \\
 &= \frac{2}{\sqrt{26 \times 194}} \\
 &= 76.09
 \end{aligned}$$

Based on the reliability statistics of post-test the researcher got is 76.09 and the level significance is 5%, so $r_{xy} > r$ table is reliable.

B. Discussion

In this research, the researcher compare the problems which need to be answered

1. Do the fifth grade students of SDN Duko Timur 1 taught by using picture card games have better vocabulary mastery?

The result of this test that has been conducted by

researcher that was analyzed showed there is the effect of the fifth grade students of SDN Duko Timur 1 that taught by using picture card games have better vocabulary mastery than before giving treatment. The result of hypothesis testing is the researcher stated that null hypothesis (H_0) is rejected and alternative hypothesis (H_a) is accepted because $t_o \geq t_t$ ($6.3780 \geq 2.145$).

Based on the finding, after the researcher conducted treatment it was found that there was an increase in vocabulary before the treatment was conducted. This is in line to Hudson and et al statement in Eka Fitriyani and Putri Zulmi Nulandas' journal entitled "*Efektivitas Media Flash Cards dalam Meningkatkan Kosakata Bahasa Inggris*" says that the images contained on the flash cards will help improve children's memory because visuals have a greater influence on remembering and understanding things than verbal or audio and also flash cards can be used while playing, so it creates fun and interest in learning English especially learning vocabularies.¹

2. How significant is the effect of using picture card games on the fifth grade students' English vocabulary

¹ Eka Fitriyani, Putri Zulmi Nulanda, *Efektivitas Media Flash Cards dalam Meningkatkan Kosakata Bahasa Inggris*, 169

mastery of SDN Duko Timur 1?

In this research, there is an effect of using picture card games on the fifth grade students' English vocabulary mastery of SDN Duko Timur 1. It is proved by the result $t_o \geq t_t (6.3780 \geq 2.145)$. To know the significance is the effect of using picture card game on English vocabulary mastery, the researcher determines df (degrees of freedom) $df = 14$. Based on the df score, in the level significance 5% obviously, in $df = 14$, t-value that can be obtained in t-table in the level significance 5% is 2.145. Then compare with t_o is 6.3780.

Picture card game can be used to practicing in English learning. This is in line to Brewster et al in Mofareh Alqahtani's journal entitled "The Important of Vocabulary in Language Learning and How to be taught", says that to teach vocabulary there are some techniques to teach vocabulary such us using picture, game, illustration, eliciting, translation, guessing from context, mime, expression and gestures.²

Based on the finding the researcher stated that using picture card game have strong significance in English vocabulary mastery. This is in line to Satosphili in

² Mofareh Alqahtani, *The Important of Vocabulary in Language Learning and How to be Taught*, 26-29.

Amonrat Chirandon, et al, journal entitled “The Effects of Teaching English through Games” state that using game in learning, students can enjoy the process of learning and also can engaged students.³

³ Amonrat Chirandon, et al, “*The Effects of Teaching English Through Games*”,3.