

CHAPTER IV

FINDING ANG DISCUSSION

A. Finding of the Research

1. Description of Data

In this chapter, the researcher presented the data description of tenth grade of MA Al Istiqamah Pekapuran Raya Banjarmasin about using Indonesia Pintar Game in improving students Vocabulary. The purposes are to find out students score who used Indonesia Pintar Game in improving students Vocabulary and to find out the effectiveness of using Indonesia Pintar Game. The instrument that is used by the researcher to get the data is test. The researcher collected the data and then described about the research result of tenth grade of MA Al Istiqamah Pekapuran Raya Banjarmasin. The researcher has consulted with the teacher who taught at tenth grade Mrs. Miftahul Hidayati to know the materials. Then, the researcher can make questions from the material which is given by the teacher of tenth grade Mrs. Miftahul Hidayati. The researcher did the research from August, 8th 2017, until September, 14th 2017. Before doing this research in experiment class and control class, the researcher analyzed the instrument whether it is valid and reliable or not 30 before using the instrument to experiment class and control class by using SPSS 22 Program.

2. Tabel 4.1 The Analysis of Validity test

Case Processing Summary

	N	%
Cases Valid	30	93,8
Excluded	2	6,3
Total	32	100,0

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
VAR00001	23,40	18,179	,287	,822
VAR00002	23,20	18,028	,489	,814
VAR00003	23,27	18,616	,228	,824
VAR00004	23,13	18,464	,483	,817
VAR00005	23,13	17,913	,317	,822
VAR00006	23,33	17,057	,625	,807
VAR00007	23,10	19,197	,220	,823
VAR00008	23,17	18,833	,247	,822
VAR00009	23,03	18,447	,271	,822
VAR00010	23,23	18,323	,344	,819
VAR00011	23,13	18,602	,418	,818

VAR00012	23,13	19,016	,226	,823
VAR00013	23,10	18,852	,439	,819
VAR00014	23,10	18,990	,351	,821
VAR00015	23,10	19,472	,047	,826
VAR00017	23,13	19,568	-,023	,829
VAR00018	23,17	18,833	,247	,822
VAR00019	23,17	18,351	,435	,817
VAR00020	23,17	19,454	,013	,829
VAR00021	23,37	19,482	-,028	,836
VAR00022	23,13	18,878	,290	,821
VAR00023	23,27	18,340	,309	,821
VAR00024	23,13	18,878	,290	,821
VAR00025	23,33	16,989	,645	,806
VAR00026	23,50	16,534	,681	,803
VAR00027	23,40	17,076	,574	,809
VAR00028	23,40	18,110	,304	,822
VAR00029	23,47	16,602	,673	,803
VAR00030	23,67	17,609	,412	,817

Based on table 4.1 above, the standard validity which stated a valid test if more than 0,631. Then, the validity test by using SPSS 22 showed that the

question first until the last got 0,803-0,829, it can be stated that the test is valid because validity test score more than standard validity.

Table 4.2 The Analysis of Reliability test

Reliability Statistics

Cronbach's Alpha	N of Items
,825	29

Based on table 4.2 reliability coefficient (r) which stated that a reliability test is high if Cronbach's Alfa more than 0.631. Then, the researcher did reliability test by using SPSS 22 and got 0,825. Thus, the interpretation for Cronbach's Alfa 0,825 is very high.

Table 4.3 Normality from Experiment and Controlled Class (Pre-Test)

One-Sample Kolmogorov-Smirnov Test			
		Exp	Control
N		23	25
Normal Parameters ^{a,b}	Mean	71.96	74.36
	Std.	9.721	7.544
	Deviation		
Most Extreme	Absolute	.357	.171
Differences	Positive	.191	.121
	Negative	-.357	-.171
Test Statistic		.357	.171
Asymp. Sig. (2-tailed)		.000 ^c	.058 ^c

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

Based on table above, the researcher compared the normality test of pre-test from experiment class and control class who calculated by SPSS 22. The researcher used One-Sample Kolmogorov-Smirnov Test as the standard for normality test. It means that the result pre-test of control class was higher than the significant ($0.58 > 0.05$). Then, the result post-test of experiment class was 0.133 and with significant 0.05. Thus, the data post-test of experiment class and control class was normal distribution. (see appendices)

Table 4.4 Levene test for Homogeneity of variance

Test of Homogeneity of variance

Levene Statistic	df1	df2	Sig.
.068	2	16	.935

Based on the table, it shows that the data is homogeny because the significance value 0,935 is more than significance standart 0,05.(see appendices)

2. The Students'' Pre-test and Post-test Scores in the Experimental Class

a. Individual score

Here the individual score of the data taken from the student towards the pre-test and post test in the experimental class.

The test items in the post-test were exactly the same as the ones that were given in the pre-test. The average pre-test score of the students in the experimental class was 53 . It was found out that the lowest score was 5 reached

by one student and the highest score was 82 reached by one student. Meanwhile, the average post-test score of the students in the experimental class after do the treatment was 85. It was found out that the lowest score was 66 reached by one student and the highest score was 100 reached by two students. The data distribution of the students' pre-test and post-test scores in the experimental class can be seen in table 4.5 below :

Tabel 4.5 The individual students' score of The Experimental Class

No	Name	Pre-test (X)	Post-Test (Y)
1	Barkati	79	89
2	Ayatullah	53	76
3	Fathur	79	89
4	Iqbal	56	76
5	Fahmi	76	79
6	Fikri	82	100
7	Ryan	56	73
8	Ulil	76	79
9	Rusdi	79	89
10	Yadi	76	100
11	Ahmadi	69	79
12	Irfan	63	89
13	Khairullah	76	89

14	Maulidi	76	96
15	Maulana	56	66
16	Ahmad	79	96
17	Ridho	56	73
18	Hafiz	79	93
19	Rifani	79	93
20	Haris	79	83
21	Mugeni	79	93
22	Zaini	76	86
23	Herman	76	86

b. Conversion of Percentage Ranges

The table below shows the students' score of experimental class in post-test, It was found out that the students who got score 90-100 reached by seven students (35%) in excellent level, students' scores 80-89 reached by eight students (40%) in very good level, students' scores 70-79 reached by seven students in good level, and students acquire score 60-69 is gotten by one student (5%) in fair level. The data percentage the students' post-test scores and classification of students level in vocabulary mastery in post-test of experimental class can be seen in Table 4.6 and 4.7 below:

The table 4.6 percentage students' score of the Experimental Class in the Post-Test

No	Student' Score (Y)	Frequencies (f)	Percentage (%)
1	66	1	5
2	73	2	10
3	76	2	10
4	79	3	15
5	83	1	5
6	86	2	10
7	89	5	25
8	93	3	15
9	96	2	10
10	100	2	10
	$\Sigma Y = 841$	$N=23$	$\Sigma P=115$

Table 4.7 Classification of Students Level in Vocabulary Mastery in Post-Test of the Experimental Class

Level	Score	Sum of students' vocabulary mastery	
		Frequency	Percentage
Excellent	90-100	7	35%

Very good	80-89	8	40%
Good	70-79	7	35%
Fair	60-69	1	5%
Total		N=23	$\sum P=115$

c. Description of the data

Here the description of the data taken from the student towards the pre-test and post test in the experimental class can be seen in Table 4.8 below:

Table 4.8 The test Scores of The Experimental Class

NO	Pre-test (X_1)	Post-test (Y_1)	$D=X-Y$	$D_1= (X - Y)^2$
1	79	89	-10	100
2	53	76	-23	529
3	79	89	-10	100
4	56	76	-20	400
5	76	79	-3	9
6	82	100	-18	324

7	56	73	-17	289
8	76	79	-3	9
9	79	89	-10	100
10	76	100	-24	576
11	69	79	-10	100
12	63	89	-26	676
13	76	89	-13	169
14	76	96	-20	400
15	56	66	-10	100
16	79	96	-17	289
17	56	73	-17	289
18	79	93	-14	196
19	79	93	-14	196
20	79	83	-4	16
21	79	93	-17	289
22	76	86	-10	100
23	76	86	-10	100
Σ	$\Sigma X_1 = 1655$	$\Sigma Y_1 = 1972$	$\Sigma D = - 317$	$\Sigma D^2 = 5263$

1) Determining Mean of pre-test and post-test score of experimental class

$$\begin{aligned}
 M_{X_1} &= \frac{\Sigma x}{N} \\
 &= \frac{1655}{23}
 \end{aligned}$$

$$=71.95$$

$$\begin{aligned} My_1 &= \frac{\sum x}{N} \\ &= \frac{1972}{23} \\ &=85.74 \end{aligned}$$

2) Analysis of Data

a) Determining Mean of difference of experimental class

$$\begin{aligned} M_{D1} &= \frac{\sum D}{N} \\ &= \frac{-317}{23} \\ &= -13.78 \end{aligned}$$

b) Determining Deviation Standard of difference of experimental class

$$\begin{aligned} SDD1 &= \sqrt{\frac{\sum D^2}{N} - \frac{(\sum D)^2}{N^2}} \\ &= \sqrt{\frac{5.12^2}{23} - \frac{(-317)^2}{23^2}} \\ &= \sqrt{5.263^2 - (13.78)^2} \end{aligned}$$

$$\frac{23}{\text{---}}$$

$$= \sqrt{228.83^2 + 189.89^2}$$

$$= \sqrt{38.94}$$

$$= 6.24$$

c) Determining Standard error from Mean of difference of Experimental class

$$SEM D1 = \frac{SDD1}{\sqrt{N - 1}}$$

$$= \frac{SDD2}{22}$$

$$= \frac{6.24}{4.69}$$

$$= 1.33$$

3. The Students' Pre-test and Post-test Scores in the Control Class

a. Individual score

Here the individual score of the data taken from the student towards the pre-test and post test the control class. In the control class, the average pre-test score of the students in the control class was 57. It was found out that the lowest score was 37 reached by one student and the highest score was 80 reached by one student. Meanwhile, the average post-test score of the students in the control class without treatment was 78. It was found out that the lowest score was 63 reached

by one student and the highest score was 100 reached by one student. The data distribution of the students' pre-test and post-test scores in the control class can be seen in Table 4.9 below:

Table 4.9 the individual students' score of the Control Class

No	Name	Pre-test (X)	Post-test (Y)
1	Jannatul	83	73
2	Syarifah	79	79
3	Widiya	79	83
4	Annis	79	73
5	Nada	86	100
6	Mahmudatul	83	86
7	Bunga	79	79
8	Khadijah	76	76
9	Maisarah	83	79
10	Jumi	76	76
11	Dewi	63	73
12	Liana	79	83
13	Olivia	69	79

14	Wafiq	66	79
15	Laila	66	73
16	Rizqa	83	86
17	Aisyah	69	79
18	Marliana	79	79
19	Sri	69	76
20	Merysa	73	76
21	Ayu	69	79
22	Irana	76	89
23	Putri	66	73
24	Salsabila	73	79
25	Parah ulfah	56	66

b. Conversion of Percentage Ranges

The students score of control class in post-test, was found out that the students who got score 90-100 reached by four students (20%) in excellent level, students' scores 80-89 reached by four students (20%) in good level, students' scores 70-79 reached by eleventh students in good level, and student acquire score 60-69 is gotten by one student (5%) in fair level. The data percentage the students' post-test scores in control class and classification of students level in vocabulary mastery in post-test can be seen in Table 4.10 and 4.11:

Table 4.10 The Percentage Students' Scores of The Control Class in The Post-Test

No	Student' Score (Y)	Frequencies (f)	Percentage (%)
1	66	1	5
2	73	5	25
3	76	4	20
4	79	9	45
5	83	2	10
6	86	2	10
7	89	1	5
10	100	1	5
	$\Sigma Y = 652$	$N=25$	$\Sigma P=125$

Table 4.11 Classification of Students Level In Vocabulary Mastery in Post-Test of The Control Class

Level	Score	Sum of students' vocabulary mastery	
		Frequency	Percentage

Excellent	90-100	1	5%
Very good	80-89	5	25%
Good	70-79	18	90%
Fair	60-69	1	5%
Total		N=25	$\sum P=125$

c. Description of the data

Here the description of the data taken from the student towards the pre-test and post test in the control class can be seen in Table 4.8 below:

Table 4.13 The Test Score of The Control Class

NO	Pre-test (X ₂)	Post-test (Y ₂)	D=X-Y	$D_2 = (X - Y)^2$
1	83	73	10	100
2	79	79	0	0
3	79	83	-4	16
4	79	73	6	36

5	86	100	-14	196
6	83	86	-3	9
7	29	79	0	0
8	76	76	0	0
9	83	79	4	16
10	76	76	0	0
11	63	73	-10	100
12	79	83	-4	16
13	69	79	-10	100
14	66	79	-13	169
15	66	73	-7	49
16	83	86	-3	9
17	69	79	-10	100
18	79	79	0	0
19	69	76	-7	49
20	73	76	-3	9
21	69	79	-10	100
22	76	89	-13	169
23	66	73	-7	49
24	73	79	-6	36
25	56	66	-10	100
Σ	$\Sigma X_2 = 1859$	$\Sigma Y_2 = 1973$	$\Sigma D = -114$	$\Sigma D^2 = 1428$

1) Determining Mean of pre-test and post-test score of control class

$$M_{x_2} = \frac{\sum x}{N}$$

$$= \frac{1859}{25}$$

$$= 74.36$$

$$M_{y_2} = \frac{\sum x}{N}$$

$$= \frac{1973}{25}$$

$$= 78.92$$

1) Analysis of Data

a) Determining Mean of difference of Controlled class

$$M_{D2} = \frac{\sum D}{N}$$

$$= \frac{-114}{25}$$

$$= -56$$

b) Determining Deviation Standard of difference of Controlled class

$$\begin{aligned}
SDD &= \sqrt{\frac{\sum D^2}{N} - \frac{(\sum D)^2}{N^2}} \\
&= \sqrt{\frac{1.428^2}{25} - \frac{(-114)^2}{25^2}} \\
&= \sqrt{1.428 - (4.56)^2} \\
&= \sqrt{57.12^2 + 20.7936^2} \\
&= \sqrt{36.3264} \\
&= 6.03
\end{aligned}$$

c) Determining Standard error from Mean of difference of controlled class

$$\begin{aligned}
SEM D2 &= \frac{SDD2}{\sqrt{N-1}} \\
&= \frac{SDD2}{\sqrt{24}} \\
&= \frac{6.03}{4.90} \\
&= 1.23
\end{aligned}$$

4. Analysis of the Data

After gaining the result of the post-test in the experimental class and control class, the writer started to analyze them by t-test. The writer calculated the t-test to find out whether using Indonesia Pintar game technique is effective or not in developing students' vocabulary and to know if there is any significant difference between students' vocabulary mastery by using Indonesia Pintar Game and without using Indonesia Pintar Game to the ten grade students of MA AL-Istiqamah Pekapuran Raya Banjarmasin.

- a. Determining standard error of difference between experimental class and control class

$$\begin{aligned}
 SEM D1 - D2 &= \sqrt{SEM^2 D1 + M^2 D2} \\
 &= \sqrt{1.33^2 + 1.23^2} \\
 &= \sqrt{1.76^2 + 1.51^2} \\
 &= \sqrt{3.27} \\
 &= 1.80
 \end{aligned}$$

- b. Determining t-observation (t_o)

$$\begin{aligned}
 t_o &= \frac{MD1 - MD2}{SEMD1 - SEMD2} \\
 &= \frac{13.78 - 4.56}{1.80}
 \end{aligned}$$

$$= \frac{9.22}{1.80}$$

$$= 5.12$$

- c. Determining t-table (tt) in significance level 5% and 1% with degree of freedom (df)

$$df = (N1 + N2) - 1$$

$$= (23 + 25) - 1$$

$$= 48 - 1$$

$$= 47$$

See the table of “t” values of degree of freedom (df) = 47 at significance level 5% and 1 %.

$ttable(tt)$ at significance level 5% = 2.01

$ttable(tt)$ at significance level 1% = 2.67

$$5\% = to > tt = 5.12 > 2.01$$

$$1\% = to > tt = 5.12 > 2.67$$

5. Test of Hypothesis

- a. If $to > tt$, it means that Null Hypothesis (HO) is rejected and Alternative Hypothesis (Ha) is accepted. Thus, there is positive

significant difference between the teaching vocabulary using Indonesia Pintar Game.

b. If $t_o < t_t$, it means that Null Hypothesis (H_0) is accepted and Alternative Hypothesis (H_a) is rejected. Thus, there is no positive significant difference between the teaching vocabulary using Indonesia Pintar Game.

From the result of statistic calculation, it was found out that the value of t -observation was 5.12 and the value of t -table significance level of 5% was 2.01 and significance level of 1% was 2.67 with the degree of freedom (df) = 47. The result of t -observation (5.12) indicates that H_0 is rejected and consequently the H_a is accepted.

In the simply resume, the result may be formulated as follows:

$t_o > t_t = 5.12 > 2.01$ in significance level 5%

$t_o > t_t = 5.12 > 2.67$ in significance level 1%

Thus, $t_o > t_t = 2.67 < 5.12 > 2.01$.

The result of statistic calculation indicates that $t_o > t_t$ in 5% and 1% significant level. The t -value achieved in the t_o is higher than the t -value in the t_{table} , either at significance 5% or 1%, that is $2.67 < 5.12 > 2.01$. It means that, there is significant influence between the mean of pre-test and post-test in experimental class and control class and there is obvious difference between

teaching vocabulary using Indonesia Pintar Game in experimental class and without using Indonesia Pintar Game in control class the ten grade students MA Al-stiqamah Pekapuran Raya Banjarmasin.

B. Discussion of the Research

Based on the finding in this research, the writer interprets that teaching vocabulary using Indonesia Pintar game is more effective than teaching vocabulary without using Indonesia Pintar Game to the Tenth grade students of MA Al-stiqamah Pekapuran Raya Banjarmasin.

The positive contribution of Indonesia Pintar Game towards the students' vocabulary mastery can be seen from the gained score before and after the treatment is given. In the pre-test the highest score 82 while the lowest one is 13. The mean of pre-test is 71.95. While in the post-test, the highest score achieved by the students is 100, but the lowest score is gained 66. The mean of post-test is 85.74. It shows that post-test English vocabulary is higher than pre-test English vocabulary. It means that most of the students can accept the treatment that is given and then it influences to the students in mastering the English vocabulary. After the treatment, the students achievement vocabulary improved. This condition means that teaching vocabulary through Indonesia Pintar Game could improve their

vocabulary mastery. However, the writer concludes that Indonesia Pintar Game can give a positive contribution towards the students' vocabulary mastery.

Furthermore, the result of the teaching showed that there is a difference achievement on the experimental and control class. The mean difference of two classes in post-test was $85.74 - 78.92 = 6.82$. The result of statistic calculation of t-test formula was 5.12 and it is higher than the t-critical value (2.01) at significance level of 5%. So, $t_o > t_t$ it shows that there is a significant difference between the students who were taught by using Indonesia Pintar Game and those who were not.

The treatment that was given to the students in the experimental class could influence their ability in vocabulary mastery from the enough level to the good level. It shows that teaching vocabulary using Indonesia Pintar Game is more effective than without using Indonesia Pintar Game.

In this case, students' improvement in vocabulary, of course is influenced by several factors. Firstly, the use of Indonesia Pintar Game can make creative note in learning English. Indonesia Pintar Game is a note-taking method that uses some instruments such as Flash Card, Question and Answer. So, they feel not bored along learning English. The second is students' interest in participant during learning process. In addition, teacher should give more support to build students' confidence in learning English. Finally, Indonesia Pintar can be used as one of the

Game in improving students vocabulary at MA Al-Istiqamah Pekapuran
Raya Banjarmasin.