

## **CHAPTER IV**

### **RESULT OF THE STUDY**

This chapter covers Description of the data, test of normality and homogeneity, result of the data analyses and discussion.

#### **A. Description of The Data**

This section described the obtained data of the effect of using Four Square Technique in teaching writing Descriptive text. The presented data consisted of Mean, Median, Modus, Standard Deviation and Standard Error.

#### **1. The Data Presentation of Pre- Test Score on Control Group and Experiment Group**

##### **1.1 The Result of Pre Test Control Group and Experiment Group**

The writer did Pre test of Control Group on Monday, August 15<sup>th</sup>,2016, at 10.35 a.m with 22 students in class VIII 2 and did pre test of Experiment Group on Wednesday, August 10<sup>th</sup> 2016, at 09.00 a.m with 23 students in class VIII 1. The study was assigned to write a Descriptive text about 100-150 words. The scores of control group and experiment group were presented in the Table 4.1.

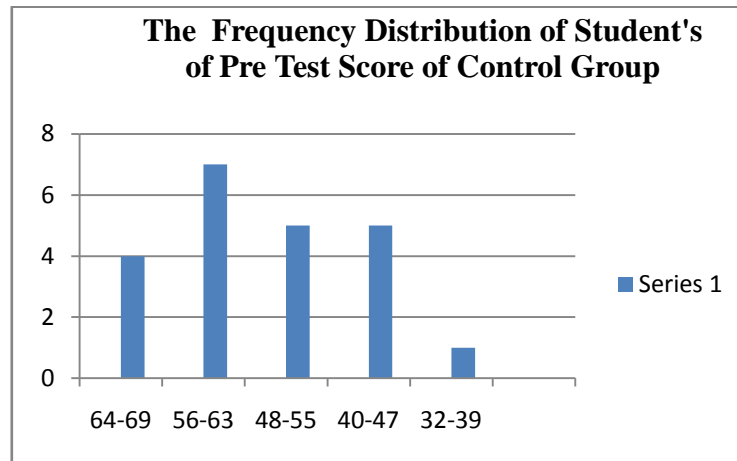
Table 4.1

**The Description of Pre Test Scores of the Data Achieved by the Students in  
Control Group and Experimental Group**

<b>Control Group</b>				<b>Experimental Group</b>		
<b>No</b>	<b>Students' Code</b>	<b>Total Score</b>	<b>Category</b>	<b>Students' Code</b>	<b>Total Score</b>	<b>Category</b>
1	C1	57	Less	E1	56	Less
2	C2	67	Enough	E2	59	Less
3	C3	61	Enough	E3	60	Enough
4	C4	44	Fail	E4	60	Enough
5	C5	46	Fail	E5	60	Enough
6	C6	45	Fail	E6	35	Fail
7	C7	55	Less	E7	62	Enough
8	C8	69	Enough	E8	71	Good
9	C9	69	Enough	E9	47	Fail
10	C10	32	Fail	E10	60	Enough
11	C11	44	Fail	E11	46	Fail
12	C12	46	Fail	E12	41	Fail
13	C13	58	Less	E13	35	Fail
14	C14	50	Less	E14	56	Less
15	C15	61	Enough	E15	57	Less
16	C16	58	Less	E16	49	Fail
17	C17	67	Enough	E17	48	Fail
18	C18	54	Less	E18	63	Enough
19	C19	49	Fail	E19	56	Less
20	C20	61	Enough	E20	71	Good
21	C21	59	Less	E21	52	Less
22	C22	59	Less	E22	46	Fail
				E23	68	Enough
<b>Highest Score</b>		<b>69</b>		<b>Highest Score</b>	<b>71</b>	
<b>Lowest Score</b>		<b>32</b>		<b>Lowest Score</b>	<b>35</b>	
<b>Mean</b>		<b>54.23</b>		<b>Mean</b>	<b>53.91</b>	

<b>Control Group</b>		<b>Experimental Group</b>	
<b>Category</b>	<b>Percentages</b>	<b>Category</b>	<b>Percentages</b>
Fail	7	Fail	8
Less	8	Less	6
Enough	7	Enough	7
Good	0	Good	2

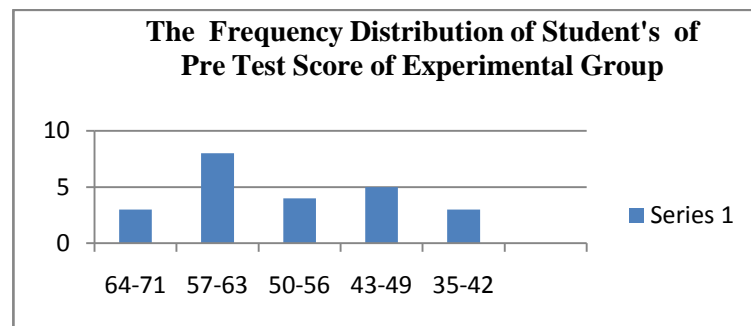
The distribution of students' predicate in pretest score of Control group can also be seen in figure 4.1 .



**Figure 4.1 The Distribution frequency of students' pretest score for Control Group**

It can be seen from the figure above, the students' pretest scores in control group. There were four students who get scores 64-69. There were seven students who get scores 56-63. There were five students who get scores 48-55. There were five students who get scores 40-47. There was one student who get scores 32-39.

The distribution of students' predicate in pretest score of Experimental group can also be seen in figure 4.2.



**Figure 4.2 The Distribution frequency of students' pretest score for Experimental Group**

It can be seen from the figure above, the students' pretest scores in experimental group. There were three students who get scores 64-71. There were eight students who got scores 57-63. There were four students who get scores 50-56. There were five students who get scores 43-49. There were three students who get scores 35-42.

## **2. The Data Presentation of Post Test Score on Control Group and Experiment Group**

### **2.1 The Result of Control Group and Experimental Group**

The writer did Post test of Control Group on Monday, August 29<sup>th</sup>,2016, at 10.35 a.m with 22 students in class VIII2 and Post test of Experiment Group on Monday, August 30<sup>th</sup>,2016, at 09.55 a.m with 23 students in class VIII 1. The students was assigned to write a Descriptive Text about 100-150 words. The test scores of Control group and Experiment Group were presented in the Table 4.2

Table 4.2

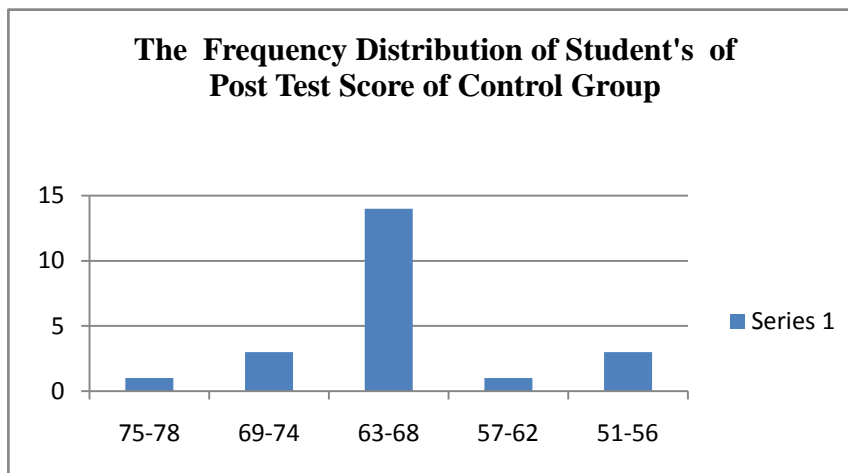
The Description of Post Test of the Data Achieved by the students in Control Group and Experiment Group

No	Control Group			Experiment Group		
	Students' Code	Score	Category	Students' Code	Score	Category
1	C1	70	Good	E1	84	Good
2	C2	71	Good	E2	72	Good
3	C3	68	Enough	E3	83	Good
4	C4	52	Less	E4	74	Good
5	C5	67	Enough	E5	52	Less
6	C6	62	Enough	E6	59	Less
7	C7	63	Enough	E7	88	Excellent
8	C8	63	Enough	E8	71	Good
9	C9	68	Enough	E9	81	Good
10	C10	60	Enough	E10	78	Good
11	C11	69	Enough	E11	80	Good
12	C12	64	Enough	E12	71	Good
13	C13	64	Enough	E13	73	Good
14	C14	65	Enough	E14	67	Enough
15	C15	51	Less	E15	92	Excellent
16	C16	68	Enough	E16	72	Good
17	C17	68	Enough	E17	72	Good
18	C18	66	Enough	E18	91	Excellent
19	C19	63	Enough	E19	68	Enough
20	C20	78	Good	E20	79	Good
21	C21	63	Enough	E21	79	Good
22	C22	52	Less	E22	83	Good
				E23	86	Excellent
	<b>Highest Score</b>	<b>78</b>		<b>Highest Score</b>	<b>92</b>	
	<b>Lowest Score</b>	<b>51</b>		<b>Lowest Score</b>	<b>52</b>	
	<b>Mean</b>	<b>64.91</b>		<b>Mean</b>	<b>76.13</b>	

Control Group		Experimental Group	
Category	Percentages	Category	Percentages
Fail	0	Fail	0
Less	3	Less	2
Enough	16	Enough	2
Good	3	Good	15

Excellent	0	Excellent	4
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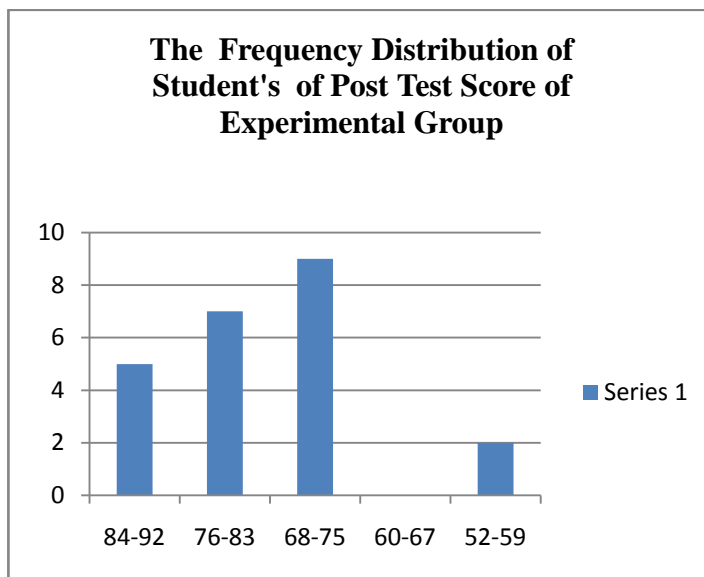
The distribution of students' predicate in posttest score of Control group can also be seen in the figure 4.3.



**Figure 4.3 The Distribution frequency of students' posttest score for Control Group**

It can be seen from the figure above, the students' posttest scores in control group. There was one student who got scores 75-78. There were three students who get scores 69-74. There were fourteen students who get scores 63-68. There was one student who get scores 57-62. There were three students who get scores 51-56.

The distribution of students' predicate in posttest score of Experimental group can also be seen in the figure 4.4.



**Figure 4.4 The Distribution frequency of students' posttest score for Experimental Group**

It can be seen from the figure above, the students' posttest scores in experimental group. There were five students who get scores 84-92. There were seven students who get scores 76-83. There were nine students who get scores 68-75. There was no students who get scores 60-67. There were two students who get scores 52-59.

### 3. The Comparison between Control Group and Experiment Group

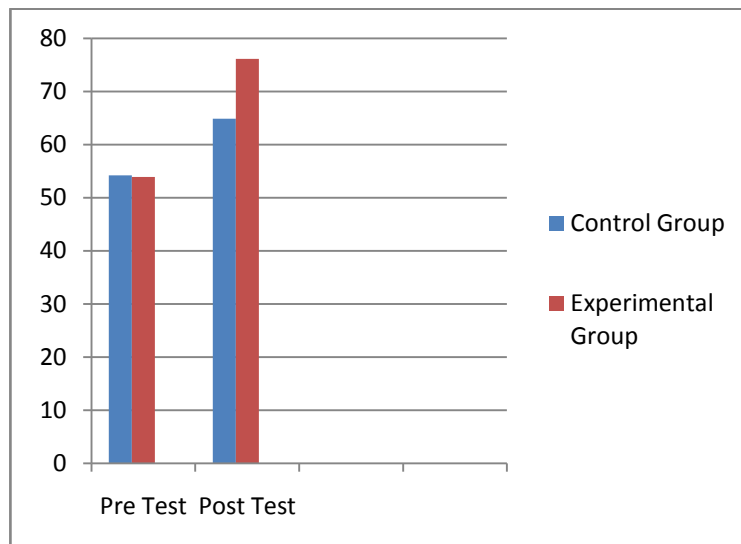
Experimental Class					Control Class				
No	Code	Score			No	Code	Score		
		Pretest	Posttest	Difference			Pretest	Posttest	Difference
1	E1	56	84	28	1	C1	57	70	13
2	E2	59	72	13	2	C2	67	71	4
3	E3	60	83	23	3	C3	61	68	7
4	E4	60	74	14	4	C4	44	52	8
5	E5	60	52	-8	5	C5	46	67	21
6	E6	35	59	24	6	C6	45	62	17
7	E7	62	88	26	7	C7	55	63	8

8	E8	71	71	0	8	C8	69	63	-6
9	E9	47	81	34	9	C9	69	68	-1
10	E10	60	78	18	10	C10	32	60	28
11	E11	46	80	34	11	C11	44	69	25
12	E12	41	71	30	12	C12	46	64	18
13	E13	35	73	38	13	C13	58	64	6
14	E14	56	67	11	14	C14	50	65	15
15	E15	57	91	34	15	C15	61	51	-10
16	E16	49	72	23	16	C16	58	68	10
17	E17	48	72	24	17	C17	67	68	1
18	E18	63	92	29	18	C18	54	66	12
19	E19	56	68	12	19	C19	49	63	14
20	E20	71	79	8	20	C20	61	78	17
21	E21	52	79	27	21	C21	59	63	4
22	E22	46	83	37	22	C22	59	52	-7
23	E23	68	86	18	Total		1.211	1.415	204
Total		1.258	1.755	497	Mean		54.2	64.9	10.7
Mean		53.9	76.13	22.23	Lowest		32	52	
Lowest		35	52		Highest		69	78	
Highest		71	92						

From the table above the mean score of pre test and post test of the experimental group were 53.9 and 76.13. Meanwhile the highest score pre test and post test of the experimental group were 71 and 92, the lowest scores pre test and post test of the experimental group were 35 and 52. In addition, the mean score pre test and post test control group were 54.2 and 64.9. Meanwhile, the highest score pre test and post test of the control group were 69 and 78. The lowest scores pre test and post test of the control group were 32 and 52. Based on the data above, the difference of mean score between experimental and control group score were.



The distribution of students' predicate in Pre test and posttest score of Control Group and Experimental group can also be seen in the figure 4.5.



**Figure 4.5 The Distribution frequency of students' pretest and posttest score for Control Group and Experimental Group**

## B. Testing of Normality and Homogeneity

Before the explanation, the writer calculated the:

### 1. Normality Test

- a. Testing normality of pre-test experimental and control group

**Table 4.3 Testing normality of pre-test experimental and control Group Test of Normality**

		Tests of Normality					
		Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
		Statistic	Df	Sig.	Statistic	Df	Sig.
Writing Score	Experiment Group	.160	23	.130	.955	23	.370
	Control Group	.126	22	.200*	.949	22	.301

The table showed the result of test normality calculation using SPSS 21.0 program. To know the normality of data, the formula could be seen as follows:

If the number of sample  $> 50$  = kolmogorov-Smirnov

If the number of sample  $< 50$  = Shapiro- Wilk

Based on the number of data the writer was  $45 < 50$ , so to analyzed normality data was used Shapiro-Wilk. The next step, the writer analyzed normality of data used formula as follows:

If Significance  $> 0.05$  = data is normal distribution

If Significance  $< 0.05$  = data is not normal distribution

Based on data above, significant data of experiment and control group used Shapiro-Wilk was  $0.370 > 0.05$  and  $0.301 > 0.05$ . it could be concluded that the data was normal distribution.

b. Testing normality of post –test experimental and control group

**Table 4.4 Testing normality of post-test experimental and control group**

Tests of Normality							
	Group	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
		Statistic	Df	Sig.	Statistic	df	Sig.
Writing Score	Experiment Group	.118	23	.200 <sup>*</sup>	.963	23	.520
	Control Group	.191	22	.035	.913	22	.055

The table showed the result of test normality calculation using SPSS 21.0 program. To know the normality of data, the formula could be seen as follows:

If the number of sample  $> 50$  = kolmogorov-Smirnov

If the number of sample  $< 50$  = Shapiro- Wilk

Based on the number of data the writer was  $45 < 50$ , so to analyzed normality data was used Shapiro-Wilk. The next step, the writer analyzed normality of data used formula as follows:

If Significance  $> 0.05$  = data is normal distribution

If Significance  $< 0.05$  = data is not normal distribution

Based on data above, significant data of experiment and control group used Shapiro-Wilk was  $0.520 > 0.05$  and  $0.055 > 0.05$ . Therefore, it could be concluded that the data was normal distribution.

## **2. Homogeneity Test**

- a. Testing Homogeneity of pre-test experimental and control group

**Table 4.5 Testing Homogeneity of pre-test experimental and control group**

		Homogeneity Test								
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	99% Confidence Interval of the Difference	
									Lower	Upper
Writing score	Equal variances assumed	.042	.838	-.119	43	.906	-.34980	2.93597	-8.26254	7.56293
	Equal variances not assumed			-.119	43.000	.906	-.34980	2.93281	-8.25403	7.55442

The table showed the result of Homogeneity test calculation using SPSS 21.0 program. To know the Homogeneity of data, the formula could be seen as follows:

If  $\text{Sig} > 0.01 =$  Equal variances assumed or Homogeny distribution

If  $\text{Sig} < 0.01 =$  Equal variances not assumed or not Homogeny distribution

Based on data above, significant data was 0.906. The result was  $0.906 > 0.01$  if meant the data were Homogeny distribution.

## b. Testing Homogeneity of post-test experimental and control group

**Table 4.6 Testing Homogeneity of post-test experimental and control group**

		Homogeneity Test								
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	T	Df	Sig. (2- tailed)	Mean Differenc e	Std. Error Difference	99% Confidence Interval of the Difference	
								Lower	Upper	
Writing Score	Equal variance s assumed	4.16 1	.048	4.868	43	.000	11.9861 7	2.46236	5.34 984	18.6224 9
	Equal variance s not assumed			4.911	38.3 13	.000	11.9861 7	2.44052	5.37139	18.6009 5

The table showed the result of Homogeneity test calculation using SPSS 21.0 program. To know the Homogeneity of data, the formula could be seen as follows:

If  $\text{Sig} > 0.01 =$  Equal variances assumed or Homogeny distribution

If  $\text{Sig} < 0.01 =$  Equal variances not assumed or not Homogeny distribution

Based on data above, significant data was 0.048. The result was  $0.048 > 0.01$  if meant the data were Homogeny distribution.

### C. The Result of Data Analysis

#### 1. Testing Hypothesis Using Manual Calculation

**Table 4.7**  
**The Standard Deviation and the Standard Error of Experiment and Control Group**

Group	Standard Deviation	Standard Error
Experimental Group	9.4994	2.0211
Control Group	6.0278	1.3163

The table showed the result of the standard deviation calculation of Experiment Group was 9.4994 and the result of the standard error was 2.0211. the result of the standard deviation calculation of Control Group was 6.0278 and the result of standard error was 1.3163 to examine the hypothesis, the writer used the formula as follow:

$$SE_{M1}-SE_{M2}=\sqrt{SEM1^2 + SEM2^2}$$

$$SE_{M1}-SE_{M2}=\sqrt{2.0211^2 + 1.3163^2}$$

$$SE_{M1}-SE_{M2}=\sqrt{4.085 + 1.73265}$$

$$SE_{M1}-SE_{M2}=\sqrt{5.82}$$

$$SE_{M1}-SE_{M2}=2.4125$$

$$T_{\text{observed}}=\frac{M1-M2}{SE_{M1}-SE_{M2}}$$

$$=\frac{76.13-64.91}{2.4125}$$

$$= \frac{11.22}{2.4125} = 4.651$$

$$\text{Df} = (N_1 + N_2 - 2)$$

$$= 23 + 22 - 2$$

$$= 43$$

#### D. Interpretation

The result of t-test was interpreted on the result of degree of freedom to get the  $t_{\text{table}}$ . The result of degree of freedom (df) was 43. The following table as the result of  $t_{\text{observed}}$  and  $t_{\text{table}}$  from 43 at 5% and 1% significance level.

$t_{\text{observed}}$	$t_{\text{table}}$		Df
	5% (0.05)	1% (0,01)	
4.651	2.021	2.704	43

The interpretation of the result of t-test using manual calculation, it was found the  $t_{\text{observed}}$  was higher than the  $t_{\text{table}}$  at 5% and 1% significance level or  $2.021 < 4.651 > 2.704$ . It could be interpreted based on the result of calculation that  $H_a$  stating that Four Square Technique was effective for teaching writing at SMP Muhammadiyah Palangka Raya was accepted and  $H_o$  stating that Four Square Technique was not effective for Teaching Writing at SMP Muhammadiyah Palangka Raya was rejected. It meant that teaching

writing with Four Square Technique at SMP Muhammadiyah Palangka Raya gave significant effect at 5% and 1% significance level.

## 2. Testing Hypothesis Using SPSS 21.0 Program

The writer also applied SPSS 21.0 program to calculate t-test in testing hypothesis of the study. The result of t-test using SPSS 21.0 was used to support the manual calculation of t-test. The result of t-test using SPSS 21.0 program could be seen as follows:

**Table 4.8 The Calculation of T-Test Using SPSS 21.0**

		Independent Sample Test								
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	99% Confidence Interval of the Difference	
									Lower	Upper
Writing Score	Equal variances assumed	4.161	.048	4.868	43	.000	11.98617	2.46236	5.34984	18.62249
	Equal variances not assumed			4.911	38.313	.000	11.98617	2.44052	5.37139	18.60095



The table showed the result of t-test calculation using SPSS 21.0 program.

To know the variances score of data, the formula could be seen as follows:

If  $\text{Sig} > 0.01 =$  Equal variances assumed

If  $\text{Sig} < 0.01 =$  Equal variances not assumed

Based on data above, significant data was 0.048. The result was  $0.048 > 0.01$ , it meant the t-test calculation used at the equal variances assumed. It found that the result  $t_{\text{observed}}$  was 4.868, the result of mean difference between experiment and control group 11.98617, and the standard error difference between experiment and control group was 2.46236.

#### a. Interpretation

The result of t-test was interpreted on the result of degree of freedom to get the  $t_{\text{table}}$ . The result of degree of freedom (df) was 43. The following table was the result of  $t_{\text{observed}}$  and  $t_{\text{table}}$  from 43 df at 5% and 1% significance level.

**Table 4.9 The Result of T-Test Using SPSS 21.0 Program**

$t_{\text{observed}}$	$t_{\text{table}}$		Df
	5% (0.05)	1% (0,01)	
4.868	2.021	2.704	43

The interpretation of the result of t-test using manual calculation, it was found the  $t_{\text{observed}}$  was higher than the  $t_{\text{table}}$  at 5% and 1% significance level or  $4.868 > 2.021$ ,  $4.651 > 2.704$ . it meant  $H_a$  was accepted and  $H_o$  was rejected. It could be interpreted based on the result of calculation that  $H_a$  stating that Four Square Technique was effective for teaching writing of the eighth grade students at SMP Muhammadiyah Palangka Raya was accepted and  $H_o$  stating that Four Square Technique was not effective for Teaching Writing of Eighth grade students at SMP Muhammadiyah Palangka Raya was rejected. It meant that teaching writing with Four Square Technique of Eighth grade students at SMP Muhammadiyah Palangka Raya gave significant effect at 5% and 1% significance level.

#### **E. Discussion**

The result of analysis showed that there as significant effect of Four Square Technique in Teaching writing for the eighth grade students at SMP Muhammadiyah Palangka Raya. The students who were taught used Four Square Technique higher score than those who were taught without used Four Square Technique.

Meanwhile, after the data was calculated using manual calculation of  $t_{\text{test}}$ . It was found the  $t_{\text{observed}}$  was higher than the  $t_{\text{table}}$  at 5% and 1% significance level or  $4.651 > 2.021$ ,  $4.651 > 2.704$ . it meant  $H_a$  was accepted and  $H_o$  was rejected. And

the data calculated using SPSS 21.0 program, it was found  $t_{\text{observed}}$  was higher than the  $t_{\text{table}}$  at 5% and 1% significance level  $4.868 > 2.021$ ,  $4.651 > 2.704$ . it meant  $H_a$  was accepted and  $H_o$  was rejected. This finding indicated that the alternative hypothesis ( $H_a$ ) stating that there was any significant effect of Four Square Technique in Writing for the Eighth grade students at SMP Muhammadiyah Palangka Raya was accepted. On the contrary, the Null hypothesis ( $H_o$ ) stating that there is no any significant effect of Four Square Technique in Writing for the Eighth grade students SMP Muhammadiyah Palangka Raya was rejected. Based on the result the data analysis showed that using Four Square Technique gave significance effect for the students' writing scores of eighth grade students at SMP Muhammadiyah Palangka Raya.

This finding indicated that Four Square Technique was effective and supports the previous research done by Ganiyu Tijani and Mandy Ogbaje (2013), Siti Fatimah Wijastuti (2010), Juitania et.all (2015), Taufiq Darmawan (2011), Arum Puspita Dewi (2013) and Nurul Mahfudhotin (2014) that also stated learning Writing by using Four Square Technique as effective.

There were reasons why using Four Square Technique gave significance effect for students' writing scores of eighth grade students at SMP Muhammadiyah Palangka Raya Four Square Technique was effective in terms of improving the students' English writing score. First, Students can organize their idea by filling their ideas into Four-Square shape with some clues to form their

writing. Second, Students can only have four ideas to be explains. Third, Students have to put an idea for each paragraph. Fourth, students interested and motivated in easy organization in every square they have.