CHAPTER IV

RESEARCH FINDINGS AND DISCUSSIONS

In this chapter, the writer presented the data which had been collected from the research in the field of study. The data were the result of pretest of experimental and control group, the result of posttest of experimental and control group, result of data analysis, and discussion.

A. The Result of Pretest Experimental Group and Control Group

1. Distribution of Pre test Scores of the Experimental Group

The test scores of experimental group were presented in the following table:

Table 4.1 The Description of Pre Test Scores of the Data Achieved by the Students in Experimental Group

Students' code	Total Score	Classification
E1	53	Fairly good
E2	47	Fairly good
E3	49	Fairly good
E4	63	Good
E5	64	Good
E6	66	Good
E7	56	Fairly good
E8	54	Fairly good
E9	50	Fairly good
E10	64	Good
E11	60	Good
E12	59	Fairly Good
E13	56	Fairly good
E14	61	Good
E15	67	Good
E16	71	Good
E17	63	Good
E18	70	Good

E19	71	Good
E20	70	Good
E21	66	Good
E22	63	Good
E23	60	Good
E24	64	Good
E25	63	Good
E26	63	Good
E27	59	Fairly good
E28	74	Good
E29	71	Good
E30	67	Good
E31	63	Good
E32	70	Good

Based on the data above, it can be seen that the students' highest score was 74 and the students' lowest score was 47. To determine the range of score, the class interval, and interval of temporary, the writer calculated using formula as follow:

The highest score (H) = 74

The lowest score (L) = 47

The range of score (R) = H-L+1

= 74 – 47 + 1

= 27 + 1 = 28

The Class Interval (K) = 1 + (3.3) x Log 32

= 1 + (3.3) x 1.50515

= 1 + 4.966995

= 5.966995= 6

Interval of Temporary $= \frac{R}{K} = \frac{28}{6} = 4.6666 = 5$

So, the range of score was 28, the class interval was 6, and interval of temporary was 5. It was presented using frequency distribution in the following table:

Table 4.2 Frequency Distribution of the Pre-Test Score of the Experimental Group

Class (k)	Interval (I)	Frequency (F)	Mid Point	The Limitation of Each Group	Frequency Relative (%)	Frequency Cumulative (%)
1	71-76	4	73.5	70.5 – 76.5	12.5	100
2	65-70	7	67.5	64.5 – 70.5	21.88	87.5
3	59-64	14	61.5	58.5 – 64.5	43.75	65.63
4	53-58	4	55.5	52.5 – 58.5	12.5	21.88
5	47-52	3	49.5	46.5 – 52.5	9.38	9.38
Total		∑F = 32			100	

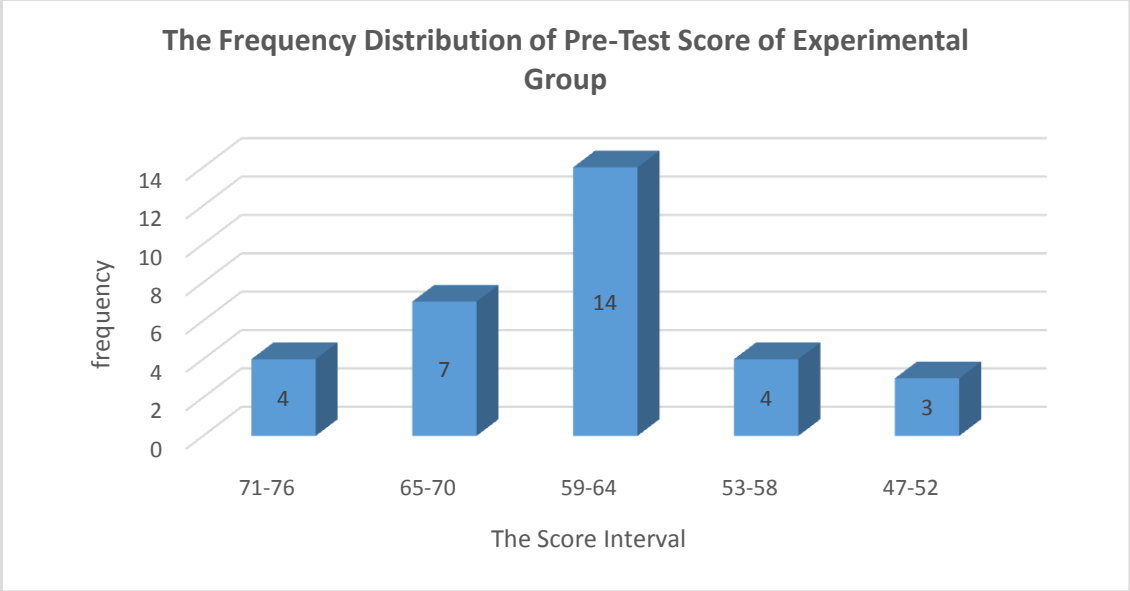

Figure 4.3 The Frequency Distribution of Pretest Score of the Experimental Group

It can be seen from the figure above, the students' pretest scores in experimental group. There were four students who got score 71-76. There were seven students who got score 65-70. There were fourteenth students who got score 59-64. There were four students who got score 53-58. And the last, there were three students who got score 47-52.

The next step, the writer tabulated the scores into the table for the calculation of mean as follows:

Table 4.4 The Table for CalculatingMean of Pretest Score of the Experimental Group

Interval (I)	Frequency (F)	Mid Point (x)	Fx	x´	Fx´	Fkb	Fka
71-76	4	73.5	294	2	8	32	4
65-70	7	67.5	472.5	1	7	28	11
59-64	14	61.5	861	0	0	21	25
53-58	4	55.5	222	-1	-4	7	29
47-52	3	49.5	148.5	-2	-6	3	32
	∑F = 32		∑Fx = 1998		ΣFx´ = 5		

a. Mean

$$Mx = \frac{\Sigma fx}{N}$$

$$= \frac{1998}{32}$$

$$= 62.4375$$

The calculation above showed that the mean value is 62.4375.

The last step, the writer tabulated the scores of pre test of experimental group into the table for the calculation for the calculation of standard deviation and the standard error. The tabulation of the scores of pre test of experimental group as follows:

Table 4.5 The Table for Calculating Standard Deviation and Standard Error of the Pretest Score of Experimental Group.

Interval (I)	**Frequency (F)**	**Mid Point (x)**	**Fx**	**x'**	**Fx'**	**x'^2**	**Fx'^2**
71-76	**4**	**73.5**	**294**	**2**	**8**	**4**	**16**
65-70	**7**	**67.5**	**472.5**	**1**	**7**	**1**	**7**
59-64	**14**	**61.5**	**861**	**0**	**0**	**0**	**0**
53-58	**4**	**55.5**	**222**	**-1**	**-4**	**1**	**4**
47-52	**3**	**49.5**	**148.5**	**-2**	**-6**	**4**	**12**
	$\sum F = 32$		**$\sum Fx$ = 1998**		**$\Sigma Fx'$ = 5**		**Fx'^2= 39**

b. Calculating Standard Deviation

$$SD = i\sqrt{\frac{\sum FX'^2}{N} - \frac{(\sum FX')^2}{(N)}}$$

$$=6\sqrt{\frac{39}{32} - \frac{(5)^2}{(32)}}$$

$$=6\sqrt{\frac{39}{32} - \frac{25}{1024}}$$

$$=6\sqrt{1.21875 - 0.0244141}$$

$$=6\sqrt{1.1943359}$$

=6 x 1.093

= 6.558

c. Calculating Standard Error

$$SE = \frac{SD}{\sqrt{N-1}}$$

$$= \frac{6.558}{\sqrt{32-1}}$$

$$= \frac{6.558}{5.568}$$

$$= 1.1778$$

After calculating, it was found that the standard deviation and the standard error of pretest score were 5.988 and 1.1778. The writer also calculated the data calculation of pre test score of experimental group using SPSS 21.0 program. The result of statistic table is as follow:

Table 4.6 The Table of Calculation of Mean, Median, Modus, Standard Deviation, Standard Error of Mean of Pre Test Score in Experimental Group Using SPSS 21.0 Program

Statistics

PRE TEST EXPERIMENT

N	Valid	32
	Missing	0
Mean		62,4063
Std. Error of Mean		1,21139
Median		63,0000
Mode		63,00
Std. Deviation		6,85264
Variance		46,959
Skewness		-,531
Std. Error of Skewness		,414
Kurtosis		-,215
Std. Error of Kurtosis		,809
Range		27,00
Minimum		47,00
Maximum		74,00
Sum		1997,00

The table showed the result of mean calculation was 62,40. The result of standard deviation was 6,85264 and the standard error was 1,21139.

2. Distribution of Pre Test Scores of the Control Group

The pre test scores of the control group were presented in the following table:

Table 4.7The Description of Pre Test Scores of the Data Achieved by the Students in Control Group

Student Code	Total Score	Qualification
C1	63	Good
C2	63	Good
C3	70	Good
C4	61	Good
C5	44	Fairly Good
C6	71	Good
C7	69	Good
C8	54	Fairly Good
C9	54	Fairly Good
C10	47	Fairly Good
C11	76	Good
C12	69	Good
C13	60	Good
C14	63	Good
C15	56	Fairly Good
C16	53	Fairly Good
C17	67	Good
C18	59	Good
C19	50	Fairly Good
C20	54	Fairly Good
C21	59	Fairly Good
C22	61	Good
C23	49	Fairly Good
C24	74	Good
C25	67	Good
C26	66	Good
C27	50	Fairly Good
C28	53	Fairly Good
C29	50	Fairly Good
C30	46	Fairly Good
C31	53	Fairly Good
C32	53	Fairly Good

Based on the data above, it can be seen that the students' highest score was 75 and the lowest score was 44. To determine the range of score, the class interval, interval of temporary, the writer calculated using formula as follows:

The highest score (H) = 76

The lowest score (L) = 44

The range of score (R) = H-L+1

= 76 – 44 + 1

= 33

The class interval (K) = 1 + (3.3) x Log 32

= 1 + (3.3) x 1.50515

= 1 + 4.966995

= 5.966995

= 6

Interval of temporary $= \frac{R}{K}$ $= \frac{33}{6}$ = 5.5 = 6

So, the range of score was 33, the class interval was 6, and interval of temporary was 6. It was presented using frequency distribution in the following table:

Table 4.8 Frequency Distribution of the Pre Test Score of the Control Group

Class (k)	**Interval (I)**	**Frequency (F)**	**Mid Point**	**The Limitation of Each**	**Frequency Relative (%)**	**Frequency Cumulative (%)**

				Group		
1	**74-79**	**2**	**76.5**	**73.5-79.5**	**6.25**	**100**
2	**68-73**	**4**	**70.2**	**67.5-73.5**	**12.5**	**93.75**
3	**62-67**	**6**	**64.5**	**61.5-67.5**	**18.75**	**81.25**
4	**56-61**	**6**	**58.5**	**55.5-61.5**	**18.75**	**62.5**
5	**50-55**	**10**	**52.5**	**49.5-55.5**	**31.25**	**43.75**
6	**44-49**	**4**	**46.5**	**43.5-49.5**	**12.5**	**12.5**
Total		**∑F = 32**			**100**	

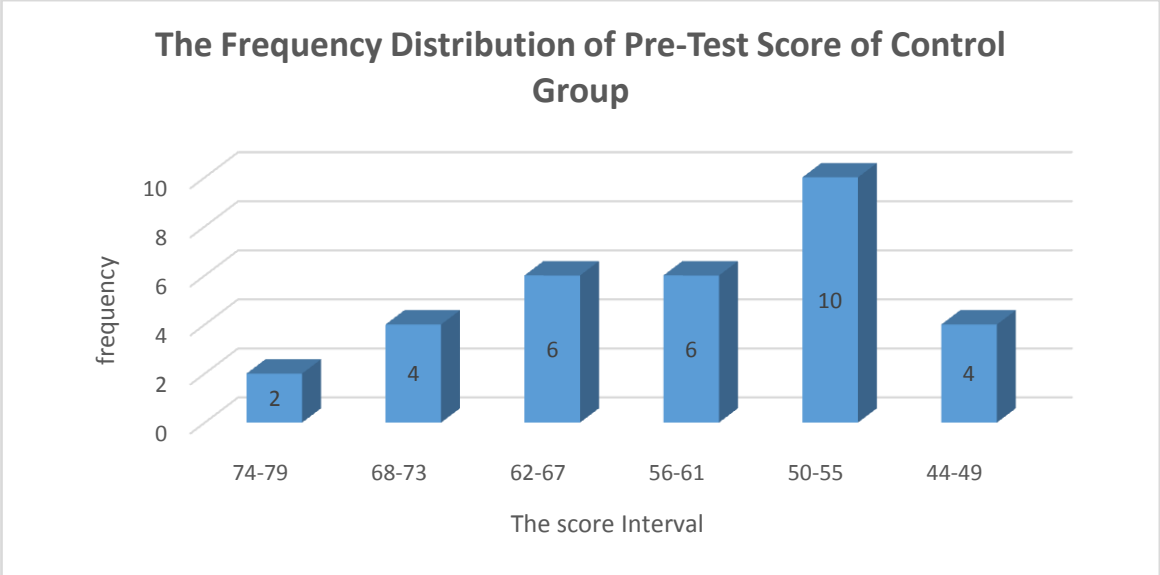

Figure 4.9The Frequency Distribution of Pre-Test Score of the Control Group

It can be seen from the figure above, the students' pretest score in control group. There were two students who got 74-79. There were four students who got score 68-73. There were six students who got 62-67. There were six students who

got 56-61. There were ten students who got score 50-55. The last, there were four students who got 44-49.

The next step, the writer tabulated the scores into the table for the calculation of mean as follows:

Table 4.10The Table for Calculating Mean of Pre – test Score of the Control Group

Interval (I)	**Frequency (F)**	**Mid Point (x)**	**Fx**	**X'**	**FX'**	**Fkb**	**Fka**
74-79	**2**	**76.5**	**153**	**3**	**6**	**32**	**2**
68-73	**4**	**70.5**	**282**	**2**	**12**	**30**	**6**
62-67	**6**	**64.5**	**387**	**1**	**6**	**26**	**12**
56-61	**6**	**58.5**	**351**	**0**	**0**	**20**	**18**
50-55	**10**	**52.5**	**525**	**-1**	**-10**	**14**	**28**
44-49	**4**	**46.5**	**186**	**-2**	**-8**	**4**	**32**
	ΣF=32		**ΣFx= 1884**		**ΣFX' = 6**		

a. Mean

$Mx = \frac{\Sigma fx}{N}$

$= \frac{1884}{32}$

$= 58.875$

The calculation above showed of mean value was 58.875 of the pre test of control group.

The last step, the writer tabulated the scores of pre test of control group into the table for the calculation of standard deviation and standard error as follows:

Table 4.11TheTable for Calculating Standard Deviation and Standard Error of the Pretest Score of Control Group

Interval (I)	**Frequency (F)**	**Mid Point (x)**	**Fx**	**X'**	**X'^2**	**FX'**	**FX'^2**
74-79	**2**	**76.5**	**153**	**3**	**9**	**6**	**18**
68-73	**4**	**70.5**	**282**	**2**	**4**	**8**	**16**
62-67	**6**	**64.5**	**387**	**1**	**1**	**6**	**6**
56-61	**6**	**58.5**	**351**	**0**	**0**	**0**	**0**
50-55	**10**	**52.5**	**525**	**-1**	**1**	**-10**	**10**
44-49	**4**	**46.5**	**186**	**-2**	**4**	**-8**	**16**
	ΣF=32		**ΣFx= 1884**			**$\Sigma FX'$ = 2**	**$\Sigma FX'^2$ = 66**

b. Calculating Standard Deviation

$$SD = i\sqrt{\frac{\sum FX'^2}{N} - \frac{(\sum FX')^2}{(N)}}$$

$$=6\sqrt{\frac{66}{32} - \frac{(2)^2}{(32)}}$$

$$=6\sqrt{\frac{66}{32} - \frac{4}{1024}}$$

$$=6\sqrt{2.0625 - 0.0039063}$$

$$=6\sqrt{2.0585937}$$

$$=6 \text{ x } 1.43478$$

$$= 8.60868$$

c. Calculating Standard Error

$$SE = \frac{SD}{\sqrt{N-1}}$$

$$= \frac{8.60868}{\sqrt{32-1}}$$

$$=\frac{8.60868}{5.568}$$

$$=1.546$$

The result of calculation showed that the standard deviation of pretest score of control group was 8.60868 and the standard error of pretest score of control group was 1.546. The writer also calculated the data calculation of pretest score of control group using SPSS 21.0 program. The result of Statistic table is as follows:

Table 4.12 The Table of Calculation of Mean, Median, Mode, Standard Deviation, and Standard Error of Mean of Pre Test Score of Control Group Using SPSS 21.0 Program

Statistics

PRE TEST CONTROL

N	Valid	32
	Missing	0
Mean		58,8750
Std. Error of Mean		1,52978
Median		59,0000
Mode		53,00
Std. Deviation		8,65373
Variance		74,887

Skewness	,215
Std. Error of Skewness	,414
Kurtosis	-,944
Std. Error of Kurtosis	,809
Range	32,00
Minimum	44,00
Maximum	76,00
Sum	1884,00

The writer also calculated the normality and homogenity of pre test using SPSS 21.0 program as follows:

4.13 Table of Normality and Homogenity Using SPSS 21.0 Program

One-Sample Kolmogorov-Smirnov Test

		EXPERIMENT	CONTROL
N		32	32
Normal Parameters[a,b]	Mean	62,4063	58,8750
	Std. Deviation	6,85264	8,65373
Most Extreme Differences	Absolute	,160	,151
	Positive	,074	,151
	Negative	-,160	-,076
Kolmogorov-Smirnov Z		,902	,854
Asymp. Sig. (2-tailed)		,389	,460

a. Test distribution is Normal.

b. Calculated from data.

Test of Homogeneity of Variances

SCORE

Levene Statistic	df1	df2	Sig.
3,468	1	62	,067

B. The Result of Post-Test Experimental and Control Group

1. Distribution of Post Test Scores of the Experimental Group

The post test scores of experimental group were presented in the following table:

Table 4.14 The Distribution of Post Test Scores of the Data Achieved by the Students in Experimental Group

Students' Code	Total Score	Classification
E1	61	Good
E2	76	Good
E3	67	Good
E4	76	Good
E5	73	Good
E6	79	Good
E7	71	Good
E8	80	Very Good
E9	77	Good
E10	74	Good
E11	81	Very Good
E12	59	Fairly Good
E13	67	Good
E14	70	Good
E15	76	Good
E16	83	Very Good
E17	80	Very Good
E18	83	Very Good
E19	74	Good
E20	69	Good
E21	86	Very Good
E22	70	Good
E23	74	Good
E24	69	Good
E25	73	Good
E26	64	Good
E27	64	Good
E28	74	Good
E29	76	Good
E30	86	Very Good

E31	76	Good
E32	71	Good

Based on the data above, it can be seen that the students' highest score was 86 and the students' lowest score was 59. To determine the range of score, the class interval, and interval of temporary, the writer calculated using formula as follows:

The highest score (H) = 86

The lowest score (L) = 59

The range of score (R) = H-L+1

= 86-59+1 = 28

The class interval (K) = 1 + (3.3) x log 32

= 1 + (3.3) x 1.50515

= 1 + 4.966995= 5.966995= 6

Interval of temporary $= \frac{R}{K}$ $= \frac{28}{6}$ = 4.666 = 5

So, the range of score was 28, the class interval was 6, and interval of temporary was 5. It was presented using frequency distribution in the following table:

Table 4.15 The Frequency Distribution of the Post Test Score of the Experimental Group

Class (K)	**Interval (I)**	**Frequency (F)**	**Mid Point (x)**	**The Limitation of Each**	**Frequency Relative (%)**	**Frequency Cumulative (%)**

				Group		
1	**83 – 88**	**4**	**85,5**	**82,5 – 88,5**	**12,5**	**100**
2	**77 – 82**	**5**	**79,5**	**76,5 – 82,5**	**15,625**	**87,5**
3	**71 – 76**	**13**	**73,5**	**70,5 – 76,5**	**40,625**	**71,88**
4	**65 – 70**	**6**	**67,5**	**64,5 – 70,5**	**18,75**	**31,25**
5	**59 – 64**	**4**	**61,5**	**58,5 – 64,5**	**12,5**	**9,38**
Total		**∑ F = 32**			**100**	

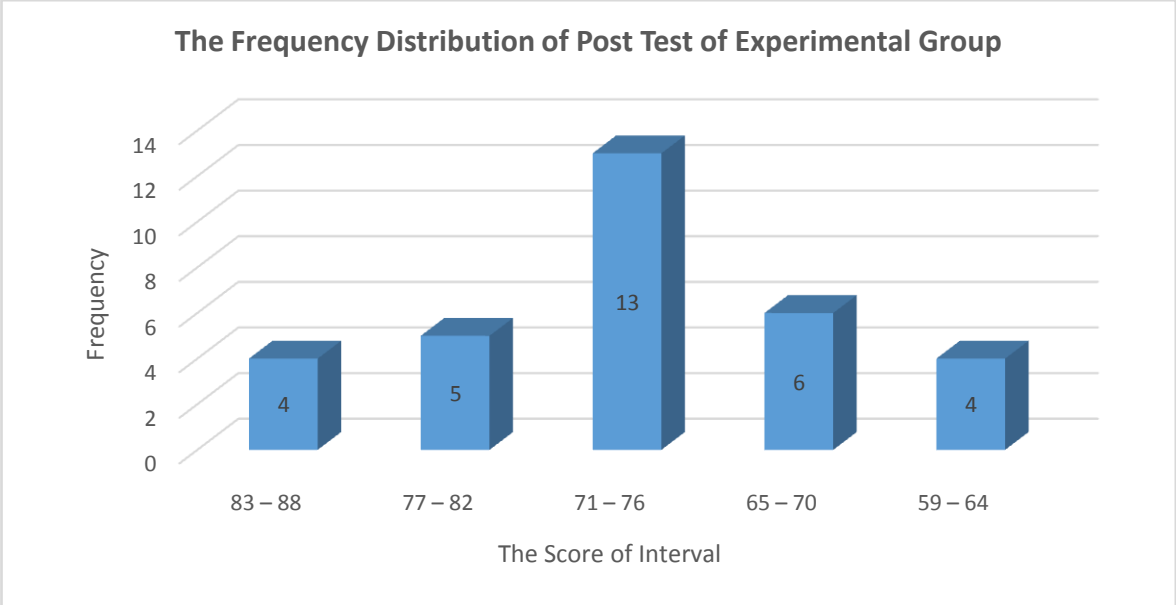

Figure 4.16 The Frequency Distribution of Post Test Score of the Experimental Group.

It can be seen from the figure above, the students' post test score in experimental group. There were four students who got score 83-88. There were five students who got score 77-82. There were thirteen students who got 71-76.

There were six students who got 65-70. There were four students who got score 59-64.

The next step, the writer tabulated the scores into the table for the calculation of mean, median, and modus as follows:

Table 4.17 The Table for Calculating Mean of Post Test Score of the Experimental Group

Interval (I)	**Frequency (F)**	**Mid Point (x)**	**FX**	**X'**	**Fx'**	**Fkb**	**Fka**
83 – 88	**4**	**85,5**	**342**	**2**	**8**	**32**	**4**
77 – 82	**5**	**79,5**	**397,5**	**1**	**5**	**28**	**9**
71 – 76	**13**	**73,5**	**955,5**	**0**	**0**	**23**	**22**
65 – 70	**6**	**67,5**	**405**	**-1**	**-6**	**10**	**28**
59 – 64	**4**	**61,5**	**246**	**-2**	**-8**	**4**	**32**
Total	**∑ F = 32**		**∑FX = 2346**		**∑Fx' = -1**		

a. Mean

$$Mx = \frac{\Sigma fx}{N}$$

$$= \frac{2346}{32}$$

$$= 73,3$$

The calculation above showed the mean value: 73,3.

The last step, the writer tabulated the scores of post test of experimental group into the table for the calculation of standard deviation and the standard error as follows:

Table 4.18 The Table for Calculating Standard Deviation and Standard Error of the Post Test Score

Interval (I)	**Frequency (F)**	**Mid Point (x)**	**FX**	**X'**	**Fx'**	**X'²**	**Fx'²**
83 – 88	**4**	**85,5**	**342**	**2**	**8**	**4**	**16**
77 – 82	**5**	**79,5**	**397,5**	**1**	**5**	**1**	**5**
71 – 76	**13**	**73,5**	**955,5**	**0**	**0**	**0**	**0**
65 – 70	**6**	**67,5**	**405**	**-1**	**-6**	**1**	**6**
59 – 64	**4**	**61,5**	**246**	**-2**	**-8**	**4**	**16**
Total	**∑ F = 32**		**∑FX = 2346**		**∑Fx' = -1**		**∑Fx'² = 43**

b. Calculating Standard Deviation

$$SD = i\sqrt{\frac{\sum FX'^2}{N} - \frac{(\sum FX')^2}{(N)}}$$

$$=6\sqrt{\frac{43}{32} - \frac{(-1)^2}{(32)}}$$

$$=6\sqrt{\frac{43}{32} - \frac{1}{1024}}$$

$$=6\sqrt{1{,}34375 - 0{,}0009766}$$

$$=6 \text{ x } 1.159$$

= 6,952686

c. Calculating Standard Error

$$SE = \frac{SD}{\sqrt{N-1}}$$

$$= \frac{6,952686}{\sqrt{32-1}}$$

$$= \frac{6,952686}{5.568} = 1.2486864$$

The result of calculation showed that the standard deviation of post test score of experimental group was 6,952686and the standard error of post test score of experimental group was 1.2486864.

The writer also calculated the data calculation of post test score of experimental group using SPSS 21.0 program. The result of statistic table is as follows:

Table 4.19 The Table of Calculation of Mean, Median, Mode, Standard Deviation, Standard Error of Mean of Post Test Score of Experiment Group Using SPSS 21.0 Program

Statistics

POST TEST EXPERIMENT

N	Valid	32
	Missing	0
Mean		73,7188
Std. Error of Mean		1,19494
Median		74,0000
Mode		76,00
Std. Deviation		6,75963
Variance		45,693
Skewness		-,180
Std. Error of Skewness		,414
Kurtosis		-,242
Std. Error of Kurtosis		,809

Range	27,00
Minimum	59,00
Maximum	86,00
Sum	2359,00

2. Distribution of Post Test Scores of the Control Group

The post test scores of the control group were presented in the following table:

Tabel 4.20 The Description of Post Test Scores of the Data Achieved by the Students in Control Group

Students' Code	Total Score	Qualification
C1	64	Good
C2	63	Good
C3	74	Good
C4	63	Good
C5	67	Good
C6	71	Good
C7	71	Good
C8	57	Fairly Good
C9	63	Good
C10	54	Fairly Good
C11	74	Good
C12	70	Good
C13	63	Good
C14	66	Good
C15	57	Fairly Good
C16	56	Fairly Good
C17	73	Good
C18	64	Good
C19	60	Good
C20	56	Fairly Good
C21	76	Good
C22	71	Good

C23	51	Fairly Good
C24	77	Good
C25	67	Good
C26	76	Good
C27	57	Fairly Good
C28	54	Fairly Good
C29	57	Fairly Good
C30	57	Fairly Good
C31	54	Fairly Good
C32	54	Fairly Good

Based on the data above, it can be seen that the students' highest score was 77 and the students' lowestscore was 51. To determine the range of score, the class interval, and interval of temporary, the writer calculated using formula as follows:

The highest score (H) = 77

The lowest score (L) = 51

The range of score (R) = H-L+1

= 77-51+1 = 27

The class interval (K) = 1 + (3.3) x log 32

= 1 + (3.3) x 1.50515

= 1 + 4.966995= 5.966995= 6

Interval of temporary $= \frac{R}{K}$ $= \frac{27}{6}$ = 4,5 = 5

So, the range of score was 27, the class interval was 6, and interval of temporary was 5. It was presented using frequency distribution in the following table:

Table 4.21 The Frequency Distribution of the Post Test Score of the Control Group

Class (K)	Interval (I)	Frequency (F)	Mid Point (x)	The Limitation of Each Group	Frequency Relative (%)	Frequency Cumulative (%)
1	75-80	3	77,5	74,5-80,5	9,375	100
2	69-74	7	71,5	68,5-74,5	21,875	90,625
3	63-68	9	65,5	62,5-68,5	28,125	68,75
4	57-62	6	59,5	56,5-62,5	18,75	40,625
5	51-56	7	53,5	50,5-56,5	21,875	21,875
Total		∑ F = 32			100	

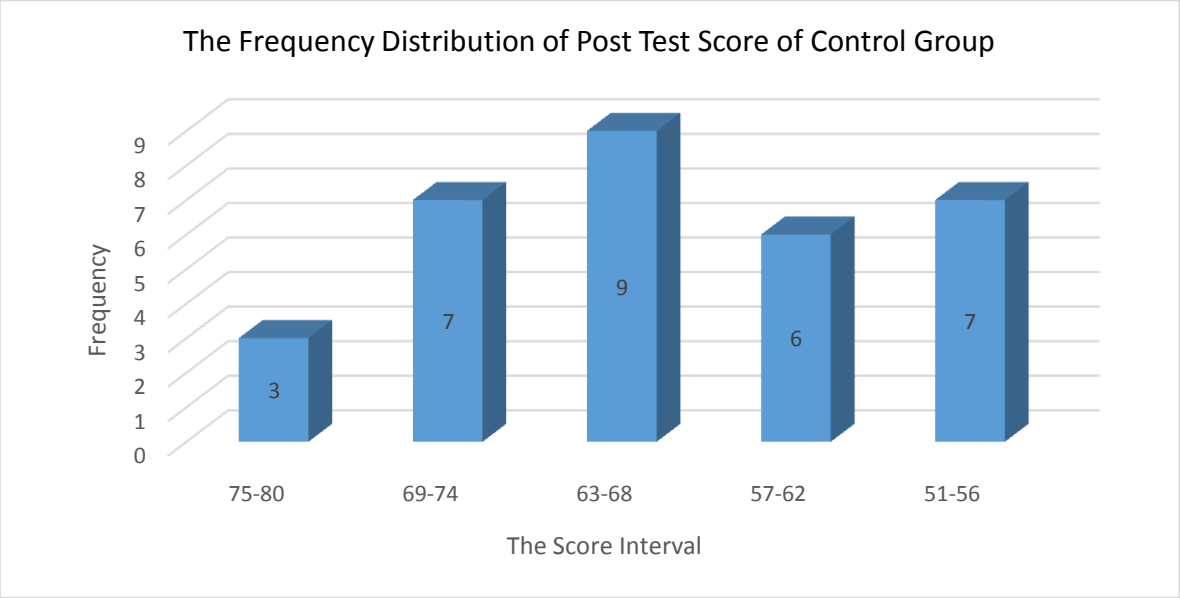

Figure 4.22 The Frequency Distribution of Post Test Score of the Control Group

It can be seen from the figure above, the students' post test score in control group. There were three students who got score 75-80. There were seven students who got score 69-74. There were nine students who got 63-68. There were six students who got score 57-62. There were seven students who got 51-56.

The next step, the writer tabulated the scores into the table for the calculation of mean as follows:

Table 4.23 The Table for Calculating Mean of Post Test Score of the Control Group

Interval (I)	**Frequency (F)**	**Mid Point (x)**	**FX**	**X'**	**Fx'**	**Fkb**	**Fka**
75-80	**3**	**77,5**	**232,5**	**2**	**6**	**32**	**3**
69-74	**7**	**71,5**	**500,5**	**1**	**7**	**29**	**10**
63-68	**9**	**65,5**	**589,5**	**0**	**0**	**22**	**19**
57-62	**6**	**59,5**	**357**	**-1**	**-6**	**13**	**25**
51-56	**7**	**53,5**	**374,5**	**-2**	**-14**	**7**	**32**
	$\sum$ F = 32		**$\sum$ Fx = 2054**				

a. Mean

$$Mx = \frac{\Sigma fx}{N}$$

$= \frac{2054}{32}$

= 64,19

The calculation above showed the mean value: 64,19.

The last step, the writer tabulated the scores of post test of control group into the table for the calculation of standard deviation and the standard error as follows:

Table 4.24 The Table for Calculating Standard Deviation and Standard Error of Post Test of Control Group

Interval (I)	**Frequency (F)**	**Mid Point (x)**	**FX**	**X'**	**X'^{2}**	**Fx'**	**Fx'^{2}**
75-80	**3**	**77,5**	**232,5**	**2**	**4**	**6**	**12**
69-74	**7**	**71,5**	**500,5**	**1**	**1**	**7**	**7**
63-68	**9**	**65,5**	**589,5**	**0**	**0**	**0**	**0**
57-62	**6**	**59,5**	**357**	**-1**	**1**	**-6**	**6**
51-56	**7**	**53,5**	**374,5**	**-2**	**4**	**-14**	**28**
	∑ F = 32		**∑ Fx = 2054**			**∑ Fx' = -7**	**∑ Fx'^{2} = 53**

b. Calculating Standard Deviation

$$SD = i\sqrt{\frac{\sum FX'^2}{N} - \frac{(\sum FX')^2}{(N)}}$$

$$=6\sqrt{\frac{53}{32} - \frac{(-7)^2}{(32)}}$$

$$=6\sqrt{\frac{53}{32} - \frac{49}{1024}}$$

$$=6\sqrt{1{,}65625 - 0{,}0478516}$$

$$=6 \text{ x } 1.2682$$

$$= 7{,}6092$$

c. Calculating Standard Error

$$SE = \frac{SD}{\sqrt{N-1}}$$

$$= \frac{7{,}6092}{\sqrt{32-1}}$$

$$=\frac{7{,}6092}{5.568}=1.367$$

The result of the calculation showed that the standard deviation of post test score of control group was 7,6092and the standard error of post test score of control group was 1.367. The writer also calculated the data of post test of control group using SPSS 21.0 program. The result of statistic table is as follows:

Table 4.25 Table of Calculation of Mean, Median, Mode, Standard Deviation and Standard Error of Mean of Post Test Score of Control Group Using SPSS 21.0 Program

Statistics

POST TEST CONTROL

N	Valid	32
	Missing	0
Mean		63,6563
Std. Error of Mean		1,38440
Median		63,0000
Mode		57,00
Std. Deviation		7,83132
Variance		61,330
Skewness		,190
Std. Error of Skewness		,414
Kurtosis		-1,267

Std. Error of Kurtosis	,809
Range	26,00
Minimum	51,00
Maximum	77,00
Sum	2037,00

The table showed the result of mean calculation was 63,6563. The result of standard deviation was 7,83132. The result of standard error of mean calculation was 1,38440. The writer also calculated the normality and homogenity of the post test scores of the control group using SPSS 21.0 program.

Table 2.26 The Normality and Homogenity of the Post Test Scores of the Control Group Using SPSS 21.0 Program.

One-Sample Kolmogorov-Smirnov Test

		EXPERIMENT POSTTEST	CONTROL POST TEST
N		32	32
Normal Parameters[a,b]	Mean	73,7188	63,6563
	Std. Deviation	6,75963	7,83132
Most Extreme Differences	Absolute	,087	,177
	Positive	,087	,177
	Negative	-,083	-,107
Kolmogorov-Smirnov Z		,490	1,003
Asymp. Sig. (2-tailed)		,970	,267

a. Test distribution is Normal.

b. Calculated from data.

Test of Homogeneity of Variances

SCORE

Levene Statistic	df1	df2	Sig.
1,844	1	62	,179

C. Result of Data Analysis

1. Testing Hypothesis Using Manual Calculation

The writer chose the significance level on 5%, it means the significance level of refusal of null Hypothesis on 5%. The writer decided the significance level at 5% due to the Hypothesis type stated on non-directional (two-tailed test). It meant that the Hypothesis cannot direct the prediction of alternative Hypothesis.

To test the hypothesis of the study, the writer used t-test statistical calculation. Firstly, the writer calculated the standard deviation and the error of X_1 and X_2. It was found the standard deviation and the standard error of post test of X_1 and X_2 at the previous data presentation. It could be seen on this following table:

Table 4.27 The Standard Deviation and Standard Error of X_1 and X_2

Variable	The Standard Deviation	The Standard Error
X_1	6, 953	1,249
X_2	7, 609	1,367

Where :

X_1 = Experimental group

X_2 = Control group

The table showed the result of the standard deviation calculation of X_1 was 6, 953 and the result of the standard error mean calculation was 1,249. The result of the standard deviation calculation of X_2 was 7, 609 and the result of the standard error mean calculation was 1,367.

The next step, the writer calculated the standard error of the differences mean between X_1 and X_2 as follows:

Standard error of mean of score difference between variable I and variable II:

SEM1 – SEM2 $= \sqrt{SEm1^2 + SEm2^2}$

SEM1 – SEM2 $= \sqrt{1{,}249^2 + 1{,}367^2}$

SEM1 – SEM2 $= \sqrt{1{,}56 + 1{,}87}$

SEM1 – SEM2 $= \sqrt{3{,}43}$

SEM1 – SEM2 = 1,852

The calculation above showed the standard error of the differences mean between X_1 and X_2 was 1, 852. Then, it was inserted to the t_o formula to get the value of t observe as follows:

$t_o = \frac{M1-M2}{SEm1-SEm2}$

$t_o = \frac{73{,}3-64{,}2}{1{,}852}$

$t_o = \frac{9{,}1}{1{,}852}$

t_o = 4, 9136069 = 4,914

with the criteria:

If t-test (t-observed) ≥ t-table, Ha is accepted and Ho is rejected.

If t-test (t-observed) < t-table, Ha is rejected and Ho is accepted.

Then, the writer interpreted the result of t-test. Previously, the writer accounted the degree of freedom (df) with the formula:

df = $(N_1 + N_2) - 2$

= (32+32)-2 = 62

T_{table} at df 62/60 at 5% significant level = 2.000

The writer chose the significant levels on 5%, it means the significant level of refusal of null hypothesis on 5%. The writer decided the significance level at 5% due to the hypothesis typed stated on non-directional (two-tailed test). It meant that the hypothesis can not direct the prediction of alternative hypothesis.

The calculation above showed the result of t-test calculation as in the table follows:

Table 4.28 The Result of T-Test

Variable	**T Observed**	**T Table**	**Df/db**
		5%	
$X_1 - X_2$	**4,914**	**2,000**	**62**

Where:

X_1 = Experimental Group

X_2 = Control Group

T observe = The Calculated Value

T table = The Distribution of t Value

Df/db = Degree of Freedom

Based on the result of hypothesis test calculation, it was found that the value of $t_{observed}$ was greater than the value of t_{table} at significance level or 2,000 < 4,914. 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 using of YouTube video media increases the eight-grade students' writing

skill at MTs N 2 Palangka Raya was accepted and H_o stating that using YouTube video media does not increase the eight-grade students' writing skill at MTs N 2 Palangka raya was rejected. It meant that teaching writing by using YouTube video media increases the eight-grade students' writing skill at MTs N 2 Palangka Raya.

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 calcution of the t test. The result of the t test using SPSS 21.0 program could be seen as follows:

Table 4.29 The Standard Deviation and the Standard Error of X_1 and X_2

Group Statistics

	CLASS	N	Mean	Std. Deviation	Std. Error Mean
SCORE	1,00(X_1)	32	73,7188	6,75963	1,19494
	2,00 (X_2)	32	63,6563	7,83132	1,38440

The table showed the result of the standard deviation calcution of $X_1$was 6,75963 and the result of the standard error mean calculation was 1,19494. The result of the standard deviation calculation of X_2 was 7,83132 and the standard error mean calculation was 1,38440.

Table 4.30 The Calculation T-test Using SPSS 21.0 Independent Sample Test

Independent Samples 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	95% Confidence Interval of the Difference

								Lower	Upper
SCORE	Equal variances assumed	1,844	,179	5,502	62	,000	10,06250	1,82878	6,40682	13,71818
	Equal variances not assumed			5,502	60,704	,000	10,06250	1,82878	6,40526	13,71974

The table showed the result of t test calculation using SPSS 21.0 program. Since the result of post test between experiment and control group had difference score of variance, it found that the result of $T_{observed}$ was 5,502, the result of mean difference between experiment and control group was 10,06250.

To examine the truth or the false of null hypothesis stating that using YouTube video media does not increses the eight grade students' writing skill, the result of post test was interpreted on the result of degree of freedom to get the t_{table}. The result of degree of freedom (df) was 62. The following table was the result of $t_{observed}$ and t_{table} from 62 at 5% significance level.

Table 4.31 The Result of T-observed and T-table / T-test

Variable	**T Observed**	**T Table**	**Df/db**
		5%	
$X_1 - X_2$	**5,502**	**2,000**	**62**

The interpretation of the result of t-test using SPSS 21.0 program, it was found the t observe was greater than the t table at 5% siginificance level or 2,000<5,502. It could be interpreted based on the result of calculation that H_a stating that YouTube video media increses the students' writing skill was accepted and H_o stating that YouTube video media does not increses the students' writing skill was rejected. It meant that teaching writing using YouTube video media

increses the eight grade students' writing skill at MTs N 2 Palangka Raya or YouTube video media gave very significant effect toward students' writing skillof animal description at the eighth grade of MTs N 2 Palangka Raya.

Table 4.32The Comparison of Pre Test and Post Test Score Achieved by the Students in Experiment and Control Group.

- **Experiment**			
Variable	**T Observed**	**T Table**	**Df/db**
X2 –X1		**5%**	
73,3- 62.4375	**10,8625**	**2,000**	**62**
- **Control**			
Variable	**T Observed**	**T Table**	**Df/db**
X2 –X1		**5%**	
64,19 - 58.875	**5, 315**	**2,000**	**62**

Where : X1 = pre test

X2 = post test

From the table aboved it can be seen that there was significant difference of mean score of pre test – post test at experimental group where pretest mean score was 62,44 and post test mean score was 73,3. The YouTube video media gave very significant effect toward students' writing skill of animal description at the eighth grade of MTs N 2 Palangka Raya.

D. Discussion

The result of thedata analysis showed that the YouTube video media gave very significance effect on the students' writing skill for the eight-grade

students at MTs N 2 Palangka Raya. The students who were taught using YouTube video media got higher score than students who were taught without using YouTube video media. It was proved by the mean score of the students who were taught using YouTube video media was 73,3 and the students who were taught without using YouTube video media was 64,2. Based on the result of hypothesis test calculation, it was found that the value of $T_{observed}$ was greater than the value of T_{table} at 5% significance level or 2,000 < 4,914. It meant H_a was accepted and H_o was rejected.

Furthermore, the result of t test calculation using SPSS 21.0 found that the YouTube video media gave significance effect on the students' Enflish score. It proved by the value df $T_{observed}$ was greater than T_{table} at 5% significance level or 2,000<5,502.

The finding of the study interpreted that the alternative hypothesis stating that YouTube video media increases the students' English score for the eight grade students at MTs N 2 Palangka Raya was accepted and the null hypothesis stating that YouTube video media does not increses the students' English scores for the eight grade students at MTs N 2 Palangka Raya was rejected.

Based on the results finding of the study, it was shown that YouTube video media gives beneficial contribution in increasing the students' writing skill during the instructional process. YouTube video media implemented in this study consists of some steps. Those are; 1) deciding on the school syllabus and material, 2) organizing the group of the students, 3) providing the situation to be YouTube video media played, 4) pick a particular clip to provide the content or illustrate a

concept or principle, 5) play a clip and stop the clip at any scene to higliht a point, 6) assign an active learning activity to interact on specific question, issues, or concept, 7) set a time for reflection on what was scene and guiding the students to rewrite based on their own word.

Ther were some possible reason why YouTube video media was effective in teaching writing at the eight-grade students of MTs N 2 Palangka Raya. The first reason was when the writer taught English using YouTube video media, indirectly gave the students some daily activity practice, where the students unconciously seen the animal and know the part of body, characteristic in Indonesian language, but they never practice to mention or explain in English. The second reason was when the writer taught English using YouTube video media, the students gave their attention to the media played. The third reason was when teaching English the writer taught English using YouTube video media based on their learning material which suitable with their environment or contextual learning. It made students could comprehend the material easier.

These finding were suitable with the theories as stated in chapter II. The first, YouTube video media can be very interesting media for learners because it has been world-wide website. When the students interest with their class they would be motivated to learn.

The second, YouTube video media showed the animal body parts, characteristic, and their habitual action. The students not only knew what the English vocabulary is and how to spell it, but also they could rewrite it in paragraph.

The third, a video can have a strong effect on your mind and senses. It is so powerful that you may download it off the Internet or order the DVD from Amazon along with the CD soundtrack.[1]

The fourth, watching video in YouTube will help students to memorize the events more easily. Because this website provides learners with authentic situations and with everyday clips that help them to get better understanding of their lessons. Maness in Kabilan also said that students get positive indicators when they watch nature and real life videos.[2]

Based on statement above YouTube video media was appropriate because the YouTube facilitated many video of education especially animal description.

[1]Roonald A. Berk, *Multimedia Teaching with Video Clips: TV, Movies, YouTube, and mtvU in the College Classroom,*Baltimore,Maryland, 2009,p.2.

[2] Kabilan Muhammad, *The Use of YouTube in Teaching English Literature The Case of Al- Majma'ah Community College, Al-Majma'ah University (CaseStudy)*, International journal of Linguistic.p.526. (http:www.macrothink.orgjoumalindex.phpijlarticleviewFile2930pdf)