CHAPTER IV

RESEARCH FINDING AND DISCUSSION

This chapter presents the research finding and the discussion of that result. The research finding is based on the data obtained from SMA Walisongo Pecangaan and the discussion is based on the research finding. This chapter also discovers the verification of the hypothesis that proposed.

4.1 Research Finding

This research found the different result between experimental class who taught by using peer feedback technique and control class who did not teach by peer feedback technique. The data description included the score of experimental class and the score of control class. The data was explained as follow.

4.1.1 The Score of Experimental Class

The score that got by the students of experimental class in pre-test and post-test could be presented in this part. Those results described in the following sequent.

A. Pre-Test Score

This pre-test score could be shown on the following table.

Table 1 Pre-Test Score of Experimental Class

No	Code	Score
1.	EC-1	64
2.	EC-2	62
3.	EC-3	74
4.	EC-4	68
5.	EC-5	70

6.	EC-6	69
7.	EC-7	75
8.	EC-8	68
9.	EC-9	70
10.	EC-10	76
11.	EC-11	73
12.	EC-12	76
13.	EC-13	60
14.	EC-14	64
15.	EC-15	70
16.	EC-16	61
17.	EC-17	65
18.	EC-18	69
19.	EC-19	68
20.	EC-20	70
21.	EC-21	67
22.	EC-22	76
Total Score		1515
Mean		68,86

According to the pre-test score above, the Mean of the pre-test is 68.86 which the lowest score was 60 and highest score was 76. The Mean was calculated based on the following formula:

$$\bar{x}_1 = \frac{\sum x_1}{n_x}$$

$$= \frac{1515}{22}$$

$$= 68.86$$

B. Post-Test Score

This post-test score could be shown on the following table.

Table 2 Post-Test Score Experimental Class

No	Code	Score
1.	EC-1	76
2.	EC-2	73
3.	EC-3	80
4.	EC-4	80
5.	EC-5	75
6.	EC-6	78
7.	EC-7	80
8.	EC-8	78
9.	EC-9	85
10.	EC-10	88
11.	EC-11	80
12.	EC-12	85
13.	EC-13	74
14.	EC-14	76
15.	EC-15	82
16.	EC-16	72
17.	EC-17	78
18.	EC-18	78
19.	EC-19	76
20.	EC-20	82
21.	EC-21	82
22.	EC-22	85
Total Score		1743
Mean		79,23

According to the post-test score above, the Mean of the post-test is 79.23 which the lowest score was 72 and highest score was 88. The Mean was calculated based on the following formula:

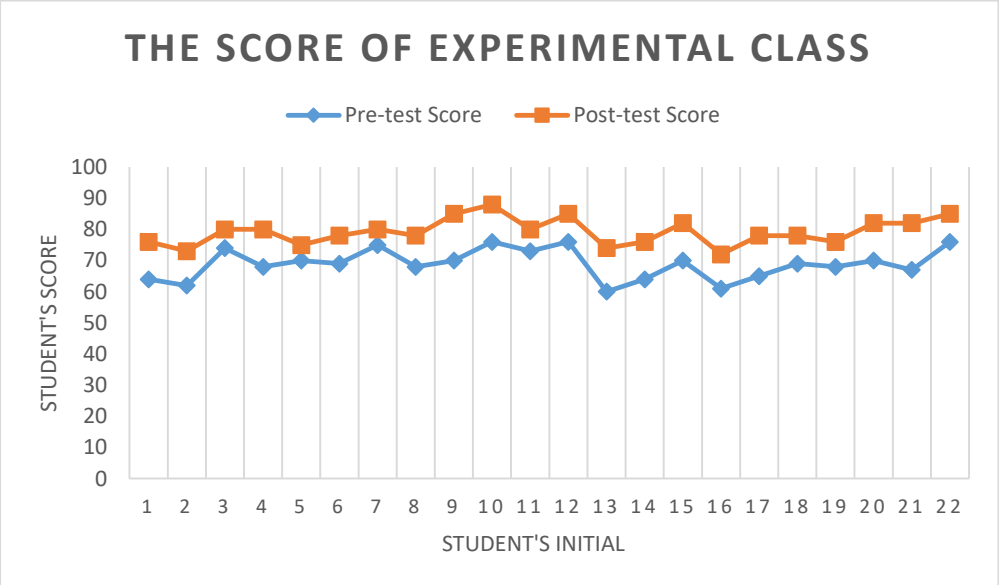
$$\bar{x}_2 = \frac{\sum x_2}{n_x}$$

$$= \frac{1743}{22}$$

$$= 79.23$$

The Mean of experimental class increases from 68.86 to 79.23. It shows increasing score of 10.36 point. Meanwhile, a diagram was provided to make readers understand the data easily.

Figure 1 Diagram of Experimental Class Score



According to the diagram above, it showed that the post-test score was higher than the pre-test score for the whole students. It meant that the treatment affected the whole students' score in this class.

4.1.2 The Score of Control Class

The score that got by the students in control class showed in pre-test and post-test could be presented in this part. Those results described in the following sequent.

A. Pre-Test Score

This pre-test score could be shown on the following table.

Table 3 Pre-Test Score of Control Class

No	Code	Score
1.	CC-1	68
2.	CC-2	67
3.	CC-3	65
4.	CC-4	70
5.	CC-5	68
6.	CC-6	66
7.	CC-7	66
8.	CC-8	55
9.	CC-9	70
10.	CC-10	70
11.	CC-11	70
12.	CC-12	68
13.	CC-13	66
14.	CC-14	62
15.	CC-15	68
16.	CC-16	69
17.	CC-17	70
18.	CC-18	64
19.	CC-19	68
20.	CC-20	64
21.	CC-21	65

22.	CC-22	68
Total Score		1467
Mean		66,68

According to the pre-test score above, the Mean of the pre-test is 66.68 which the lowest score was 55 and highest score was 70. The Mean was calculated based on the following formula:

$$\bar{y}_1 = \frac{\sum y_1}{n_y}$$

$$= \frac{1467}{22}$$

$$= 66.68.$$

B. Post-Test Score

This post-test score could be shown on the following table.

Table 4 Post-Test Score of Control Class

No	Code	Score
1.	CC-1	70
2.	CC-2	70
3.	CC-3	68
4.	CC-4	72
5.	CC-5	70
6.	CC-6	68
7.	CC-7	70
8.	CC-8	66
9.	CC-9	74
10.	CC-10	72
11.	CC-11	74
12.	CC-12	70
13.	CC-13	68
14.	CC-14	64

15.	CC-15	74
16.	CC-16	72
17.	CC-17	76
18.	CC-18	66
19.	CC-19	70
20.	CC-20	68
21.	CC-21	72
22.	CC-22	70
Total Score		1544
Mean		70,18

According to the post-test score above, the Mean of the post-test is 70.18 which the lowest score was 64 and highest score was 76. It was calculated based on the following formula:

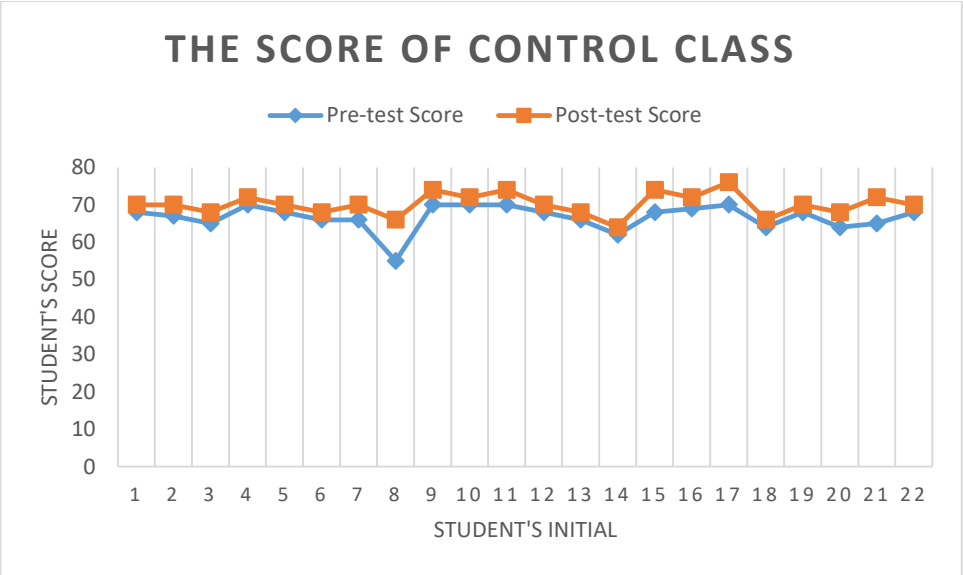
$$\bar{y}_2 = \frac{\sum y_2}{n_y}$$

$$= \frac{1544}{22}$$

$$= 70.18$$

The Mean of control class increases from 66.68.to 70.18. It increases just 3.5 points. Meanwhile, a diagram was provided to make readers understand the data easily.

Figure 2 Diagram of Control Class Score



According to the diagram above, it showed that there were any increasing scores in control class but it was not as big as the experimental class.

4.2 Data Analysis

The writer analyzed the data using t-test in testing the hypothesis proposed. Before doing the t-test, the writer did the prerequisite test that included normality test and homogeneity test. Then, the writer tested the hypothesis using t-test.

4.2.1 Normality Test

Normality test is aimed to reveal that the data has the normal distribution. In doing the normality test, the writer used Shapiro Wilk method because in this research has a small sample. The data has normal distribution if the result of observation is higher than the significant level 0.005. The result of normality test as follow:

Table 5 Normality Test

	Class	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Score	EC	,114	22	,200*	,970	22	,717
	CC	,161	22	,143	,963	22	,550
*. This is a lower bound of the true significance.							
a. Lilliefors Significance Correction							

Based on the table above, the data of experimental class shows significant value as 0.717 ($0.717 > 0.005$). While the significant value of control class shows 0.550 or it describes as $0.550 > 0.005$. It means that the both data of experimental class (EC) and the control class (CC) have normal distribution.

4.2.2 Homogeneity Test

Homogeneity test is aimed to reveal that the samples has homogenous variant. The data was homogeny if the result of observation is higher than the significant level 0.005. The result of homogeneity test as follow:

Table 6 Homogeneity of Variance Test

		Levene Statistic	df1	df2	Sig.
Score	Based on Mean	3,304	1	42	,076
	Based on Median	3,469	1	42	,070
	Based on Median and with adjusted df	3,469	1	40,232	,070
	Based on trimmed mean	3,280	1	42	,077

Based on the table above, the data shows significant value as 0.076 or it describes as $0.076 > 0.005$. It means that the both data of experimental class (EC) and the control class (CC) have homogenous variant.

4.2.3 Testing the Hypothesis

To know the difference score between experimental class and control class, the writer calculated the gained score for each class first. Gained score

is the difference result between pre-test score and post-test score. It was used to simplify the calculation.

Table 7 The Gained Score of Pre-Test

No.	Experimental Class	Control Class	Gained Score
1.	64	68	-4
2.	62	67	-5
3.	74	65	9
4.	68	70	-2
5.	70	68	2
6.	69	66	3
7.	75	66	9
8.	68	55	13
9.	70	70	0
10.	76	70	6
11.	73	70	3
12.	76	68	8
13.	60	66	-6
14.	64	62	2
15.	70	68	2
16.	61	69	-8
17.	65	70	-5
18.	69	64	5
19.	68	68	0
20.	70	64	6
21.	67	65	2
22.	76	68	8

Table 8 The Gained Score of Post-Test

No.	Experimental Class	Control Class	Gained Score
1.	76	70	6
2.	73	70	3
3.	80	68	12
4.	80	72	8
5.	75	70	5
6.	78	68	10
7.	80	70	10
8.	78	66	12
9.	85	74	11
10.	88	72	16
11.	80	74	6
12.	85	70	15
13.	74	68	6
14.	76	64	12
15.	82	74	8
16.	72	72	0
17.	78	76	2
18.	78	66	12
19.	76	70	6
20.	82	68	14
21.	82	72	10
22.	85	70	15

In this research, the total of gained score in pre-test both showed value of 48 and the post-test was 199.

As the writer mentioned in chapter III, the writer used t-test formula with the significance degree 5% in analyzing the data.

Table 9 Standard Deviation Table

NO	X	Y	$(x-\overline{x})$	$(y-\overline{y})$	$(x-\overline{x})^2$	$(y-\overline{y})^2$
1.	6	-4	-3,05	-6,18	9,27	38,21
2.	3	-5	-6,05	-7,18	36,55	51,58
3.	12	9	2,95	6,82	8,73	46,49
4.	8	-2	-1,05	-4,18	1,09	17,49
5.	5	2	-4,05	-0,18	16,37	0,03
6.	10	3	0,95	0,82	0,91	0,67
7.	10	9	0,95	6,82	0,91	46,49
8.	12	13	2,95	10,82	8,73	117,03
9.	11	0	1,95	-2,18	3,82	4,76
10.	16	6	6,95	3,82	48,37	14,58
11.	6	3	-3,05	0,82	9,27	0,67
12.	15	8	5,95	5,82	35,46	33,85
13.	6	-6	-3,05	-8,18	9,27	66,94
14.	12	2	2,95	-0,18	8,73	0,03
15.	8	2	-1,05	-0,18	1,09	0,03
16.	0	-8	-9,05	-10,18	81,82	103,67
17.	2	-5	-7,05	-7,18	49,64	51,58
18.	12	5	2,95	2,82	8,73	7,94
19.	6	0	-3,05	-2,18	9,27	4,76
20.	14	6	4,95	3,82	24,55	14,58
21.	10	2	0,95	-0,18	0,91	0,03
22.	15	8	5,95	5,82	35,46	33,85
∑	199	48	0,00	0,00	408,95	655,27
Mean	9,05	2,18	0,000	0,000	18,59	29,79

The writer used t-test formula for testing hypothesis. It shows the difference result between both classes in pre-test and post-test. The calculation steps of the test as follow:

1. Determining the Mean for Each Group

$$\bar{x} = \frac{\sum x}{n_x} \qquad \bar{y} = \frac{\sum y}{n_y}$$

$$= \frac{199}{22} \qquad = \frac{48}{22}$$

$$= 9.05 \qquad = 2.18$$

2. Determining Standard Deviation for Each Group

$$S_x = \sqrt{\frac{\sum(x-\bar{x})^2}{n_x - 1}} \qquad S_y = \sqrt{\frac{\sum(y-\bar{y})^2}{n_y - 1}}$$

$$= \sqrt{\frac{408.95}{22-1}} \qquad = \sqrt{\frac{655.27}{22-1}}$$

$$= \sqrt{\frac{408.95}{21}} \qquad = \sqrt{\frac{655.27}{21}}$$

$$= \sqrt{19.47} \qquad = \sqrt{31.20}$$

$$= 4.41 \qquad = 5.59$$

3. Calculating The t-test

$$t_0 = \frac{\bar{x} - \bar{y}}{\sqrt{\frac{(n_x-1)Sx^2 + (n_y-1)Sy^2}{n_x + n_y - 2}\left(\frac{1}{n_x} + \frac{1}{n_x}\right)}}$$

$$= \frac{9.05 - 2.18}{\sqrt{\frac{(22-1)4.42^2 + (22-1)5.59^2}{22+22-2}\left(\frac{1}{22} + \frac{1}{22}\right)}}$$

$$= \frac{6.87}{\sqrt{\frac{(21)19.47 + (21)31.20}{42}(0.05 + 0.05)}}$$

$$= \frac{6.87}{\sqrt{\frac{408.87 + 655.20}{42}(0.1)}}$$

$$= \frac{6.87}{\sqrt{\frac{1064.07}{42}(0.1)}}$$

$$= \frac{6.87}{\sqrt{25.34(0.1)}}$$

$$= \frac{6.87}{\sqrt{2.53}}$$

$$= \frac{6.87}{1.59}$$

$$= 4.32$$

The result of T-test shows 4.32. Then, the writer determine the d*f* (degree of freedom) with the formula:

$$df = n_x + n_y - 2$$

$$= 22 + 22 - 2$$

$$= 42$$

The d*f* shows 42. From the d*f* above, the writer determine the value of t_{table} on significance level 5% by checking the table of d*f*. Based on the table of d*f*, the value of t_{table} is 1.68.

According to the calculation above, the value of t_0 is 4.32. The writer concluded that the value of t_0 was higher than the value of t_{table} ($4.32 > 1.68$). It means that H_0 was rejected because $t_0 \geq t_t$. So, there is significant difference between students' writing score before a treatment and after the treatment. The peer feedback technique is effective in teaching writing.

4.3 Discussion

This study intends to know the effect of implementing Peer Feedback technique in teaching writing of eleventh grade at SMA Walisongo Pecangaan. It is to find out whether there is significant difference between students who taught by using Peer Feedback technique and who did not taught by this technique. This study was conducted on May 2019.

There were two groups in this research. They were called by experimental class (EC) and control class (CC). The experimental class (EC) was in XI IPA and the control class (CC) was in XI IPS 1. The writer conducted this research

in four meetings for each class. Those were pre-test once for each class, treatment twice for each class and post-test once for each class.

The writer gave pre-test in first meeting. Pre-test was done to know the students' basic writing skill in writing explanation text. Then, the treatment was given twice for each class. EC was taught by peer feedback technique while the CC was not. At last, the writer gave post-test in last meeting that is aimed at knowing whether any significances of students' writing score after giving the treatment.

In conducting peer feedback technique, the writer asked the students to write their outline based on the topic given. The writer gave the student times to write down their idea into first draft as far as they can. Then, the writer asked the students to discuss about the draft with their peer. In this step, the students allowed to give their positive comment and also advice each other based on the peer feedback guideline. After discussion, the writer asked the students to revise it into the final draft based on the peer feedback.

Based on the obtained data, the score that EC got was increase. It showed based on Mean score. EC got 68.86 for pre-test and 79.23 for post-test. It meant that were increasing score as 10.36 points.

Henceforth, the score of CC was also increased. But, it was not as big as the EC. The CC got 66.68 in pre-test and 70.18 in post-test. It was increased just 3.5 points.

According to the calculation t-test result, it was explained there was significant difference score between the students' writing score whom taught by peer feedback technique and the students' writing score whom taught by

teacher feedback technique. It proved from the result of t_0 as 4.32 which was higher than t_{table} as 1.68($4.32 > 1.68$).

The t-test result showed t_0 was higher than t_{table} ($t_0 \geq t_t$). In this research, it meant that the null hypothesis (H_0) was rejected and the alternative hypothesis (Ha) was accepted. The writer could conclude that peer feedback technique given for experimental class improved students' writing score.

Teaching writing using peer feedback technique provided students to more active in learning process. It made students more responsible in helping their friends to understand the material by having feedback each other. Thus, they could know their lack then they could correct it at the time. They did not need to wait the teacher feedback too long.

In the other hand, peer feedback improves students' social interaction with their peer. They know the way of giving a good feedback, how to give their comments without offending their peer's feeling. They also learn to not assert their thought to each other and still appreciate each other's comments.

In addition, their peer's comprehension, unconsciously, could make them grow their motivation to understand the material more. It helped them understand the teacher's explanation deeply from their peer's feedback.

However, the teacher's role is still needed by students as the guide in giving feedback. Teacher explained the students' job description and the procedures in doing peer feedback. Teacher also gave the conclusion for their writing.