# CHAPTER IV

# RESULT OF THE RESEARCH

## A. Description of Data

In this chapter, the writer would like to present the description of the data. The sample of this research was the eleventh grade students of MAN 1 Kota Cilegon, the writer divided them into two groups. The first is experimental class that consist 30 students from class XI IPS 2 and the second is control class that consist 30 students from class XI IPA 2. The goal of the research is intended to prove the accurate data in accordance with the research title.

To find out the effectiveness of Reciprocal Teaching Technique in reading comprehension, the writer identified some result, they are: The score of students before treatment, the score of students after treatment, the differences between pre-test and post-test score of students between students who was taught by using Reciprocal Teaching Technique and the students who was not taught by using Reciprocal Teaching Technique in teaching and learning process.

The writer did analysis of quantitative data. The data is obtained by giving test to experimental class and control class after giving a different treatment both of class. The students have poor ability of reading comprehension in some test before using Reciprocal Technique. They found the difficulties in understand

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about the content of the text and they have poor on reading comprehension, but after using Reciprocal Teaching Technique the students have better achievement. It can be seen from the result of pre-test and post-test.

To know the effectiveness of Reciprocal Teaching Technique toward students' reading comprehension, the writer gave the test to students as the sample both at the experimental class and control class. The test that used in this research divided into two types, they are pre-test and post-test. The pre-test is a test that given before treatment and post-test is given after giving treatment. On the test the students should answer some questions that given by the writer. In the pre-test and post-test the writer gave to the students were questions, those are 25 questions, 20 multiple choices, the correct answer given score 1 (one), and incorrect answer is given 0 (zero) in multiple choices and 5 essay, the correct answer is given score 2 (two) and incorrect answer is given 1 (one) for essay questions.

Having finished the field research, the writer described thestudents result of pre-test and post-test in experimental class by the table below:

**Table 4.1**

**1. The Score Result of Pre-Test and Post-Test of Experiment Class**

| No | Name of Students | Score | |
|----|------------------|-------|-----------|
| | | Pre-test | Post-test |
| 1 | AF | 63 | 76 |

| 2 | AMF | 60 | 80 |
|---|---|---|---|
| 3 | AR | 46 | 60 |
| 4 | BTW | 56 | 73 |
| 5 | DA | 50 | 70 |
| 6 | ER | 53 | 70 |
| 7 | FF | 63 | 80 |
| 8 | GR | 70 | 83 |
| 9 | HR | 60 | 70 |
| 10 | IM | 66 | 80 |
| 11 | II | 60 | 83 |
| 12 | IM | 53 | 76 |
| 13 | IY | 60 | 76 |
| 14 | IN | 46 | 60 |
| 15 | JS | 60 | 70 |
| 16 | KK | 70 | 86 |
| 17 | K | 56 | 73 |
| 18 | M | 53 | 70 |
| 19 | MHM | 50 | 80 |
| 20 | MF | 66 | 80 |
| 21 | NM | 46 | 63 |
| 22 | NP | 70 | 86 |
| 23 | NF | 70 | 80 |
| 24 | NA | 66 | 80 |
| 25 | NH | 50 | 73 |

| 26 | RAR | 60 | 76 |
|----|-----|------|------|
| 27 | RN | 50 | 70 |
| 28 | RIN | 66 | 83 |
| 29 | RHI | 70 | 86 |
| 30 | SM | 63 | 76 |
| $\sum X1$ | | 1772 | 2269 |
| M1 | | 59,06 | 75,63 |

Determine mean score pre-test and post-test of experimental class. The writer follows the formula:

1. Pre-test

$$M_1 = \frac{\sum X1}{N1}$$

$$M_1 = \frac{\sum 1772}{30}$$

$$= 59.06$$

2. Post-test

$$M_1 = \frac{\sum X1}{N1}$$

$$M_1 = \frac{\sum 2269}{30}$$

$$= 75.63$$

Note :

$\sum X1$      = The score of pre-test and post-test experiment class

M1      = Mean of pre-test and post-test experiment class

N1      = Number of students of experiment class

The table above showed about the students' score of pre-test and post-test at the experimental class of reading comprehension on

report text. The lowest score in pre-test was 46 and the highest score in pre-test was 70. The average score of pre-test was 59,06. The lowest score in post-test was 60 and the highest score in post-test was 86. The average score of post-test was 75,63. The students result can show that the post-test is higher score after applied Reciprocal Teaching Technique

Based on the calculation on the table 4.1 of pre-test and post-test assessment of experimental class, it showed that the result of experimental class got the good improvement after giving treatment. It seen from the average score of post-test was 75,63 > 59,06. The students' improvement score caused by the researcher used Reciprocal Technique in teaching learning process. It seen from the students' improvement score, it means that the Reciprocal Teaching Technique is success in improving students' reading comprehension on report text.

The writer described the students' improving score of pre-test and post-test at the experimental class by the graphic as follow:

**Graphic 4.1**

## 1. The Score Result of Pre-Test and Post-Test of experiment class
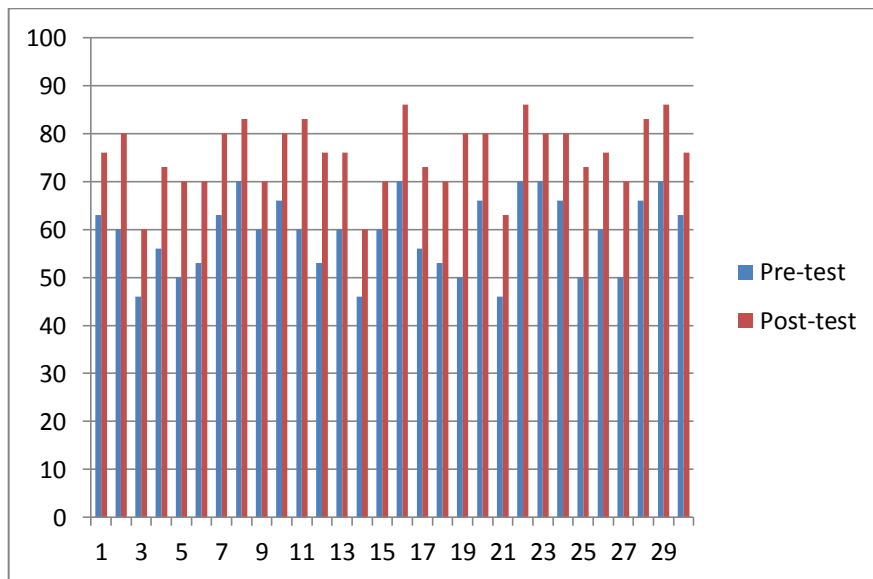


The graphic above showed about the comparison between score of the pre-test and post-test at the experimental class. According to the graphic above the score of post-test is better than the score of pre-test commonly.

**Table 4.2**

## 2. The Score Result of Pre-Test and Post-Test of Control Class

| No | Name | Score | |
|----|------|-------|-------|
| | | Pre-test | Post-test |
| 1 | AA | 60 | 70 |

| 2 | AFR | 46 | 53 |
|----|------|----|----|
| 3 | AN | 50 | 60 |
| 4 | APA | 50 | 66 |
| 5 | AT | 66 | 70 |
| 6 | BAF | 46 | 60 |
| 7 | DD | 66 | 80 |
| 8 | DAN | 63 | 73 |
| 9 | DW | 50 | 50 |
| 10 | FR | 50 | 53 |
| 11 | H | 60 | 63 |
| 12 | IA | 60 | 60 |
| 13 | I | 53 | 60 |
| 14 | LW | 63 | 76 |
| 15 | LY | 50 | 60 |
| 16 | MF | 60 | 76 |
| 17 | M | 56 | 70 |
| 18 | MA | 66 | 70 |
| 19 | MU | 46 | 50 |
| 20 | NA | 60 | 63 |
| 21 | NK | 60 | 70 |
| 22 | ND | 60 | 80 |
| 23 | NI | 50 | 66 |
| 24 | RI | 60 | 70 |
| 25 | RAR | 66 | 73 |

| 26 | RA | 60 | 70 |
|----|-----|------|------|
| 27 | RS | 50 | 60 |
| 28 | SLM | 53 | 70 |
| 29 | SM | 66 | 80 |
| 30 | SN | 60 | 63 |
| $\sum X2$ | | 1706 | 1985 |
| M2 | | 56,86 | 66,16 |

Mean by formula:

1. Pre-test

$$M2 = \frac{\sum X1}{N1}$$

$$M2 = \frac{\sum 1706}{30}$$

$$= 58,86$$

2. Post-test

$$M2 = \frac{\sum X1}{N1}$$

$$M2 = \frac{\sum 1985}{30}$$

$$= 66,16$$

The table above showed about the students' pre-test and post-test score of the control class of reading comprehension on report text. The lowest score in pre-test was 46 and the highest score in pre-test was 66. The average score of pre-test was 58,86. While the lowest score in post-test was 53 and the highest score in post-test was 80. The average score of post-test was 66,16.

Based on the explanation above, it showed that the result of pre-test in control class was 58,86. While the result of post-test in control class was 66,16. It means that the comparison score of pre-

test and post-test in control class was not better than experimental class. It can be seen from the average score of post-test at control class was smaller than the average score of post-test at experimental class. It caused the control class did not used Reciprocal Technique in teaching learning process in reading comprehension on report text.

The writer described the score of pre-test and post-test at the control class by the graphic as follow:

**Graphic 4.2**

2. **The Score of Pre-test and Post-test at Control Class**
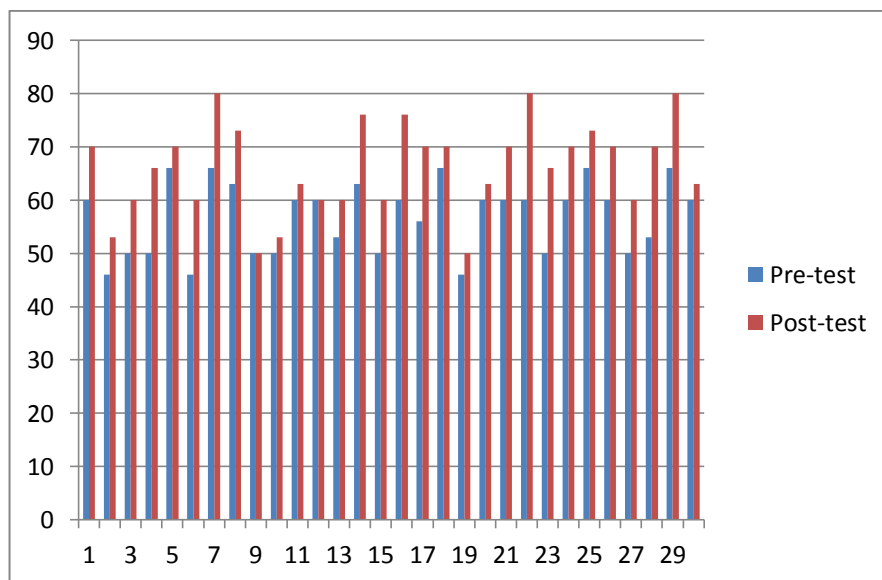


Based on the graphic above, it showed that the result of control class did not have the significant improvement after giving treatment. It seems from average score of post-test and pre-test score

is 66,16 > 58,86. This class also realized improvement but lower than experiment class.

## B. Analyzing the Data

After getting the data from pre-test and post-test score of two classes. Then the researcher analyzed it by using t-test formula with the degree of significant 5% and 1%, the researcher used step as follow:

**Table 4.3**

**The Score of Distribution Frequency**

| No | Score | | $X_1$ (X1-M1) | $X_2$ (X2-M2) | $X_1{}^2$ | $X_2{}^2$ |
| --- | --- | --- | --- | --- | --- | --- |
| | X1 | X2 | | | | |
| 1 | 76 | 70 | 0,37 | 3,84 | 0,13 | 14,74 |
| 2 | 80 | 53 | 4,37 | -13,16 | 19,09 | 173,18 |
| 3 | 60 | 60 | -15,63 | -6,16 | 244,29 | 37,94 |
| 4 | 73 | 66 | -2,63 | -0,16 | 6,91 | 0,02 |
| 5 | 70 | 70 | -5,63 | 3,84 | 31,69 | 14,74 |
| 6 | 70 | 60 | -5,63 | -6,16 | 31,69 | 37,94 |
| 7 | 80 | 80 | 4,37 | 13,84 | 11,09 | 191,54 |
| 8 | 83 | 73 | 7,37 | 6,84 | 54,31 | 46,78 |
| 9 | 70 | 50 | -5,63 | -16,16 | 31,69 | 261,14 |
| 10 | 80 | 53 | 4,37 | -3,16 | 19,09 | 262,78 |
| 11 | 83 | 63 | 7,37 | -3,16 | 54,31 | 9,98 |

| 12 | 76 | 60 | 0,37 | -6,16 | 0,13 | 37,94 |
|---|---|---|---|---|---|---|
| 13 | 76 | 60 | 0,37 | -6,16 | 0,13 | 37,94 |
| 14 | 60 | 76 | -15.63 | 9,84 | 244,29 | 96,82 |
| 15 | 70 | 60 | -5,63 | -6,16 | 31,69 | 37,94 |
| 16 | 86 | 76 | 10,37 | 9,84 | 107,53 | 96,82 |
| 17 | 73 | 70 | -2,63 | 3,84 | 6,91 | 14,74 |
| 18 | 70 | 70 | -5,63 | 3,84 | 31,69 | 14,74 |
| 19 | 80 | 50 | 4,37 | -16,16 | 19,09 | 261,14 |
| 20 | 80 | 63 | 4,37 | -3,16 | 19,09 | 9,98 |
| 21 | 63 | 70 | -12,63 | 3,84 | 159,51 | 14,74 |
| 22 | 86 | 80 | 10,37 | 13,84 | 107,53 | 191,54 |
| 23 | 80 | 66 | 4,37 | -0,16 | 19,09 | 0,02 |
| 24 | 80 | 70 | 4,37 | 3,84 | 19,09 | 14,74 |
| 25 | 73 | 73 | -2,63 | 6,84 | 6.91 | 46,78 |
| 26 | 76 | 70 | 0,37 | 3,84 | 0,13 | 14,74 |
| 27 | 70 | 60 | -5,63 | -6,16 | 31,69 | 37,94 |
| 28 | 83 | 70 | 4,37 | 3,84 | 19,09 | 14,74 |
| 29 | 86 | 80 | 10,37 | 13,84 | 107,53 | 191,54 |
| 30 | 76 | 63 | 0,37 | -3,16 | 0,37 | 9,98 |
| ∑ | 2269 | 1985 | 12,73 | 10,2 | 1428,87 | 2195,6 |

Note :

$X1$ = Score Post-Test (Experiment Class)

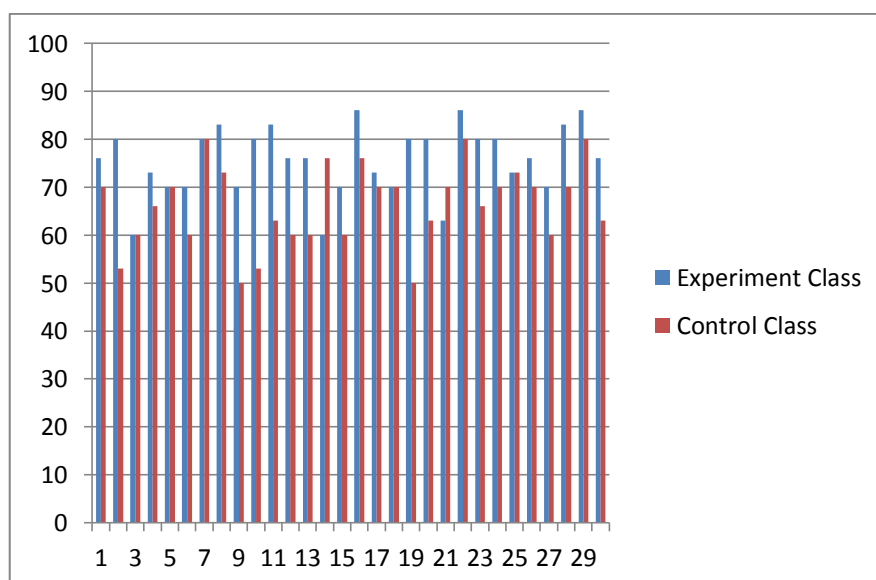X2 = Score Post-Test (Control Class)

$X_1$ = X1-$M_1$ (Mean X1)

$X_2$ = X2-$M_2$ (Mean X2)

$X_1{}^2$ = The squared value of $X_1$

$X_2{}^2$ = The squared value of $X_2$

**Graphic 4.3**

**The Comparison of Score Each Students of the Experiment and Control Class**



Based on the graphic above, the writer saw that the comparison between experiment group has $\sum$= 2269 and control

group has $\sum = 1985$ had different values. The experiment group was higher than control group. It is caused by the writer used different method of the experiment and control class as mentioned above that experiment class used Reciprocal Teaching Technique and control class used Discussion Method. For more detail, the writer wrote this comparison in statically.

From the table above, then the writer got $\sum X1 = 2269$, and $\sum X2 = 1985$, $\sum X_1 = 12,73$ and $\sum X_2 = 10,2$, $\sum X_1^1 = 1428,8$ and $\sum X_2^2 = 2195,6$, while $N1 = 30$ and $N2 = 30$.

After getting the data from pre-test and post-test, the writer analyzed it by using statistic calculation of t-test formula with the degree of significant 5% and 1 %, the formula as follow:

1. Determine mean of variable X1 and X2

   Variable X1                     Variable X2

$$M_1 = \frac{\sum X1}{N1} \qquad\qquad M_2 = \frac{\sum X2}{N2}$$

$$= \frac{\sum 2269}{30} \qquad\qquad = \frac{\sum 1985}{30}$$

$$= 75,63 \qquad\qquad\qquad = 66,16$$

2. Determine t test

$$t_o = \frac{M1 - M2}{\sqrt{\left\{\frac{\sum x1^2 + \sum x2^2}{N1 + N2 - 2}\right\}\left\{\frac{N1 + N2}{N1.N2}\right\}}}$$

$$= \frac{75,63-66,16}{\sqrt{\left\{\frac{1428,87+2195,6}{30+30-2}\right\}\left\{\frac{30+30}{30.30}\right\}}}$$

$$= \frac{9,47}{\sqrt{\left\{\frac{3624,47}{58}\right\}\left\{\frac{60}{900}\right\}}}$$

$$= \frac{9,47}{\sqrt{\{62.49\}\{0,06\}}}$$

$$= \frac{9,47}{\sqrt{1,93}}$$

$$= \frac{9,47}{1,93}$$

$t_o = 4,90$

Note :

M1   = The average score of experiment class (Mean X1)

M2   = The average score of control class (Mean X2)

$\sum X_1{}^2$ = Sum of the squared deviation score of experimental class

$\sum X_2{}^2$ = Sum of the squared deviation score of experimental class

N1   = Number of students of experiment class

N2   = Number of students of control class

2  = Constant number

Df = Degree of freedom

3. Degree of Freedom

   df    = N1+N2-2

        = 30+30-2

        = 58

## C. Hypothesis Testing

Data obtained from both pre-test and post-test were analysed and calculated using t-test formula. The data obtained from the experiment class and the control class were calculated with the assumption as follows:

If $t_o < t_t$ : the alternative hypothesis ($H_a$) is rejected and null hypothesis ($H_o$) is accepted. It means there is no significant effect of using Reciprocal Teaching Technique toward students' reading comprehension on report text.

If $t_o > t_t$ : the alternative hypothesis ($H_a$) is accepted and null hypothesis ($H_o$) is rejected. It means there is significant effect of using Reciprocal Teaching Technique toward students' reading comprehension on report text.

Based on assumption above, it is obtained that the value of $t_o$ = 4,90 and the degree of freedom (df) = 58. In degree of significance

5% from t table = 1,67. In degree of significance 1% from t table = 2,39.

After got the data, the writer compared it with $t_t$ (t table) in degree significance 5% and 1% by formula:

$t_t$ 5% $< t_o > t_t$ 1 % = 1,67 $< 4,90 >$ 2,39

$t_o : t_t = 4,90 > 1,67$ in degree of significance 5%

$t_o : t_t = 4,90 > 2,39$ in degree significance 1 %

Since $t_o$ score obtained from the result of calculating, the alternative hypothesis ($H_a$) is accepted and the null hypothesis ($H_{o)}$ is rejected. It means there is significant effect of using reciprocal teaching technique toward students' reading comprehension on report text.

## D. Interpretation of the Data

The objective of the research is to find out the effectiveness of using reciprocal teaching technique toward students' reading comprehension ability on report text at the eleventh grade students of MAN 1 Kota Cilegon.

In addition, the implementation of reciprocal teaching technique has given changes toward students reading comprehension, as follows: students' vocabulary mastery was increased, they could look for main idea in the text, can understand the whole of content the text, and by using reciprocal technique they could be active in teaching learning process of reading. It was proved from the result of post-test score after reciprocal technique was implemented.

After analysing the pre-test and post-test score from two groups, experiment group and control group, the researcher got the data of pre-test and post-test score. In the experiment class, the highest score of pre-test was 70 and the lowest score was 46, and the highest score of post-test was 86 and the lowest score was 60. The average mean of pre-test score was 59,06 and post-test was 75,63. The mean of post-test score has good enough improvement, it can be seen 75,63 > 59,06. The improvement caused by the experimental that used reciprocal teaching technique in learning reading comprehension.

In the control class, the highest score of pre-test was 66 and the lowest score was 46. The highest score post-test was 80 and the lowest score was 50. The mean of pre-test and post-test in this class were 58,86 and 66,16. There was no good improvement of the result in this class, it was seen from the mean is 58, 86 and 66,16 which improved 7,3 score. it caused in control class did not used reciprocal teaching technique in learning reading comprehension.

Based on the calculation above, there was improvement student's achievement before using reciprocal teaching technique and after using reciprocal teaching technique. The way could be seen after comparing the score pre-test and post-test in class XI IPS 2 as experiment class and XI IPA 2 as control class. It means that there is significant effect on students' reading comprehension by using reciprocal teaching technique.