CHAPTER IV

DATA PRESENTATION, DATA ANALYSIS AND DISCUSSION

4.1. DESCRIPTION OF THE DATA

The data of this research were the scores of students test and questionnaire of both the experiment and the control classes. The main purpose of the research was to find out the effects of Reciprocal Teaching Technique on students' reading interest and their reading comprehension. Test scores of the students' questionnaire test and reading comprehension results were analyzed by using quantitative data analysis for the findings. Both descriptive and inferential statistical analyses were included. Frequency counts, percentages, mean scores and standard deviation of the variables are presented in the descriptive statistical analyses. The hypotheses developed for this study were tested using an independent sample t-test and a paired-sample t-test.

4.2. DATA PRESENTATION

The data of the research were the scores of the students' pre-test, post-test, pre-questionnaire and post-questionnaire of the experimental and the control groups in SMK Muhammadiyah 3 Pekanbaru. The data are collected through the following procedures:

a. The students of both the experimental and the control classes were to answer the pre-test and pre-questionnaire questions.

b. The students of the experimental class were treated by teaching them using Reciprocal Teaching Technique, and the control class

64

was not given such treatment as the experimental class, both groups had the same materials.

4.2.1 Students Reading Interest and Reading Comprehension before Given the Treatment.

The data concerning reading comprehension before the students were given the treatment of Reciprocal Teaching Technique for the experimental group and non-treatment of Reciprocal Teaching Technique for the control group was obtained from students pre-test scores of both classes, which consisted of 5 indicators. The descriptions of the data are as follows:

Table IV.1
The results of students reading comprehension pre-test scores

No	Students	Pre-test Scores	
		Experimental Class	Control Class
1	Student 1	50	60
2	Student 2	60	60
3	Student 3	50	50
4	Student 4	40	50
5	Student 5	60	60
6	Student 6	70	70
7	Student 7	60	65
8	Student 8	50	55
9	Student 9	50	55
10	Student 10	60	60
11	Student 11	65	65
12	Student 12	70	70
13	Student 13	65	65
14	Student 14	65	65
15	Student 15	50	55
16	Student 16	60	60
17	Student 17	70	70
18	Student 18	65	65
19	Student 19	70	75
20	Student 20	65	65
21	Student 21	50	60
22	Student 22	55	60
23	Student 23	50	50
24	Student 24	60	65
25	Student 25	60	60
26	Student 26	70	75
27	Student 27	75	75
28	Student 28	75	75
29	Student 29	60	60
30	Student 30	70	70
31	Student 31	65	65
32	Student 32	65	65
33	Student 33	60	65
34	Student 34	70	65
35	Student 35	50	55
Total		$\Sigma= 2130$	$\Sigma=2205$
Mean		$\Sigma=60.85$	$\Sigma=63$

Table IV.1 above shows that there are 35 respondents of the experimental class and 35 respondents of the control class. The total of the pre-test scores of the experimental class are 2130 and the total of the pre-test scores of the control class are 2205. The mean of the pre-test scores of the experimental class is 60.85 and the mean of the pre-test scores the control

66

class is 63. From the pre-test scores of the experimental class, and based on the mean scores of both groups, they have the same capability before given the treatment.

The frequency distribution of pre-test score in experimental class was obtained by using SPSS 20 as follows:

Table IV.2
The frequency distribution of students' reading comprehension test (Pre-Test) in Experimental Class

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	40.00	1	1.4	2.9	2.9
	50.00	8	11.4	22.9	25.7
	55.00	1	1.4	2.9	28.6
	60.00	9	12.9	25.7	54.3
	65.00	7	10.0	20.0	74.3
	70.00	7	10.0	20.0	94.3
	75.00	2	2.9	5.7	100.0
	Total	35	50.0	100.0	
Missing	System	35	50.0		
Total		70	100.0		

Table IV.2 above shows that only 1 student who obtained the frequency of interval 40, (2.9%), 8 students who obtained the frequency of interval 50 (22.9%), one student in the frequency of interval 55 (2.9%), 9 students in the frequency of interval 60 is (25.7%), 7 students in the frequency of interval 65 (20%), 7 students in the frequency of interval 70 (20%), and the last 2 students are in the frequency of interval 75 (5.7%).

To determine the pre-test scores of the experimental class were consist of 35 respondents in SMK Muhammadiyah 3 Pekanbaru. The

research described it in the following Bar Chart which is obtained from the output of SPSS 20:
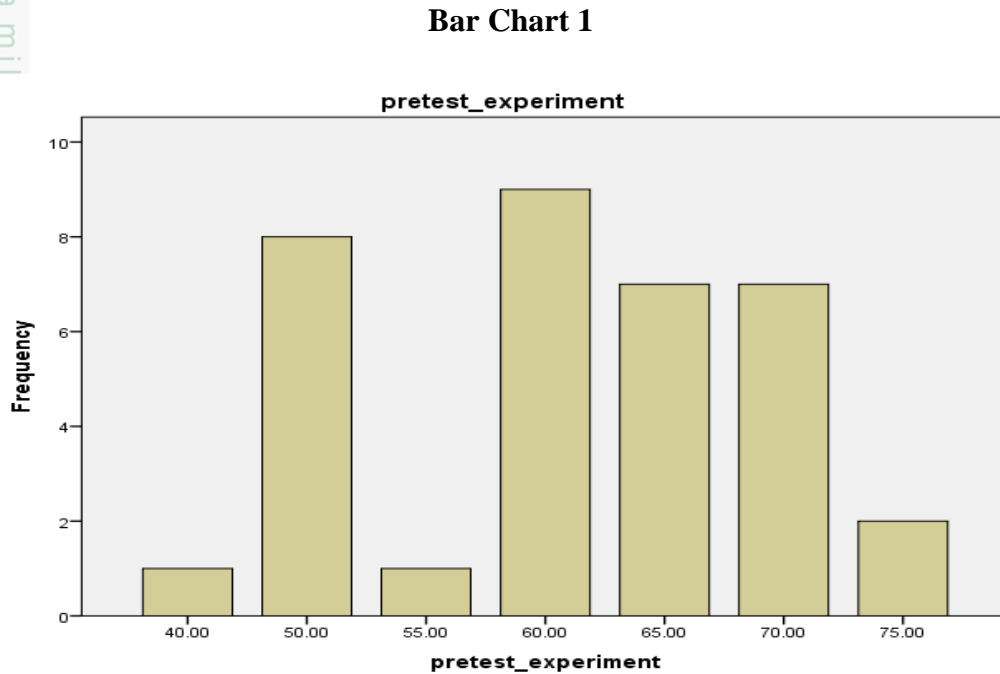
Bar Chart 1

pretest_experiment

Table IV.3
The classification of students reading comprehension pre-test score (Experimental Class)

No	Categories	Score	Frequency	Percentage (%)
1	Very good	81 – 100	0	0
2	Good	61 – 80	16	45.7
3	Mediocre	41 – 60	18	51.4
4	Poor	21 – 40	1	2.9
5	Very Poor	0 – 20	0	0
	Total		35	100

This table IV.3 indicates that, there are 5 categories of students reading comprehension pre-test scores of the experimental class. The

68

frequency of Very Good category is no student (0%), the frequency of Good Category is 16 students (45.7%), the frequency of Mediocre Category is 18 students (51.4%), the frequency of Poor Category is 1 student (2.9%), and there is no student categorized into Very Poor (0%). Table shows that the highest percentage of student classification of students reading comprehension pre-test scores of the experimental class is 51.4%. Thus, the majority of the students in the experimental class before taught by using Reciprocal Teaching Technique are classified as **Mediocre**.

Then, the frequency distribution of students reading comprehension pre-test scores of the control class is obtained by using SPSS 20 as follows:

Table IV.4
The frequency distribution of students' reading comprehension (Pre-Test) in the Control Class

Pre-test control

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	50.00	3	4.3	8.6	8.6
	55.00	4	5.7	11.4	20.0
	60.00	9	12.9	25.7	45.7
	65.00	11	15.7	31.4	77.1
	70.00	4	5.7	11.4	88.6
	75.00	4	5.7	11.4	100.0
	Total	35	50.0	100.0	
Missing	System	35	50.0		
Total		70	100.0		

TableIV.4describes that the frequency of interval 50 is 3 students (8.6%), the frequency of interval 55 is 4 students (11.4%), the frequency

of interval 60is 9 students (25.7%), the frequency of interval 65 is 11 students (31.4%), the frequency of interval 70 is 4 students (11.4%), and the frequency of interval 75 is 4 students (11.4%).

To determine about the pre-test scores of the control class were consist of 35 respondents at SMK Muhammadiyah 3 Pekanbaru. The researcher described it in the following Bar chart which is obtained from the output of SPSS 20:

Bar chart 2
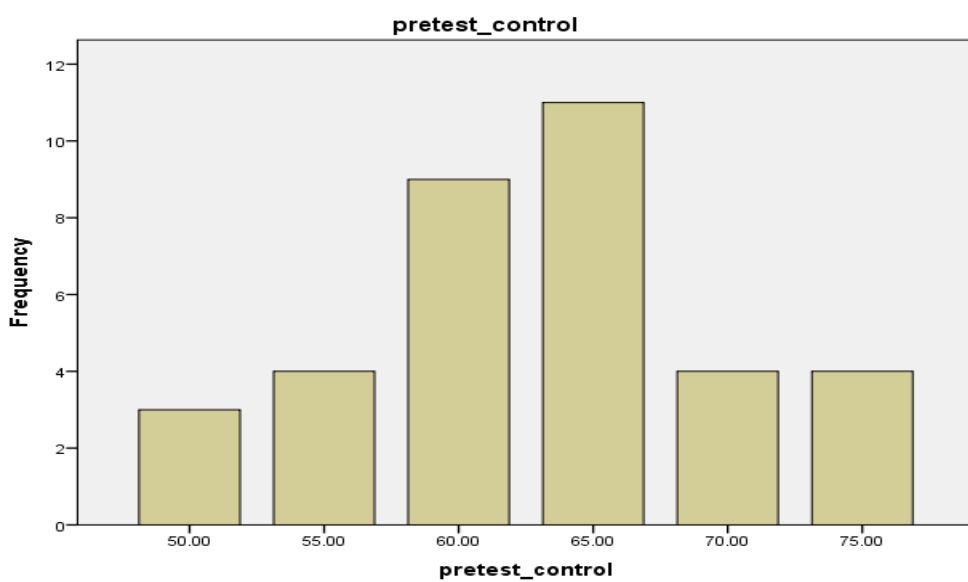
Table IV.5

The classification of students reading comprehension pre-test score

(Control Class)

No	Categories	Score	Frequency	Percentage (%)
1	Excellent	81 – 100	0	0
2	Good	61 – 80	19	54.3
3	Mediocre	41 – 60	16	45.7
4	Poor	21 – 40	0	0
5	Very Poor	0 – 20	0	0
Total			35	100

Table IV.5 about shows that there are 5 categories for students reading comprehension pre-test scores of the control class. The frequency of very good category is no student (0%), the frequency of Good Category is 19 students (54.3%), the frequency of mediocre category is 16 students (54.3%), the frequency of Poor Category is no student (0%), and there is no student categorized into Very Poor (0%). The table shows that the highest percentage of student classification of students reading comprehension pre-test score of the control class is 54.3%. Thus, the majority of the students of the control class before being taught by using non-Reciprocal Teaching Technique are classified as **Good**.

4.2.1 Students Reading Interest before Treatment.

The data concerning students reading interest before given the treatment of Reciprocal Teaching Technique for the experimental group and non-treatment of Reciprocal Teaching Technique for the control group were obtained from questionnaire scores of both classes consist of 18 items of questions. The descriptions of the data are as follows:

Table IV.6
The results of students' reading interest pre-questionnaire scores

No	Students	Pre-questionnaire Scores	
		Experimental Class	Control Class
1	Student 1	80	80
2	Student 2	85	85
3	Student 3	85	70
4	Student 4	65	65
5	Student 5	70	70
6	Student 6	80	80
7	Student 7	80	70
8	Student 8	70	75
9	Student 9	70	70
10	Student 10	80	80
11	Student 11	70	75
12	Student 12	80	80
13	Student 13	80	70
14	Student 14	85	70
15	Student 15	70	70
16	Student 16	70	75
17	Student 17	75	75
18	Student 18	75	85
19	Student 19	75	75
20	Student 20	70	75
21	Student 21	70	75
22	Student 22	75	80
23	Student 23	75	80
24	Student 24	70	75
25	Student 25	70	80
26	Student 26	80	75
27	Student 27	85	70
28	Student 28	85	75
29	Student 29	70	70
30	Student 30	75	75
31	Student 31	80	80
32	Student 32	75	70
33	Student 33	80	65
34	Student 34	75	85
35	Student 35	70	75
Total		$\Sigma= 2650$	$\Sigma= 2625$
Mean		$\Sigma= 75.71$	$\Sigma= 75$

Table IV.6 above indicates that there are 35 respondents of the experimental class and 35 respondents for the control class. The total of the pre-questionnaire scores of the experimental class is 2650 and the total of pre-questionnaire scores of the control class is 2625. The mean of pre-questionnaire scores of the experimental class is 75.71 and the mean of the

73

pre-questionnaire scores of the control class is 75. From the pre-questionnaire scores of the experimental class, based on the mean scores of both groups, they have the same capability before doing the treatment.

The frequency distribution of student pre-questionnaire scores in the experimental class is obtained by using SPSS 20 as follows:

Table IV.7
The frequency distribution of students' reading interest scores (Pre-questionnaire) in Experimental Class

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	65.00	1	1.4	2.9	2.9
	70.00	12	16.9	34.3	37.1
	75.00	8	11.3	22.9	60.0
	80.00	9	12.7	25.7	85.7
	85.00	5	7.0	14.3	100.0
	Total	35	49.3	100.0	
Missing	System	36	50.7		
Total		71	100.0		

This table IV.7 indicates that the frequency of interval 65 is 1 student (2.9%), the frequency of interval 70 is 12 students (34.3%), the frequency of interval 75 is 8 students (22.9%), the frequency of interval 80 is 9 students (25.7%), and the frequency of interval 85 is 5 students (14.3%).

To determine about the pre-questionnaire scores of the experimental class were consist of 35 respondents at SMK Muhammadiyah 3 Pekanbaru. The researcher described it in the following bar chart which is obtained from the output of SPSS 20:
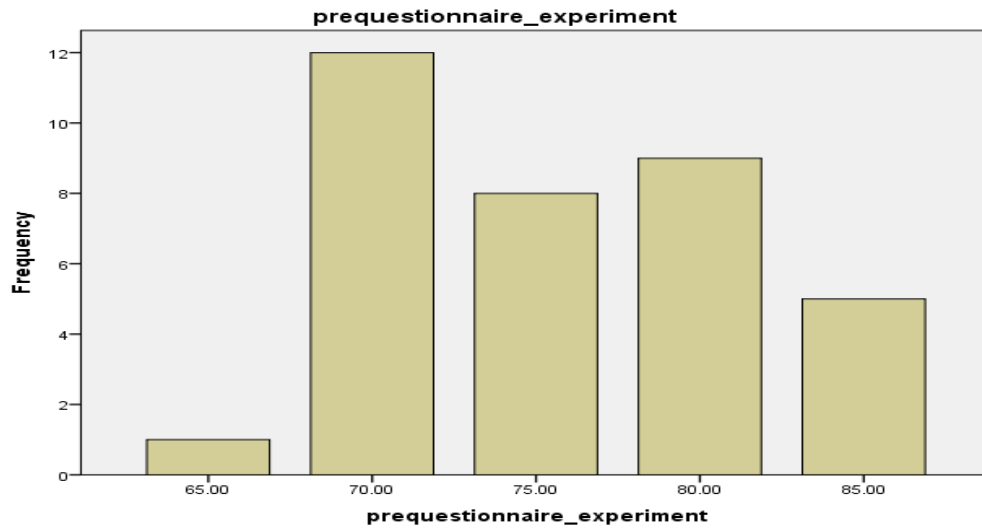
Bar chart 3

Table IV.8
The classification of students' reading interest pre-questionnaire scores
(Experimental Class)

No	Categories	Scores	Frequency	Percentage (%)
1	Very good	81 – 100	5	14.3
2	Good	61 – 80	30	85.7
3	Mediocre	41 – 60	0	0
4	Poor	21 – 40	0	0
5	Very Poor	0 – 20	0	0
	Total		35	100

Table IV.8 above shows that there are 5 categories of student reading interest pre-questionnaire scores of the experimental class. The frequency of Very Good Category is 5 students (14.3%), the frequency of Good Category is 30 students (85.7%), the frequency of Mediocre Category is no student (0%), the frequency of Poor Category is no student (0%), and there is no student categorized

75

into Very Poor (0%). Table IV.18 shows that the highest percentage of students' classification of students reading interest pre-questionnaire scores of the experimental class is 85.7%. Thus, the majority of the students of the experimental class before being taught by using Reciprocal Teaching Technique are classified as **Good**.

Then, the frequency distribution of students' reading interest pre-questionnaire scores of the control class is obtained by using SPSS 20 as follows:

Table IV.9
The frequency distribution of students' reading interest scores (Pre-questionnaire) in Control Class

|		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	65.00	2	2.8	5.7	5.7
	70.00	10	14.1	28.6	34.3
	75.00	12	16.9	34.3	68.6
	80.00	8	11.3	22.9	91.4
	85.00	3	4.2	8.6	100.0
	Total	35	49.3	100.0	
Missing	System	36	50.7		
Total		71	100.0		

Table IV.9 indicates that the frequency of interval 65 is 2 students (5.7%), the frequency of interval 70 is 10 students (28.6%), the frequency of interval 75is 12 students (34.3%), the frequency of interval 80 is 8 students (22.9%), and the frequency of interval 85 is 3 students (8.6%).

To determine the pre-questionnaire score of the experimental class were consist of 35participants at SMK Muhammadiyah 3 Pekanbaru. The research described it in the following bar chart which was obtained from the output of SPSS 20:

Bar chart 4
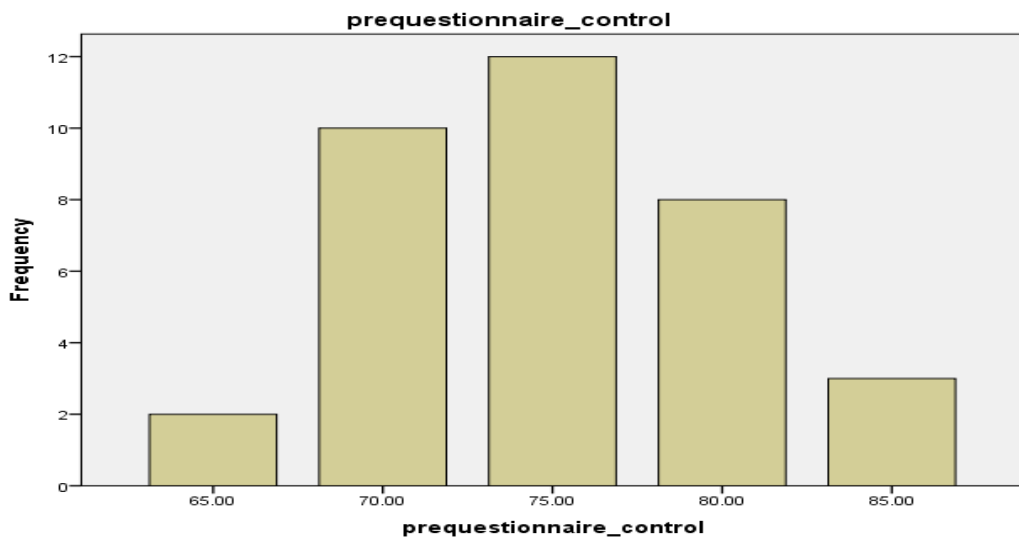
4.2.2 Students' Reading Comprehension after Treatment (Experimental Group).

The data of the students' reading comprehension after giving the treatment of Reciprocal Teaching Technique for the experimental group and non-treatment of Reciprocal Teaching Technique for the control group are obtained from students post-test scores of both classes consisting of 25 items of reading comprehension test. The descriptions of the data are as follows:

Table IV.10
The results of students' reading comprehension post-test scores

No	Students	Post-test Scores	
		Experimental Class	Control Class
1	Student 1	70	60
2	Student 2	65	50
3	Student 3	80	60
4	Student 4	80	70
5	Student 5	65	60
6	Student 6	70	70
7	Student 7	70	65
8	Student 8	70	70
9	Student 9	70	70
10	Student 10	80	60
11	Student 11	80	70
12	Student 12	80	70
13	Student 13	75	80
14	Student 14	75	80
15	Student 15	65	65
16	Student 16	90	80
17	Student 17	90	70
18	Student 18	80	65
19	Student 19	80	75
20	Student 20	80	80
21	Student 21	70	70
22	Student 22	70	60
23	Student 23	85	70
24	Student 24	90	85
25	Student 25	80	85
26	Student 26	90	75
27	Student 27	75	85
28	Student 28	90	75
29	Student 29	80	65
30	Student 30	75	80
31	Student 31	80	65
32	Student 32	80	70
33	Student 33	85	65
34	Student 34	85	65
35	Student 35	80	70
Total		Σ= 2730	Σ= 2455
Mean		Σ= 78	Σ= 70.14

Table IV.10 above shows that there are 35 respondents of the experimental class and 35 respondents of the control class. The total of post-test scores of the experimental class is 2730 and the total of post-test scores of the control class is 2455. The mean of post-test scores of the experimental class is 78 and the mean of post-test scores of the control class is 70.14.

78

The frequency distribution of the post-test scores of the experimental class is obtained by using SPSS 20 as follows:

Table IV.11
The frequency distribution of students reading comprehension test

Post-test experiment

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	65.00	3	4.3	8.6	8.6
	70.00	7	10.0	20.0	28.6
	75.00	4	5.7	11.4	40.0
	80.00	13	18.6	37.1	77.1
	85.00	3	4.3	8.6	85.7
	90.00	5	7.1	14.3	100.0
	Total	35	50.0	100.0	
Missing	System	35	50.0		
Total		70	100.0		

Table IV.11 indicates that frequency of interval 65is 3 students (8.6%), the frequency of interval 70 is 7 students (20%), the frequency of interval 75 is 4 students (11.4%), the frequency of interval 80 is 13 students (37.1%), the frequency of interval 85 is3 students (8.6%), and the frequency of interval 90 is 5 students (14.3%).

To determine the post-test scores of the experimental class were consist of 35 respondents at SMK Muhammadiyah 3 Pekanbaru. The researcher described it in the following bar chart which is obtained from the output of SPSS 20:

Bar chart 5

Table IV.12
The classification of students' reading comprehension post-test scores
(Experimental Class)

No	Categories	Scores	Frequency	Percentage (%)
1	Very Good	81 – 100	8	22.9
2	Good	61 – 80	27	77.1
3	Mediocre	41 – 60	0	0
4	Poor	21 – 40	0	0
5	Very Poor	0 – 20	0	0
	Total		35	100

Table IV.12 shows that there are 5 categories for students reading comprehension post-test score of the experimental class. The frequency of Very Good Category is 8 students (22.9%), the frequency of Good Category is 27 students (77.1%), the frequency of Mediocre Category is no student

80

(0%), the frequency of Poor Category is no student (0%), and there is no student categorized into Very Poor (0%). The table showed that the highest percentage of student classification of students reading comprehension post-test scores of the experimental class is 77.1%. Thus, the majority of the students in the experimental class after being taught by using Reciprocal Teaching Technique are classified as good.

Then, the frequency distribution of students reading comprehension post-test score in the control class is obtained by using SPSS 20 as follows:

Table IV.13
The frequency distribution of students' reading comprehension
Post-test experiment

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	50.00	1	1.4	2.9	2.9
	60.00	5	7.1	14.3	17.1
	65.00	7	10.0	20.0	37.1
	70.00	11	15.7	31.4	68.6
	75.00	3	4.3	8.6	77.1
	80.00	5	7.1	14.3	91.4
	85.00	3	4.3	8.6	100.0
	Total	35	50.0	100.0	
Missing	System	35	50.0		
Total		70	100.0		

Table IV.13 show that the frequency of interval 50 is 1 students (2.9%), the frequency of interval 60 is 5 students (14.3%), the frequency of interval 65 is 7 students (20%), the frequency of interval 70 is 11 students (31.4%), the frequency of interval 75 is 3 students (8.6%), the
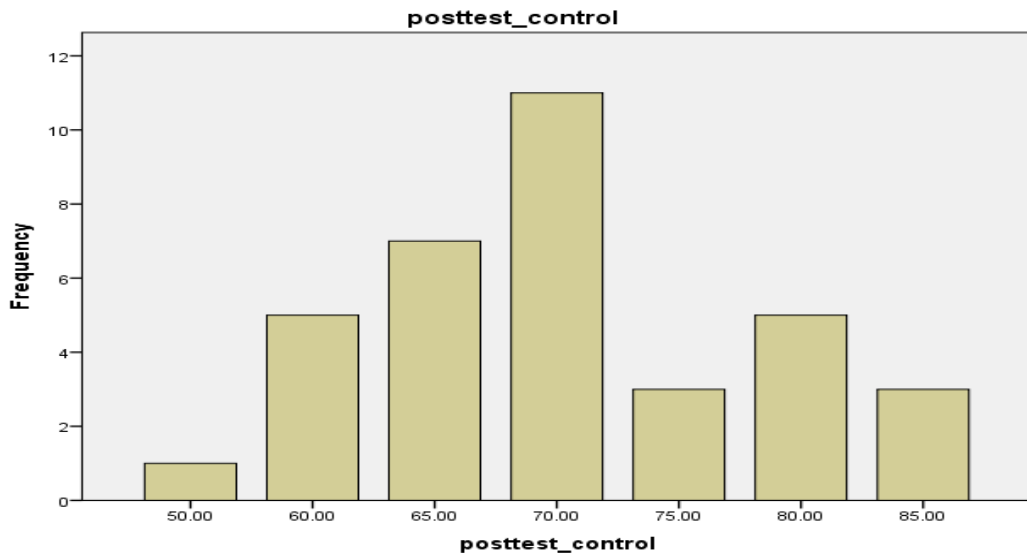
81

frequency of interval 80 is 5 students (14.3%), and the frequency of interval 85 is 3 students (8.6%).

To determine about the post-test scores of the experiment class consist of 35 respondents at SMK Muhammadiyah 3 Pekanbaru. The researcher described it in the following bar chart which is obtained from the output of SPSS 20:

Bar chart 6

posttest_control

Table IV.14
The classification of students' reading comprehension post-test
(Control Class)

No	Categories	Score	Frequency	Percentage (%)
1	Very good	81 – 100	3	8.6
2	Good	61 – 80	26	74.3
3	Mediocre	41 – 60	6	17.1
4	Poor	21 – 40	0	0
5	Very Poor	0 – 20	0	0
	Total		35	100

Table IV.14 shows that there are 5 categories for students reading comprehension post-test scores of the control class. The frequency of Very Good category is 3 students (8.6%), the frequency of good category is 26 students (74.3%), the frequency of Mediocre Category is 6 students (17.1%), the frequency of Poor Category is no students (0%), and there is no student categorized into Very Poor (0%). The table shows that the highest percentage of student classification of students reading comprehension post-test score of the control class is 74.3%. Thus, the majority of the students in the control class after being taught by using non- Reciprocal Teaching Technique are classified as **Good**.

83

4.2.3 Students' Reading Interest after Treatment

The data of students reading interest scores after the students have given the treatment of Reciprocal Teaching Technique for the experimental group and non-treatment of Reciprocal Teaching Technique for the control group are obtained from post-questionnaire scores of both classes consisting of 20 items questionnaire. The descriptions of the data are as follows:

Table IV.15
The results of students' reading interest post-questionnaire scores

No	Students	Post-questionnaire scores	
		Experimental Class	Control Class
1	Student 1	90	80
2	Student 2	95	70
3	Student 3	90	60
4	Student 4	85	70
5	Student 5	85	60
6	Student 6	80	70
7	Student 7	85	80
8	Student 8	85	70
9	Student 9	80	70
10	Student 10	85	60
11	Student 11	85	70
12	Student 12	90	85
13	Student 13	95	80
14	Student 14	70	80
15	Student 15	85	80
16	Student 16	90	85
17	Student 17	90	85
18	Student 18	80	75
19	Student 19	85	85
20	Student 20	80	80
21	Student 21	80	85
22	Student 22	70	80
23	Student 23	85	70
24	Student 24	90	85
25	Student 25	95	85
26	Student 26	95	75
27	Student 27	75	85
28	Student 28	90	75
29	Student 29	80	85
30	Student 30	85	80
31	Student 31	80	90
32	Student 32	90	85
33	Student 33	90	90
34	Student 34	85	90
35	Student 35	90	80
Total		**Σ= 2990**	**Σ= 2735**
Mean		**Σ= 85.42**	**Σ= 78.14**

84

Table IV.15 above shows that there are 35 respondents of the experimental class and 35 respondents for the control class. The total of post-test questionnaire scores of the experimental class is 2990 and the total of the post-test questionnaire scores of the control class is 2735. The mean of post-test questionnaire scores of the experimental class is 85.42 and the mean of post-test questionnaire scores of the control class is 78.14. From the post-test questionnaire scores of the experimental class is bigger than the questionnaire scores of the control group after giving the treatment.

The frequency distribution of student post-questionnaire scores in the experimental class is obtained by using SPSS 20 as follows:

Table IV.16
The frequency distribution of students' reading interest scores (Post-questionnaire) in Experimental Class

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	70.00	2	2.8	5.7	5.7
	75.00	1	1.4	2.9	8.6
	80.00	7	9.9	20.0	28.6
	85.00	11	15.5	31.4	60.0
	90.00	10	14.1	28.6	88.6
	95.00	4	5.6	11.4	100.0
	Total	35	49.3	100.0	
Missing	System	36	50.7		
Total		71	100.0		

Table IV.16 shows that the frequency of interval 70 is 2 students (5.7%), the frequency of interval 75 is 1 student (2.9%), the frequency of

interval 80 is 7 students (20%), the frequency of interval 85 is 11 students (31.4%), the frequency of interval 90 is 10 students (28.6%), and the frequency of interval 95 is 4 students (11.4%).

To determine the post-questionnaire scores of the experimental class were consist of 35respondents at SMK Muhammadiyah 3 Pekanbaru. The researcher described it in the following bar chart which is obtained from the output of SPSS 20:

Bar chart 7
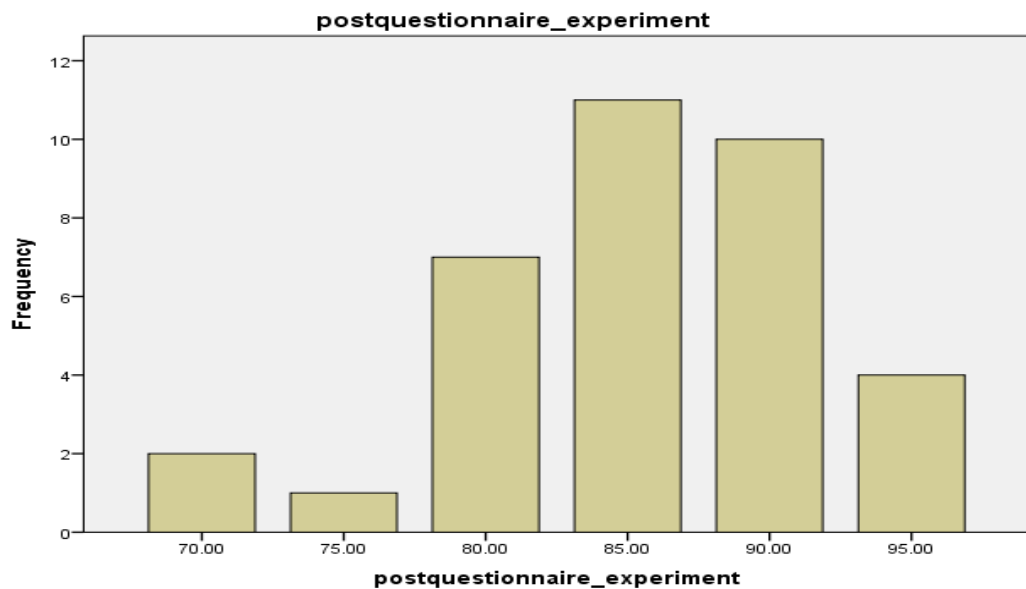
Table IV.17
The classification of student reading interest post-questionnaire
(Experimental Class)

No	Categories	Score	Frequency	Percentage (%)
1	Very Good	81 – 100	25	71.4
2	Good	61 – 80	10	28.6
3	Mediocre	41 – 60	0	0
4	Poor	21 – 40	0	0
5	Very Poor	0 – 20	0	0
	Total		35	100

Table IV.17 shows that there are 5 categories for students reading interest post-questionnaire score of the experimental class. The frequency of Very Good Category is 25 students (71.4%), the frequency of Good Category is 10 students (28.6%), the frequency of Mediocre Category is no student (0%), the frequency of Poor Categories is no student (0%), and there is no student categorized into Very Poor (0%). The table showed that the highest percentage of students' classification of students' reading interest post-questionnaire scores of the experimental class is 71.4%. Thus, the majority of the students in the experimental class after being taught by using Reciprocal Teaching Technique are classified as Very Good.

87

Then, the frequency distribution of students' reading interest post-questionnaire scores in the control class is obtained by using SPSS 20 as follows:

Table IV.18
The frequency distribution of students reading interest scores (Post-Questionnaire) in the Control Class

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	60.00	3	4.2	8.6	8.6
	70.00	7	9.9	20.0	28.6
	75.00	3	4.2	8.6	37.1
	80.00	9	12.7	25.7	62.9
	85.00	10	14.1	28.6	91.4
	90.00	3	4.2	8.6	100.0
	Total	35	49.3	100.0	
Missing	System	36	50.7		
Total		71	100.0		

Table IV.18 shows that the frequency of interval 60 is 3 students (8.6%), the frequency of interval 70 is 7 students (20%), the frequency of interval 75is 3 students (8.6%), the frequency of interval 80is 9 students (25.7%), the frequency of interval 85 is 10 students (28.6%), and the frequency of interval 90 is 3 students (8.6%).

To determine the post-questionnaire of the control class were consist of 35 participants at SMK Muhammadiyah 3 Pekanbaru. The researcher described it in the following bar chart which is obtained from the output of SPSS 20:

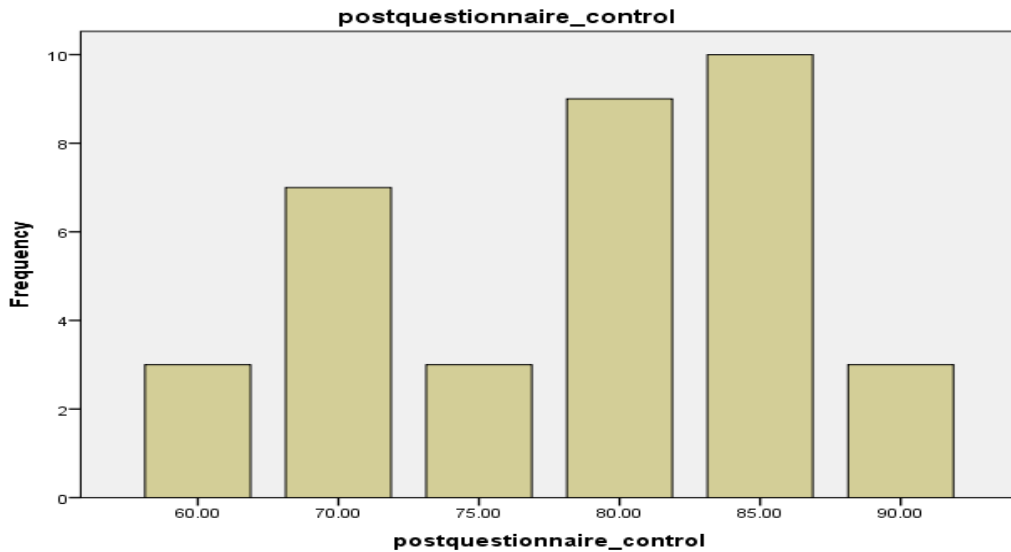**Bar chart 8**

Table IV.19
The classification of students' reading interest post-questionnaire scores
(Control Class)

No	Categories	Score	Frequency	Percentage (%)
1	Excellent	81 – 100	13	37.1
2	Good	61 – 80	19	54.3
3	Mediocre	41 – 60	3	8.6
4	Poor	21 – 40	0	0
5	Very Poor	0 – 20	0	0
	Total		35	100

89

Table IV.19 shows that there are 5 categories for students reading interest post-questionnaire scores of the control class. The frequency of Very Good Category is 13 students (37.1%), the frequency of Good Category is 19 students (54.3%), and the frequency of Mediocre Category is 3

A student (8.6%), the frequency of Poor Categories is no student (0%), and there is no student categorized into Very Poor (0%). The table showed that the highest percentage of student classification of students' reading interest post-questionnaire scores of the control class is 54.3%. Thus, the majority of the students in the control class after being taught by using non- Reciprocal Teaching Technique are classified as **Good**.

4.3. DESCRIPTIVE STATISTICS

TABLE IV.20

The result of students' reading comprehension pre-test and post-test

Descriptive Statistics

	N	Sum	Mean	Std. Deviation
Pre-test experiment	35	2130.00	60.8571	8.61648
Pre-test control	35	2205.00	63.0000	6.98738
Post-test experiment	35	2730.00	78.0000	7.49510
Post-test control	35	2455.00	70.1429	8.26809
Valid N (list wise)	35			

Table IV.20 determines that the number of participants at SMK Muhammadiayah 3 Pekanbaru of the experimental group is 35 with pre-test standard deviation (8.61), post-test standard deviation (7.49), with pre-test mean scores (60.85) and post-test mean scores (78), and the number of participants of

SMK Muhammadiyah 3 Pekanbaruin the control group is 35 with pre-test standard deviation (6.98), post-test standard deviation (8.26), pre-test mean scores (63), and post-test mean scores (70.14).

TABLE IV.21
The result of students reading interest pre-questionnaire and post-questionnaire scores
Descriptive Statistics

	N	Sum	Mean	Std. Deviation
Pre-questionnaire experiment	35	2650.00	75.7143	5.70640
Pre-questionnaire control	35	2625.00	75.0000	5.28594
Post-questionnaire experiment	35	2990.00	85.4286	6.34445
Post-questionnaire control	35	2735.00	78.1429	8.40918
Valid N (list wise)	35			

Table IV.21 shows that the number of participants at SMK Muhammadiyah 3 Pekanbaru in the experimental group is 35 with pre-questionnaire standard deviation (5.70), post-questionnaire standard deviation (6.34), with pre-questionnaire mean scores (75.71) and post-questionnaire mean scores (85.42), and the number of participants of in the control group is 35 with pre-questionnaire standard deviation (5.28), post-questionnaire standard deviation (8.40), pre-questionnaire mean scores (75), and post-questionnaire mean scores (78.14).

4.4.DATA ANALYSIS

Pallant (2001) states that if the significance value is bigger than 0.05, this indicates that there is no violation of the assumption of equality

of variance and that equal variances are assumed for the variable concerned and if the significance value is smaller than 0.05 this indicates that there is violation of the assumption of equality of variance. An independent sample t-test was conducted to determine any significant difference for hypothesis 1, 2, 3 and 4. Then, paired sample T-test was conducted to determine any significance improvement for hypothesis 5, 6, 7 and 8. To find out the effect size of hypothesis 5, 6, 7 and 8 this research used eta-squared formula.

IV.3.1. Hypothesis 1

The procedure of inferential statistics began with the statistical test on the following null hypothesis:

Ho1: There is no significant difference of students' reading comprehension pre-test mean scores between the experimental group and the control group by using Reciprocal Teaching Technique.

Ha1: There is a significant difference of students' reading comprehension pre-test mean scores between the experimental group and the control group by using Reciprocal Teaching Technique.

The result of students' pre-test reading comprehension test for the experimental and the control group without considering students group is analyzed by using Independent Sample T-test and presented at the following table IV.22

TABLE IV.22

The Analysis of Independent Sample T-test of Pre-test reading comprehension score between the Experimental and the Control Group

Subject	Research Groups	Mean	Standard Deviation	N	df	T	Sig.(2-tailed)
Pre– test	Experimental Group	60.85	8.61	35	68	-1.143	.257
	Control Group	63	6.98	35			

Table IV.22 above describes that the Independent T-test analysis of pre-test reading comprehension scores of the experimental and the control groups in Table IV.23, it shows that there is no significant difference at pre-test reading comprehension between the experimental and the control groups. T-test results are -1.143, its df is 68, standard deviation of experimental group is 8.61 and the control group is 6.98. So, in the conclusion p = 0.257, the 2-tailed value is bigger than 0.05 (p> 0.05). The result shows that the mean scores do not differ much between both groups. It determined that the subjects in both groups were equivalent before treatment.

The Analyses of Table IV.22 shows that the first hypothesis H_a1 is rejected and H_01 is accepted. So, it was concluded that "There is no significant difference of students' reading comprehension pre-test mean scores between the experiment groups".

IV.3.2. Hypothesis 2

The procedure of inferential statistics began with the statistical test on the following null hypothesis:

Ho2: There is no significant difference of students' reading comprehension post-test mean scores between the experimental group and the control group by using Reciprocal Teaching Technique.

Ha2: There is a significant difference of students' reading comprehension post-test mean scores between the experimental group and the control group by using Reciprocal Teaching Technique.

The results of post-test reading comprehension test of the experimental and the control group without considering students' group is analyzed by using Independent Sample T-test and presented at the following Table IV.23

TABLE IV.23

The analysis of independent sample T-test of post-test reading comprehension scores between the experimental and the control group

Subject	Research Groups	Mean	Standard Deviation	N	df	T	Sig.(2-tailed)
Pre– test	Experimental Group	78	7.49	35	68	4.16	.000
	Control Group	70.14	8.26	35			

94

Table IV.23 shows that the Independent T-test analysis of post-test reading comprehension scores of the experimental and the control groups in Table IV.23, it shows that there is a significant difference at post-test reading comprehension between the experimental and the control groups. T-test results are 4.16, its df is 68, standard deviation of the experimental group is 7.49 and the control group is 8.26. So, in the conclusion p = 0.000, the 2-tailed value is smaller than 0.05 ($p<0.05$). The result showed that the mean scores did differ much between both groups. It was determined that the subjects in both groups were not equivalent after the treatment.

The analysis of Table IV.23 shows that the second hypothesis Ha_2 is accepted and Ho_2 is rejected. So, it could be stated that "There is a significant difference of students' reading comprehension post-test mean scores between the experimental group and the control group by using Reciprocal Teaching Technique".

IV.3.3. Hypothesis 3

The inferential statistics procedures started with the statistical test on the following null hypothesis:

Ho3: There is no significant improvement of students reading comprehension of the pre-test and the post-test mean scores by using Reciprocal Teaching Technique in the experimental group.

Ha3: There is a significant improvement of students' reading comprehension of the pre-test and the post-test mean scores by using Reciprocal Teaching Technique in the experimental group.

The results of the effect on implementing the treatment of Reciprocal Teaching Technique of students reading comprehension for the control group of the composite comparing score for both pre-test and post-test was analyzed by using Paired Sample T-test, and presenting at the following Table IV.24

TABLE IV.24

**The Analysis of Paired Sample T-test Between Pre-test and Post-test on students' reading comprehension for the Experimental Group
Paired Samples T-Test**

Subject	Group Score	Mean	Standard Deviation	N	df	T	Sig.(2-tailed)
Effect	Pre – test Score	60.85	8.61	35	34	-10.86	.000
	Post – test Score	78	7.49	35			

Table IV.24 indicates that the output of paired sample t-test show that the t-test result is -10.86, its df is 34, by comparing number of significance. If probability >0.05, null hypothesis (H_0) is accepted. If probability <0.05 alternative hypothesis (H_a) is accepted. Because the significance is 0.000 < 0.05, thus, H_a is accepted while H_0 is rejected.

Then, the researcher find out the percentage of significant effect between pre-test and post-test of the experimental class by looking for the effect size or eta-squared as follows:

$$\tilde{\eta}^2 = \frac{t^2}{t^2+n-1}$$

$$\tilde{\eta}^2 = \frac{(-10.86)^2}{(-10.86)^2+35-1}$$

$$\tilde{\eta}^2 = \frac{117.94}{117.94+34}$$

$$\tilde{\eta}^2 = 0.77$$

Eta-squared $= \tilde{\eta}^2$ x 100%

Eta-squared $= 0.77$ x 100% $= 77\%$

The results of data analysis is based on inferential statistics which has identified that after conducting the treatment for 6 meetings or 12 class-hours by using Reciprocal Teaching Technique can improve **77%** on the reading comprehension. Therefore, the $\mathbf{H_o 3}$ hypothesis is rejected and $\mathbf{H_a 3}$ is accepted that there is significant improvement between reading comprehension pre-test mean scores of the experimental group and reading comprehension post-test mean scores of the experimental group at SMK Muhammadiyah 3 Pekanbaru.

IV.3.4. Hypothesis 4

The inferential statistics procedures started with the statistical test on the following null hypothesis:

Ho4:   There is no significant improvement of students' reading comprehension of pre-test and post-test mean scores by using Reciprocal Teaching Technique in the control group.

Ha4:   There is a significant improvement of students' reading comprehension of pretest and posttest mean scores by using Reciprocal Teaching Technique in the control group.

The results of the effect on implementing the treatment of Reciprocal Teaching Technique of students' reading comprehension for control group of the composite comparing score for both pre-test and post-test was analyzed by using Paired Sample T-test, and presented at the following Table IV.25:

TABLE IV.25

The Analysis of Paired Sample T-test Between Pre-test and Post-test on students' reading comprehension for the control group
Paired Samples T-Test

Subject	Group Score	Mean	Standard Deviation	N	Df	T	Sig.(2-tailed)
Effect	Pre – test Score	63	6.98	35	34	-4.96	.000
	Post – test Score	70.14	8.26	35			

Table IV.25 shows that the output of paired sample t-test showed that the t-test result is -4.96, its df is 34, by comparing number of significance. If probability >0.05, null hypothesis (H$_0$) is accepted. If

probability <0.05 alternative hypothesis (H_a) was accepted. Because the significance is $0.000 < 0.05$, thus, H_a is accepted while H_0 is rejected.

Then, the researcher find out the percentage of significant effect between pre-test and post-test of the control class by looking for the effect size or eta-squared as follows:

$$\tilde{\eta}^2 = \frac{t^2}{t^2+n-1}$$

$$\tilde{\eta}^2 = \frac{(-4.96)^2}{(-4.96)^2+35-1}$$

$$\tilde{\eta}^2 = \frac{24.6}{24.6+34}$$

$$\tilde{\eta}^2 = 0.42$$

Eta-squared $= \tilde{\eta}^2$ *x 100%*

Eta-squared $= 0.42$ *x 100% = 42%*

The results of data analysis of inferential statistics which has identified that after conducting the treatment for 6 meetings or 12 class-hours by using Reciprocal teaching technique has improved**42%** on the reading comprehension. Therefore, the **Ho4** hypothesis is rejected and **Ha4** is accepted that there is significant improvement between reading comprehension pre-test mean scores of the experimental group and students' reading comprehension post-test mean scores of the experimental group.

IV.3.5. Hypothesis 5

The procedure of inferential statistics began with the statistical test on the following null hypothesis:

Ho5: There is no significant difference of students' reading interest of pre- questionnaire mean scores between the experimental group and the control group by using Reciprocal Teaching Technique.

Ha5: There is a significant difference of students' reading interest of pre- questionnaire mean scores between the experimental group and the control group by using Reciprocal Teaching Technique.

The results of pre-questionnaire reading interest scores for the experimental and the control group without considering students group was analyzed by using Independent Sample T-test and presented at the following table IV.26.

TABLE IV.26

The Analysis of Independent Sample T-test of pre-questionnaire reading interest scores between the Experimental and the Control Group

Subject	Research Groups	Mean	Standard Deviation	N	Df	T	Sig.(2-tailed)
Pre–questionnaire	Experimental Group	75.71	5.7	35	68	.543	.589
	Control Group	75	5.28	35			

Table IV.26 shows that the Independent T-test analysis for pre-questionnaire reading interest scores of the experimental and the control

100

groups in Table IV.26, it shows that there is no significant difference at pre-questionnaire reading interest scores between the experimental and the control groups. T-test result is 0.543, its df is 68, standard deviation of the experimental group is 5.7 and control group is 5.28. So, in the conclusion p = 0.589, the 2-tailed value is bigger than 0.05 (p>0.05). The results showed that the mean scores do not differ much between both groups. It was determined that the subjects in both groups are equivalent before giving the treatment at SMK Muhammadiyah 3 Pekanbaru.

The analysis of Table IV.26 shows that the fifth hypothesis Ha5 is rejected and Ho5 is accepted. So, it is stated that "Ho5:   There is no significant difference of students' reading interest of pre- questionnaire mean scores between the experimental group and the control group by using Reciprocal Teaching Technique."

IV.3.6. Hypothesis 6

The procedure of inferential statistics began with the statistical test on the following null hypothesis:

Ho6:   There is no significant difference of students' reading interest of post- questionnaire mean scoreS between the experimental group and the control group by using Reciprocal Teaching Technique.

Ha6:   There is a significant difference of students' reading interest of post- questionnaire mean score between the experimental group and the control group by using Reciprocal Teaching Technique.

101

The results of post-questionnaire reading interest scores for the experimental and the control group without considering students group is analyzed by using Independent Sample T-test and presented at the following Table IV.27

TABLE IV.27

The Analysis of Independent Sample T-test of Post-questionnaire reading interest score between the Experimental and the Control Group

Subject	Research Groups	Mean	Standard Deviation	N	df	T	Sig.(2-tailed)
Pre– test	Experimental Group	85.42	6.34	35	68	4.09	.000
	Control Group	78.14	8.40	35			

Table IV.27 shows that the Independent T-test analysis for post-questionnaire reading interest scores of the experimental and the control groups in Table IV.27, it showed that there is a significant difference at post-questionnaire reading interest scores between the experimental and the control groups. T-test result is 4.09, its df is 68, standard deviation of the experimental group is 6.34 and the control group is 8.40. So, in the conclusion p = 0.000, the 2-tailed value is smaller than 0.05 (p<0.05). The result showed that the mean scores did differ much between both groups. It was determined that the subjects in both groups were not equivalent after giving the treatment.

The analysis of Table IV.27 shows that the sixth hypothesis Ha6 is accepted and Ho6 is rejected. So, it was concluded that "There is a significant difference of students' reading interest of post- questionnaire mean scores between the experimental group and the control group by using Reciprocal Teaching Technique."

IV.3.7. Hypothesis 7

The inferential statistics procedures started with the statistical test on the following null hypothesis:

Ha7:   There is a significant improvement of students' reading interest of pre-questionnaire and post-questionnaire mean scores by using Reciprocal Teaching Technique in the experimental group.

Ho7:   There is no significant improvement of students' reading interest of pre- questionnaire and post-questionnaire mean scores by using Reciprocal Teaching Technique in the experimental group.

The results of the effect on implementing the treatment of Reciprocal Teaching Technique of students' reading interest for the experimental group of the composite comparing scores for both pre-questionnaire and post-questionnaire is analyzed by using Paired Sample T-test, and presented at the following Table IV.28

TABLE IV.28

The Analysis of Paired Sample T-test Between Pre-questionnaire and Post-questionnaire on students' reading interest for the Experimental Group Paired Samples T-Test

Subject	Group Score	Mean	Standard Deviation	N	df	T	Sig.(2-tailed)
Effect	Pre – questionnaire Score	75.71	5.70	35	34	-6.84	.000
	Post – questionnaire Score	85.42	6.34	35			

Table IV.28 describes that the output of paired sample t-test show that the t-test result is -6.84, its df is 34, by comparing number of significance. If probability>0.05, null hypothesis (H_0) is accepted. If probability <0.05 alternative hypothesis (H_a) is accepted. Because the significance is 0.000 < 0.05, thus, H_a is accepted while H_0 is rejected.

Then, the researcher found out the percentage of significant effect between the pre-questionnaire and post-questionnaire of the experimental class by looking for the effect size or eta-squared as follows:

$$\tilde{\eta}^2 = \frac{n^2}{n2+n-1}$$

104

$$\tilde{\eta}^2 = \frac{(-6.84)^2}{(-6.84)^2 + 35 - 1}$$

$$\tilde{\eta}^2 = \frac{46.78}{46.78 + 34}$$

$$\tilde{\eta}^2 = 0.58$$

Eta-squared $= \tilde{\eta}^2$ *x 100%*

Eta-squared $= 0.58$ x 100% = 58%

The results of data analysis were based on inferential statistics which has identified that after conducting the treatment for 6 meetings or 12 class-hours by using pair check it improve **58%** on the reading interest. Therefore, the H_o7 hypothesis is rejected and H_a7 is accepted that there issignificant improvement between reading interest pre-questionnaire mean scores of the experimental group and reading interest post-questionnaire mean scores of the experimental group.

IV.3.8. Hypothesis 8

The inferential statistics procedures started with the statistical test on the following null hypothesis:

Ho8: There is no significant improvement of students' reading interest of pre- questionnaire and post-questionnaire mean scores by using Reciprocal Teaching Technique in the control group.

Ha8: There is a significant improvement of students' reading interest of pre- questionnaire and post-questionnaire mean scores by using Reciprocal Teaching Technique in the control group.

The results of the effect on implementing the treatment of Reciprocal Teaching Technique of students' reading interest for the control group of the composite comparing score for both pre-questionnaire and post-questionnaire was analyzed by using Paired Sample T-test, and presented at the follows:

TABLE IV.29

The Analysis of Paired Sample T-test Between Pre-questionnaire and Post-questionnaire on students' reading interest for the control group
Paired Samples T-Test

Subject	Group Score	Mean	Standard Deviation	N	Df	T	Sig.(2-tailed)
Effect	Pre – questionnaire Score	75	5.28	35	34	-1.88	.068
	Post – questionnaire Score	78.14	8.40	35			

Table IV.29 indicates that the output of paired sample t-test show that the t-test result is -1.88, its df is 34, by comparing number of significance. If probability>0.05, null hypothesis (H_0) is accepted. If probability<0.05 alternative hypothesis (H_a) is accepted. Because the significance is 0.068> 0.05, thus, H_a is rejected while H_0 is accepted.

Then, the researcher found out the percentage of significant effect between pre-questionnaire and post-questionnaire of the control class by looking for the effect size or eta-squared as follows:

$$\tilde{\eta}^2 = \frac{\Box^2}{\Box^2 + \Box - 1}$$

$$\tilde{\eta}^2 = \frac{(-1.88)^2}{(-1.88)^2 + 35 - 1}$$

$$\tilde{\eta}^2 = \frac{3.53}{3.53 + 34}$$

$$\tilde{\eta}^2 = 0.09$$

Eta-squared $= \tilde{\eta}^2 \times 100\%$

Eta-squared $= 0.09 \times 100\% = 9\%$

The results of data analysis of inferential statistics which had identified that after conducting the treatment for 6 meetings or 12 class-hours by using non-Reciprocal Teaching Technique it decreased **9%** on the reading interest. Therefore, the **H$_o$8** hypothesis is accepted and **H$_a$8** is rejected that there is no significant improvement between reading interest pre-questionnaire mean scores of the control group and reading interest post-questionnaire mean scores of the control group at SMK Muhammadiyah 3 Pekanbaru.

4.5. DISCUSSION

This research was designed to find out the effect of using teaching method and students' reading interest and their reading comprehension at SMK Muhammadiyah 3 Pekanbaru.

In teaching reading, actually there are many kinds of technique that can be used by teacher to comprehend the text; one of them is Reciprocal Teaching Technique (RTT). According to Klinger, Vaughn, and Boardman (2001: 131), state that the Reciprocal Teaching Technique is an instruction that is developed to help students who can decode the language but have

107

difficulty in comprehending the text. It means that the Reciprocal Teaching Technique was a model or technique in teaching reading comprehension which allows students to share their experience and idea relate to their thinking about the text they had read. It was also found that students enjoyed performing the activities and gained more confidence to produce the language.

Based on the data obtained, the results showed that the scores of students reading comprehension was taught by Reciprocal Teaching Technique (the experimental class) was bigger than the scores of students reading comprehension in non-Reciprocal Teaching Technique (the control class). It means that there was a significant difference of students post-test between the experimental group and the control group.

Based on the result obtained, using Reciprocal Teaching Technique student became more interest in the reading activity, because they could work together with their friends. It made them felt unpressured of the activity. It also improved students' interaction in the class. The students had to socialize with their friend in the learning process. Furthermore, the activity also focuses on students' attention on having discussion with their friends.

Implementing Reciprocal Teaching Technique helped students in comprehending a text. The reading technique facilitated students in finding the details or important information, the meaning of the difficult words, the main idea of the text, and identification reference and inference of the

text. The student could comprehend the text better than they did before or after applied the reading technique. Richards and Renandya (2000), state that Reciprocal Teaching Technique was helpful in improving students' reading comprehension. However same students were too noisy when they had discussion group. Others group complained of this situation, because it is disturbed their concentration. Furthermore, some students were passive in the class discussion. The students said that they were not confident enough to present their discussion result and their answer correctness. To solve the problems, the researcher gave reward to the best group which could work compactly, actively, and the students had good behavior.

Operationally, reading comprehension was measured through the objective test (multiple choice tests) and through the reading test, students had to answer the questions based on the level of comprehension they have. Refer to the theoretical review mentioned above; the students' reading comprehension was influenced by teaching technique used in classroom (Reciprocal Teaching Technique) and the reading interest. Based on quantitative data obtained, it was concluded that teaching technique (Reciprocal Teaching Technique) bring effects to the achievement of students' reading comprehension significantly.

Students with high reading interest who were taught by Reciprocal Teaching Technique were higher than those who were taught by non-Reciprocal Teaching Technique in teaching reading class. In other words, students' reading comprehension that was taught by Reciprocal Teaching

109

Technique was higher than those who were taught by non-Reciprocal Teaching Technique for students who had high reading interest. It showed that Reciprocal Teaching Technique was more effective than non-Reciprocal Teaching Technique primarily for students with high reading interest.