

## CHAPTER IV

### FINDINGS AND DISCUSSION

This chapter presents the data that was collected during the experimental research. First analysis focuses on the homogeneity of the sample; the second analysis focuses on the validity, reliability, index difficulty, and discriminating power of instruments. And the third analysis represents the result of pre-test and post-test that was done both in experimental and control group.

#### A. First Analysis

The first analysis was homogeneity test of the sample. That was previous summative score of students of XI-IPS 1 as experimental group and students of XI-IPS 2 as control group. The analysis was meant to get the homogeneous class of XI-IPS 1 and XI-IPS 2. In this study, the homogeneity of the test was measured by comparing the obtained score ( $F_{score}$ ) with  $F_{table}$ . Thus, if the obtained score ( $F_{score}$ ) was lower than the  $F_{table}$  or equal, it could be said that the  $H_0$  was accepted. It means those classes were homogeneous. The analysis of homogeneity test could be seen in table I.

**Table. I. Test of Homogeneity**

Variant Sources	Experimental G	Control G
Sum	3285,00	3230,00
N	43	43
$\bar{X}$	76,40	75,12
Variants (s <sup>2</sup> )	32,53	24,39
Standart deviation (s)	5,70	4,94

By knowing the mean and the variance, the researcher was able to test the similarity of the two variants with the homogeneity test from students' previous score between XI-IPS 1 and XI-IPS 2. The computation of the test of homogeneity is as follows:

$$\begin{aligned}
 F &= \frac{\textit{Biggest Variance}}{\textit{Smallest Variance}} \\
 &= 32,53/24,39 \\
 &= 1.334
 \end{aligned}$$

On a 5% with df numerator  $(nb - 1) = 43 - 1 = 42$  and df denominator  $(nk - 1) = 43 - 1 = 42$ , it was found  $F_{table} = 1.70$ . Because of  $F_{score} \leq F_{table}/1.334 \leq 1.70$ , so it could be concluded that both XI IPS-1 and XI IPS-2 had no differences. The result showed that both groups had similar variants (homogenous).

## B. Second Analysis

The second analysis was meant to get a valid and reliable instrument for investigation. Try out tests were conducted for XI IPS-3 of MAN Kendal. Class XI IPS-3 consisted of 43 respondents. They were given a try out using the instrument that will be used in control and experiment class. The following is the interpretation of the try out test to find out the validity and reliability of the instrument.

### 1. Validity of Try Out Test

The reading test consists of twenty item numbers. From the try out test that was conducted, it was obtained that all reading item numbers were valid. For example, the item analysis of relevance was obtained ( $r_{xy}$ ) 0.54 for  $\alpha = 5\%$  with  $N = 43$ . It would be obtained 0.3008. Since the result of the instruments validity was higher than the critical score, it was considered that the instruments were valid. The complete computation and the sample of computation are as below.

#### The Computation of Item Validity Using *Jigsaw*

Formula:

$$r_{xy} = \frac{N \sum XY - (\sum X)(\sum Y)}{\sqrt{\{N \sum X^2 - (\sum X)^2\} \{N \sum Y^2 - (\sum Y)^2\}}}$$

Criteria:

The item is valid if  $r_{xy} > r_{table}$

Calculation:

Below is the example of the item validity of number 1.

NO	CODE	X	Y	X <sup>2</sup>	Y <sup>2</sup>	XY
1	T-9	1	20	1	400	20
2	T-20	1	20	1	400	20
3	T-11	1	20	1	400	20
4	T-10	1	20	1	400	20
5	T-2	1	20	1	400	20
6	T-30	1	19	1	361	19
7	T-19	1	19	1	361	19
8	T-25	1	19	1	361	19
9	T-40	1	19	1	361	19
10	T-36	1	19	1	361	19
11	T-1	1	19	1	361	19
12	T-13	1	19	1	361	19
13	T-24	1	19	1	361	19
14	T-4	1	19	1	361	19
15	T-17	1	18	1	324	18
16	T-6	1	18	1	324	18
17	T-3	1	17	1	289	17
18	T-22	1	17	1	289	17
19	T-39	1	16	1	256	16
20	T-26	1	16	1	256	16
21	T-32	1	16	1	256	16
22	T-7	1	16	1	256	16
23	T-18	1	15	1	225	15
24	T-35	1	15	1	225	15
25	T-42	1	15	1	225	15
26	T-41	0	15	0	225	0
27	T-23	0	15	0	225	0
28	T-5	1	13	1	169	13
29	T-43	1	13	1	169	13
30	T-38	1	12	1	144	12
31	T-31	1	12	1	144	12
32	T-27	1	12	1	144	12
33	T-12	1	11	1	121	11
34	T-29	1	11	1	121	11
35	T-33	0	11	0	121	0
36	T-15	1	10	1	100	10
37	T-8	1	9	1	81	9
38	T-37	0	9	0	81	0
39	T-14	0	9	0	81	0
40	T-34	0	8	0	64	0

41	T-16	0	8	0	64	0
42	T-21	1	6	1	36	6
43	T-28	0	5	0	25	0
Sum		35	639	35	10289	559

Where:  $N = 43$     $X^2 = 35$     $X = 35$     $Y^2 = 10289$     $Y = 639$     $\Sigma XY = 559$

$$r_{xy} = \frac{43(559) - (35)(639)}{\sqrt{\{43(35) - (35)^2\}\{43(10289) - (639)^2\}}}$$

$$= 0.54$$

Because of  $r_{xy} > r_{table}$ , so item number 1 is valid.

## 2. Reliability of Try Out Test

After validity items had been done, the next analysis was to test the reliability of instrument. It was done to find out whether a test had higher critical score and gave the stability or consistency of the test scores or not. From the computation of reliability of the try out instruments using *Jigsaw*, it was obtained 0.83, for  $\alpha$  5 % with  $N = 43$ . It was obtained 0.3008. It could be concluded that the instruments that were used in this research was reliable. The complete analysis and the computation as follow:

### The Computation of Reliability Using *Jigsaw*

Formula:

$$r_{11} = \left( \frac{k}{k-1} \right) \left( 1 - \frac{\sum \sigma_b^2}{\sigma_t^2} \right)$$

Criteria:

The try out is reliable if  $r_{11} > r_{table}$

Calculation:

$$\sigma_t^2 = \frac{\sum Y^2 - \frac{(Y)^2}{N}}{N}$$

$$= \frac{10289 - \frac{639^2}{43}}{43}$$

$$= 18,447$$

$$p = \frac{JB}{JA} = \frac{35}{43} = 0.8$$

$$q = \frac{JS}{JA} = \frac{8}{43} = 0.2$$

$$\sum pq = 3,129$$

Index Reliability

$$r_{11} = \left( \frac{21}{21-1} \right) \left[ 1 - \frac{3,129}{18,447} \right]$$

$$= 0.83$$

The result shows that 0.83 is more than 0.3008; it meant that the items of instrument were valid.

### 3. Discriminating Power of Try Out Test

The discriminating power of the twenty items analysis of reading was satisfied. It showed that all speaking items had strong discrimination. The complete analysis and the sample of computation as follow.

#### The Computation of Discriminating Power

Formula:

$$D = \frac{B_A}{J_A} - \frac{B_B}{J_B} = P_A - P_B$$

Criteria:

D = 0.00 – 0.20 : Poor

D = 0.21 – 0.40 : Satisfactory

D = 0.41 – 0.70 : Good

D = 0.71 – 1.00 : Excellent

Calculation:

Below is the example of the computation of discriminating power on item number 1.

$$\begin{array}{ll} B_A = 21 & J_A = 21 \\ B_B = 14 & J_B = 22 \end{array}$$

$$P_A = \frac{B_A}{J_A} = \frac{21}{21} = 1$$

$$P_B = \frac{B_B}{J_B} = \frac{14}{22} = 0,64$$

$$D = P_A - P_B = 1 - 0,64 = 0,36$$

The result obtained  $D = 0.36$

Because of the result is between 0.21 – 0.40. So the item number 1 is satisfactory.

#### 4. Difficulty Level of Try Out Test

From the computation of difficulty level of the twenty items analysis of reading, it was found that the difficulty level is easy. So, it could be concluded that the final total items analysis for the instruments were categorized satisfactory. The sample of computation is as follow.

##### The Computation of Difficulty Index

Formula:

$$P = \frac{B}{JS}$$

Criteria:

$0.00 \leq P < 0.30$  is difficult

$0.30 \leq P < 0.70$  is medium

$0.70 \leq P < 1.00$  is easy

Calculation:

Below is the example of the computation of difficulty level on item number 3.

$$B = 35$$

$$JS = 43$$

So:

$$P = \frac{35}{43} = 0.8$$

The result obtained  $P = 0.8$

Because of the result is between 0.70 – 100, so the item number 1 is easy.

### C. Third Analysis

The second analysis represents the result of pre-test and post-test that was done both in experimental and control group. This analysis will answer the research question “Is *Jigsaw* effective to improve students’ reading skill in narrative text?”. We can conclude *Jigsaw* is effective when the result of post test of the experimental class (using *Jigsaw* technique) and control class (using conventional technique) has significant differences or the assumption that those classes is equal is not fulfilled.

Before the researcher tested the hypothesis that had been mentioned in the chapter two, the researcher analyzed and tested hypothesis prerequisites which contained of normality test and homogeneity test. Second analysis dealt with normality test, homogeneity test, and t-test (test of difference two variants) in pre-test and post-test.

#### 1. Analysis of Pre-test

The experimental group (XI IPS-1) was given a pre-test on February 8, 2011 and control group (XI IPS-2) was given a pre-test on February 7, 2011. They were asked to answer multiple-choice test that were given to them.

##### a. Test of Normality

Test of normality was used to find out whether data of control and experimental group which had been collected from the research come from normal distribution normal or not. The result computation of Chi-quadrante ( $X^2_{score}$ ) then was compared with table of Chi-quadrante

( $X^2_{table}$ ) by using 5% alpha of significance. If  $X^2_{score} < X^2_{table}$  means that the data spread of research result distributed normally.

Based on the research result of XI IPS-2 students in the control group before they were taught redaing narrative text without *Jigsaw*, they reached the maximum score 70 and minimum score 30. The stretches of score were 40. So, there were 7 classes with length of classes 6. From the computation of frequency distribution, it was found ( $\sum f_i \cdot x_i$ ) = 2051.5, and ( $\sum f_i \cdot x_i^2$ ) = 102797. So, the average score ( $\bar{X}$ ) was 47.709 and the standard deviation (S) was 10.824. After counting the average score and standard deviation, table of observation frequency was needed to measure Chi-quadrade ( $X^2_{score}$ ).

**Table IV. 1 Table of the Observation Frequency of Control Group**

Class	Bk	Z <sub>i</sub>	P(Z <sub>i</sub> )	Ld	E <sub>i</sub>	O <sub>i</sub>	$\frac{(O_i - E_i)^2}{E_i}$
	29,5	-1,68	-0,4537				
30 – 35				0,0834	3,6	5	0,5569
	35,5	-1,13	-0,3703				
36 – 41				0,1534	6,6	9	0,8748
	41,5	-0,57	-0,2169				
42 – 47				0,2092	9,0	11	0,4471
	47,5	-0,02	-0,0077				
48 – 53				0,2114	9,1	6	1,0499
	53,5	0,53	0,2037				
54 – 59				0,1583	6,8	3	2,1297
	59,5	1,09	0,3620				
60 – 65				0,0879	3,8	6	1,3052
	65,5	1,64	0,4499				
66 – 71				0,0362	1,55462	3	1,3438
	71,5	2,20	0,4860				
$X^2 =$						7,7074	

Based on the Chi-quadrade table ( $X^2_{table}$ ) for 5% alpha of significance with df  $7 - 3 = 4$ , it was found  $X^2_{table} = 9.49$ . Because of  $X^2_{score} < X^2_{table}$ , so the initial data of control group distributed normally.



While from the result of XI IPS-2 students in experimental group, before they were taught reading narrative text by using role play, was found that the maximum score was 75 and minimal score was 35. The stretches of score were 40. So, there were 7 classes with length of classes 6. From the computation of frequency distribution, it was found  $(\sum f_i \cdot x_i) = 2224.5$ , and  $(\sum f_i \cdot x_i^2) = 119689$ . So, the average score  $(\bar{X})$  was 51.733 and the standard deviation (S) was 10.476. After counting the average score and standard deviation, table of observation frequency was needed to measure Chi-quadrade ( $X^2_{score}$ ).

**Table IV. 2 Table of the Observation Frequency of Experimental Group**

Class	Bk	Z <sub>i</sub>	P(Z <sub>i</sub> )	Ld	E <sub>i</sub>	O <sub>i</sub>	$\frac{(O_i - E_i)^2}{E_i}$
	34,5	-1,64	-0,4500				
35 – 40				0,0918	3,9	8	4,1574
	40,5	-1,07	-0,3582				
41 – 46				0,1669	7,2	8	0,0944
	46,5	-0,50	-0,1913				
47 – 52				0,2205	9,5	6	1,2776
	52,5	0,07	0,0292				
53 – 58				0,2117	9,1	9	0,0011
	58,5	0,65	0,2409				
59 – 64				0,1477	6,3	6	0,0193
	64,5	1,22	0,3885				
65 – 70				0,0749	3,2	5	0,9850
	70,5	1,79	0,4634				
71 – 76				0,0276	1,2	1	0,0291
	76,5	2,36	0,4910				
$X^2 =$						6,5348	

Based on the Chi-quadrade table ( $X^2_{table}$ ) for 5% alpha of significance with  $df 7 - 3 = 4$ , it was found  $X^2_{table} = 9.49$ . Because of  $X^2_{score} < X^2_{table}$ , so the initial data of experimental group distributed normally.

#### b. Test of Homogeneity

Test of homogeneity was done to know whether sample in the research come from population that had same variance or not. In this

study, the homogeneity of the test was measured by comparing the obtained score ( $F_{score}$ ) with  $F_{table}$ . Thus, if the obtained score ( $F_{score}$ ) was lower than the  $F_{table}$  or equal, it could be said that the  $H_0$  was accepted. It meant that the variance was homogeneous. The analysis of homogeneity test could be seen in table IV. 3.

**Table. IV. 3 Test of Homogeneity (Pre-test)**

Variants Sources	Experimental G	Control G
Sum	2060,00	2055,00
n	43	43
$\bar{x}$	47,91	47,79
Variants (s <sup>2</sup> )	101,4673	102,7409
Standart deviation (s)	10,07	10,14

By knowing the mean and the variance, the writer was able to test the similarity of the two variants in the pre-test between experimental and control group. The computation of the test of homogeneity as follows:

$$\begin{aligned}
 F &= \frac{\text{Biggest Variance}}{\text{Smallest Variance}} \\
 &= 102,7409/101,4673 \\
 &= 1,013
 \end{aligned}$$

On a 5% with df numerator ( $nb - 1$ ) =  $43 - 1 = 42$  and df denominator ( $nk - 1$ ) =  $43 - 1 = 42$ , it was found  $F_{table} = 1.67$ . Because of  $F_{score} \leq F_{table}$ , so it could be concluded that both experimental and control group had no differences. The result showed both groups had similar variants (homogenous).

**c. Test of difference two variants in pre-test between experiment and control group**

After counting standard deviation and variance, it could be concluded that both groups have no differences in the test of similarity between two variances in pre-test score. So, to differentiate whether the students' results of reading narrative text in experimental and

control group were significant or not, the writer used t-test to test the hypothesis that had been mentioned in the chapter two. The writer used formula:

$$t = \frac{\bar{x}_1 - \bar{x}_2}{s \sqrt{\frac{1}{n_1} + \frac{1}{n_2}}}$$

Where:

$$S = \sqrt{\frac{(n_1 - 1)s_1^2 + (n_2 - 1)s_2^2}{n_1 + n_2 - 2}}$$

Based on table IV. 3, first the writer had to find out S by using the formula above:

$$\begin{aligned} S &= \sqrt{\frac{(43-1)101,4673 + (43-1)102,7409}{43 + 43 - 2}} \\ &= 10,1047 \end{aligned}$$

After S was found, the next step was to measure t-test:

$$\begin{aligned} t &= \frac{47.91 - 47.79}{10.1047 \sqrt{\frac{1}{43} + \frac{1}{43}}} \\ &= 0.053 \end{aligned}$$

After getting t-test result, then it would be consulted to the critical score of  $t_{table}$  to check whether the difference is significant or not. For  $\alpha = 5\%$  with  $df = 43 + 43 - 2 = 84$ , it was found  $t_{table(0.95)(84)} = 1.99$ . Because of  $t_{score} < t_{table}$ , so it could be concluded that there was no significance of difference between the experimental and control group. It means that both experimental and control groups had same condition before getting treatments.

## 2. Analysis of Post-test

The experimental group was given post test on February 18, 2011 and control group was given a post test on February 12, 2011.

Post-test was conducted after all treatments were done. *Jigsaw* was used as technique in the teaching of reading narrative text to students in experimental group. While for students in control group, they were given treatments without *Jigsaw*. Post-test was aimed at measuring students' ability after they got treatments. They were asked to answer multiple-choice test that were given to them.

#### a. Test of Normality

Test of normality was used to find out whether data of control and experimental group, which had been collected after they got treatments, come from normal distribution normal or not. The formula, that was used, was Chi-quadrante. The computation result of Chi-quadrante ( $X^2_{score}$ ) then was compared with table of Chi-quadrante ( $X^2_{table}$ ) by using 5% alpha of significance. If  $X^2_{score} < X^2_{table}$  meant that the data spread of research result distributed normally.

Based on the research result of XI IPS-2 students in the control group after they got usual treatments in the teaching of reading narrative text, they reached the maximum score 95 and minimum score 65. The stretches of score were 30. So, there were 7 classes with length of classes 5. From the computation of frequency distribution, it was found ( $\sum f_i x_i$ ) = 3286, and ( $\sum f_i x_i^2$ ) = 253122. So, the average score ( $\bar{X}$ ) was 76.4186 and the standard deviation (S) was 6.91869. It meant that there was an improvement of students' score after they got treatments. After counting the average score and standard deviation, table of observation frequency was needed to measure Chi-quadrante ( $X^2_{score}$ ).

**Table IV. 4 Table of the Observation Frequency of Control Group**

Kelas	Bk	Z <sub>i</sub>	P(Z <sub>i</sub> )	Luas Daerah	E <sub>i</sub>	O <sub>i</sub>	$\frac{(O_i - E_i)^2}{E_i}$
	64,5	-1,72	-0,4575				
65 – 69				0,1162	5,0	6	0,2018
	69,5	-1,00	-0,3413				
70 – 74				0,2321	10,0	9	0,0964
	74,5	-0,28	-0,1092				
75 – 79				0,2812	12,1	11	0,0986
	79,5	0,45	0,1720				
80 – 84				0,2066	8,9	10	0,1399
	84,5	1,17	0,3786				
85 – 89				0,0921	4,0	5	0,2739
	89,5	1,89	0,4707				
90 – 94				0,0248	1,1	1	0,0044
	94,5	2,61	0,4955				
95 – 99				0,0041	0,2	1	3,9063
	99,5	3,34	0,4996				
					X <sup>2</sup> =	4,7212	

Based on the Chi-quadrade table ( $X_{table}^2$ ) for 5% alpha of significance with dk  $7 - 3 = 4$ , it was found  $X_{table}^2 = 9.49$ . Because of  $X_{score}^2 < X_{table}^2$ , so the data of control group after getting treatments distributed normally.

While from the result of XI IPS-1 students in experimental group, after they were taught by using *Jigsaw*, was found that the maximum score was 95 and minimal score was 65. The stretches of score were 30. So, there were 7 classes with length of classes 5. From the computation of frequency distribution, it was found  $(\sum f_i x_i) = 3446$ , and  $(\sum f_i x_i^2) = 278362$ . So, the average score ( $\bar{X}$ ) was 80.1395 and the standard deviation (S) was 7.23938. By seeing the average score of students in experimental group, it could be concluded that there was an improvement of students' score after they got treatments by using *Jigsaw*. After counting the average score and standard deviation, table of observation frequency was needed to measure Chi-quadrade ( $X_{score}^2$ ).

**Table IV. 5 Table of the Observation Frequency of Experimental Group**

Class	Bk	Z <sub>i</sub>	P(Z <sub>i</sub> )	Luas Daerah	E <sub>i</sub>	O <sub>i</sub>	$\frac{(O_i - E_i)^2}{E_i}$
	64,5	-2,16	-0,4846				
65 – 69				0,0555	2,4	5	2,8691
	69,5	-1,47	-0,4292				
70 – 74				0,1472	6,3	11	3,4494
	74,5	-0,78	-0,2820				
75 – 79				0,2468	10,6	10	0,0354
	79,5	-0,09	-0,0352				
80 – 84				0,2617	11,3	9	0,4514
	84,5	0,60	0,2265				
85 – 89				0,1755	7,5	5	0,8586
	89,5	1,29	0,4020				
90 – 94				0,0744	3,2	2	0,4485
	94,5	1,98	0,4764				
95 – 99				0,0199	0,9	1	0,0243
	99,5	2,67	0,4963				
					X <sup>2</sup>	=	8,1367

Based on the Chi-quadrante table ( $X^2_{table}$ ) for 5% alpha of significance with  $df\ 7 - 3 = 4$ , it was found  $X^2_{table} = 9.49$ . Because of  $X^2_{score} < X^2_{table}$ , so the data of experimental group after getting treatments distributed normally.

### b. Test of Homogeneity

The writer determined the mean and variance of the students' score either in experimental or control group. By knowing the mean and variance, the writer was able to test the similarity of the two variance in the post-test between experimental and control group.

**Table. IV. 6 Test of Homogeneity (Post-test)**

Varians Sources	Experimental G	Control G
Sum	3360,0	3200,0
n	43	43
$\bar{x}$	78,14	74,42
Variants ( $S^2$ )	52,41	47,87
Standart deviation (S)	7,24	6,92

The computation of the test of homogeneity as follows:

$$\begin{aligned}
 F &= \frac{\textit{Biggest Variance}}{\textit{Smallest Variance}} \\
 &= 52,41/47,87 \\
 &= 1.095
 \end{aligned}$$

On a 5% with df numerator (nb - 1) = 43 - 1 = 42 and df denominator (nk - 1) = 43 - 1 = 42, it was found  $F_{table} = 1.85$ . Because of  $F_{score} \leq F_{table}$ , so it could be concluded that both experimental and control groups had no differences. The result showed both groups had similar variance (homogenous).

**c. Test of difference two variants in post-test between experiment and control group**

After counting standard deviation and variance, it could be concluded that both groups have no differences in the test of similarity between two variances in post-test score. So, to differentiate if the students' results of reading narrative text in experimental and control group after getting treatments were significant or not, the writer used t-test to test the hypothesis that had been mentioned in the chapter two. To see the difference between the experimental and control group, the writer used formula:

$$t = \frac{\bar{x}_1 - \bar{x}_2}{s \sqrt{\frac{1}{n_1} + \frac{1}{n_2}}}$$

Where:

$$S = \sqrt{\frac{(n_1 - 1)s_1^2 + (n_2 - 1)s_2^2}{n_1 + n_2 - 2}}$$

Based on table IV. 6, first the writer had to find out S by using the formula above:

$$S = \sqrt{\frac{(43-1)52.41 + (43-1)47.87}{43+43-2}}$$

$$= 7.08085$$

After S was found, the next step was to measure t-test:

$$t = \frac{78.14 - 74.42}{7.08085 \sqrt{\frac{1}{43} + \frac{1}{43}}}$$

$$= 2.437$$

After getting t-test result, then it would be consulted to the critical score of  $t_{table}$  to check whether the difference is significant or not. For  $\alpha = 5\%$  with  $df = 43 + 43 - 2 = 84$ , it was found  $t_{table(0.95)(84)} = 1.66$ . Because of  $t_{score} > t_{table}$ , so it could be concluded that there was significance of difference between the experimental and control group. It meant that experimental group was better than control group after getting treatments.

Since the obtained t-score was higher than the critical score on the table, the difference was statistically significant. Therefore, based on the computation there was a significance difference students' achievement among these taught using *Jigsaw* and these taught without using *Jigsaw* for the eleventh grade students of MAN Kendal. Teaching reading in narrative text using *Jigsaw* technique seemed to be more effective than teaching reading in narrative text without using *Jigsaw*. It can be seen from the result of the test where the students taught reading in narrative text by using *Jigsaw* got higher scores than the students taught reading in narrative text without *Jigsaw*.



## D. Discussions

The data were obtained from the students' achievement scores of the test of reading narrative text. They were pre-test and post-test scores from the experimental and control group. The average score for experimental group was 47.91 (pre-test) and 78.14 (post-test). The average score for control group was 47.79 (pre-test) and 74.42 (post-test). The following was the simple tables of pre and post-test students' average score.

**Table IV. 7 The Pre-test and Post-test Students' Average Scores of the Experimental and Control Group**

No	Group	The Average Percentage of Pre-test	The Average Percentage of Post-test
1	Experimental	47.91	78.14
2	Control	47.79	74.42

Based on the result on the table above, the data shows that result test in experiment class is higher than result of test in control group. It can be concluded that students in experimental class have higher motivation in learning reading, thus, their achievement in post-test is better.

### a. Students' Condition in Control Group

In this study, source of data that become as control group was class XI IPS-2. In the control group, there was not a new treatment in a teaching learning process. They were given a usual treatment. They were taught reading narrative text using conventional method. By identifying some parts and tenses of narrative text in the teaching learning process, teacher had used a contextual teaching learning method that could not increase students' reading skill in narrative text. Students could not enjoy in practicing their skill in reading because they only identify those text without practice to use it as its function. It was proven with the control group's average in the post-test (74.42) which was lower than the experimental group (78.14).

## **b. Students' Condition in Experimental Group**

### **1) Analysis Students' Reading Before Treatment (Pre-test)**

In the pre-test, students' ability in reading narrative text was low. Pre-test was conducted before the treatment. From the result of pre-test, it was known that students faced many difficulties in reading narrative text. Vocabulary, which were used in text still strange in their mind. So students had to open the dictionary every they got difficulty. Students' ability was in low level when they had to translate the sentence to be a good meaning to answer the question. The other than students also got difficulty about how to answer the question efficiently. To minimize the number of students' mistakes in their reading, the researcher helped students that found trouble about their text.

### **2) Analysis Students' Speaking After Treatment (Post-test)**

Based on the analysis of students' ability, it was found that students' ability after getting treatment was improved. In the treatment, students conducted *Jigsaw* in learning narrative text which they tried and learned to translate the sentence to be a good meaning. The vocabulary, sentences' arrangement, and the way they translate the word were good and relevance to the topic so the meaning were easy to be understood.

The finding that shows students' ability is namely the increasing of students' average score. There were still some mistakes that students had made like sentences' meaning arrangement. But it was very human. So, it could be concluded that the implementation of using *Jigsaw* as technique in the teaching of reading narrative text was effective. It was proven with students' average score in experimental group was higher than control group. By considering the students' final score after getting treatment, the teaching of reading narrative text using *Jigsaw* as technique was better than without *Jigsaw*.

Based on t-test analysis that was done, it was found that the t-score (2.437) was higher than t-table by using 5% alpha of significance (1.66). Since  $t_{score} > t_{table}$ , it proved that there was a significant difference between the improvement of students achievement that was given a new treatment (using *Jigsaw*) and the improvement of students achievement that was given a usual treatment.

**c. The Advantages and Disadvantages of Using *Jigsaw* in the Teaching of Reading Narrative Text**

1) The Advantages of Using *Jigsaw* in the Teaching of Reading Narrative Text

After conducting the research, there were some advantages of using *Jigsaw* technique in the teaching of reading narrative text:

- a. Teacher easy to teach and students easy to learn. They enjoyed teaching learning using *Jigsaw* technique.
- b. Students were active participants in the learning process because *Jigsaw* demanded students to communicate one another.
- c. *Jigsaw* was efficient way to learn in the classroom. It meant that students could learn some materials in the one time.

2) The Disadvantages of Using *Jigsaw* in the Teaching of Reading Narrative Text

The disadvantages were described below:

- a. It spent a lot of time, because the students' skill was too low, they can't directly translate the sentences of text. They need to open the dictionary so it made long time.
- b. It was not easy enough to manage the class, because sometime the students will be noisy when they present their material to other. Their voice can disturb another class.

**E. Limitation of Research**

The writer realized that there were some barriers in doing this research. The barriers occurred not caused by inability of the researcher but by the limitation of the research like time, fund, and equipment of research.