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CHAPTER IV

RESULT OF THE STUDY

This chapter presents the result of the study. It covers description of the data, data presentation, data analysis, hypothesis testing and discussion.

4.1. DESCRIPTION OF THE DATA

The purpose of this quantitative study was to examine the influenced result of dependent variable. It was conducted to find out whether there was positive effect of Jigsaw on students' reading comprehension and vocabulary mastery of the eight grade students at SMPN 1 Rumbio Jaya.

There were three variables in this research. The first was the effect of Jigsaw technique as independent variable as (X). The second was the students' reading comprehension (Y1) and the last one was vocabulary mastery as (Y2). Two groups become participants of this research; an experimental group belongs to Jigsaw technique, and a control group non Jigsaw technique. Therefore, the experimental group provided by pre-test, treatment and post test. The control group will be given by pre test, non Jigsaw post test and non jigsaw technique.

The study was designed to gather information from current the eighth grade students of SMPN 1 Rumbio Jaya, which were four classes:

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VIII.A (24 students), VIII.B (22 students), VIII.C (22 students) and VIII.D (22 students). The total population of the eighth grade students in this school was 90 students. However chapter IV introduces the descriptive statistics and statistical analyses for the study. Mean and standard deviations for group statistics are presented. From Chapter IV's statistical analyses, one can make inferences regarding whether or not an effect exists between the selected independent and dependent variables. Both descriptive and statistical test analyses were conducted using SPSS. The following hypotheses were addressed in this study:

1. Hypothesis 1

Ho: There is no significant difference on reading comprehension pretest mean score between experimental group and control group at the eighth grade of SMPN 1 Rumbio Jaya.

Ha: There is significant difference on reading comprehension pretest mean score between experimental group and control group at the eighth grade of SMPN 1 Rumbio Jaya.

2. Hypothesis 2

Ho: There is no significant difference on reading comprehension post test mean score between experimental group and control group at the eighth grade of SMPN 1 Rumbio Jaya.

Ha: There is significant difference on reading comprehension post test mean score experimental group and control group at the eighth grade of SMPN 1 Rumbio Jaya.

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3. Hypothesis 3

Ho: There is no significant difference on students reading comprehension between pretest and post test mean score of using jigsaw technique of eighth grade at SMPN 1 Rumbio Jaya.

Ha: There is significant difference on students reading comprehension between pretest and post test mean score of using jigsaw technique of eighth grade at SMPN 1 Rumbio Jaya.

4. Hypothesis 4

Ho: There is no significant difference on vocabulary mastery pretest mean score between experimental group and control group at the eighth grade of SMPN 1 Rumbio Jaya.

Ha: There is significant difference on vocabulary mastery pretest mean score between experimental group and control group at the eighth grade of SMPN 1 Rumbio Jaya.

5. Hypothesis 5

Ho: There is no significant difference on vocabulary mastery post test mean score between experimental group and control group at the eighth grade of SMPN 1 Rumbio Jaya.

Ha: There is significant difference on vocabulary mastery post test mean score experimental group and control group at the eighth grade of SMPN 1 Rumbio Jaya.

6. Hypothesis 6

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Ho: There is no significant difference on student vocabulary mastery between pretest and post test mean score of using jigsaw technique of eighth grade at SMPN 1 Rumbio Jaya.

Ha: There is significant difference on student vocabulary mastery between pretest and post test mean score of using jigsaw technique of eighth grade at SMPN 1 Rumbio Jaya.

4.2. DATA PRESENTATION

This research was conducted to know the effect of jigsaw technique on the students' reading comprehension and vocabulary mastery at SMPN 1 Rumbio Jaya. A set of test was to find out the score of students comprehension and vocabularies , which consisted of two test, pre test and post test.

Pre-test, was done before the samples get the treatment. The purpose of pre-test is to measure the students' reading comprehension and vocabularies before the treatment. Post test, was done after the samples of experimental class get the treatment. The purpose of post-test is to measure the students' reading comprehension and vocabularies. In order to gain a complete depiction of the participant sample of this study and assess the normality of distribution of the participants, a series of descriptive analyses were performed. Frequencies were obtained to study the characteristics of each variable. Tables 4.1 to 4.4 present the frequencies of this study's

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sample both experimental and control groups. The data are presented by the output table of SPSS.

Table 4.1. The data presentation of the students' pre-test score on reading comprehension for experimental and control group.

No	Students	Experimental class		Control class	
		Pre- test		Pre- test	
		Raw score	Score	Raw score	Score
1	Students 1	12	60	9	45
2	Students 2	10	50	9	45
3	Students 3	11	55	10	50
4	Students 4	11	55	10	50
5	Students 5	9	45	10	50
6	Students 6	6	30	12	60
7	Students 7	7	35	10	50
8	Students 8	10	50	12	60
9	Students 9	11	55	10	50
10	Students 10	9	45	11	55
11	Students 11	10	50	10	50
12	Students 12	9	45	10	50
13	Students 13	11	55	9	45
14	Students 14	9	45	11	55
15	Students 15	10	50	9	45
16	Students 16	9	45	10	50
17	Students 17	10	50	8	40
18	Students 18	10	50	10	50
19	Students 19	11	55	9	45
20	Students 20	9	45	10	50
21	Students 21	10	50	9	45
22	Students 22	11	55	8	40
TOTAL		215	1075	216	1080
MEAN		9.77	48.86	9.82	49.09

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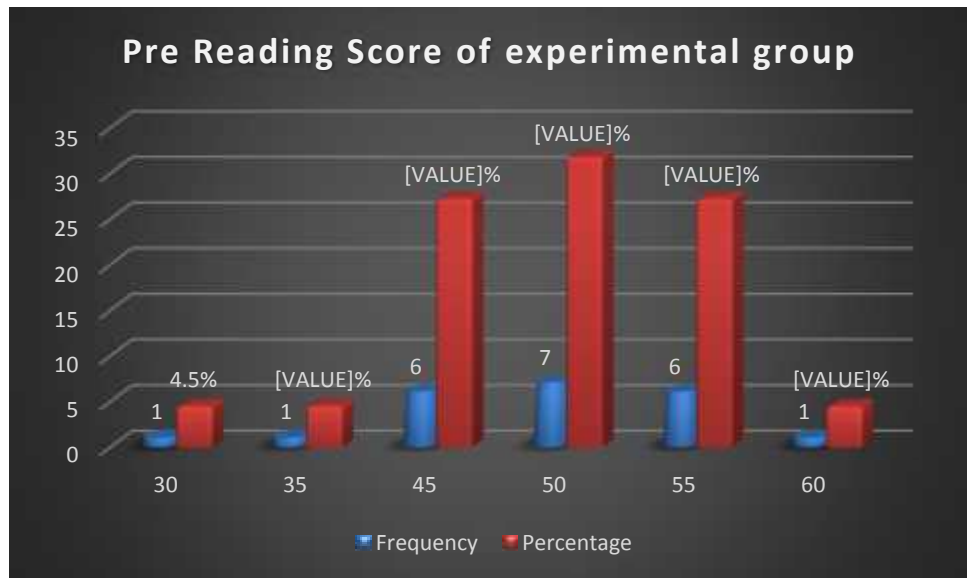


Figure 4.1. The students' pre-test score on reading comprehension for experimental group

Based on figure 4.1., it shows that there were a student who had score 30 (4.5%); there were a student who had score 35 (4.5%); there were a student who had score 60 (4.5%); which had the lowest representation in the sample group of experiment. However, there were 6 students who had score 45 (27.3%); there were 7 students who had score 50 (31.8%); and there were 6 students who had score 55 (27.3%), which had the highest representation for pre-test score on reading comprehension in experimental group.

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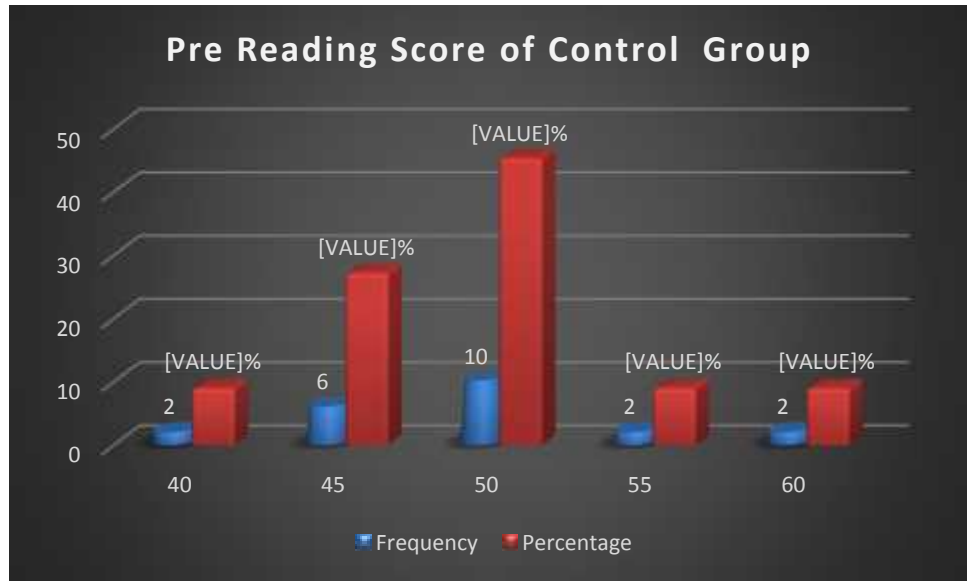


Figure 4.2. The students' pre-test score on reading comprehension for control group

Based on figure 4.1., it shows that there were two students who had score 40 (9.1%); there were two students who had score 55 (4.5%); there were another two students who had score 60 (4.5%); which had the lowest representation in the sample group of control. However, there were 6 students who had score 45 (27.3%); and there were 10 students who had score 50 (45.5%), which had the highest representation for pre-test score on reading comprehension in control group.

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Table 4.2. The data presentation of the students' post-test score on reading comprehension for experimental and control group.

No	Students	Experimental class		Control class	
		Post- test		Post- test	
		Raw score	Score	Raw score	Score
1	Students 1	15	75	15	75
2	Students 2	15	75	14	70
3	Students 3	15	75	14	70
4	Students 4	14	70	14	70
5	Students 5	15	75	14	70
6	Students 6	14	75	14	70
7	Students 7	16	80	14	70
8	Students 8	15	75	15	75
9	Students 9	14	70	14	70
10	Students 10	15	75	14	70
11	Students 11	15	75	14	70
12	Students 12	15	75	14	70
13	Students 13	15	75	14	70
14	Students 14	14	70	14	70
15	Students 15	14	70	15	75
16	Students 16	15	75	14	70
17	Students 17	14	70	14	70
18	Students 18	15	75	15	75
19	Students 19	14	70	14	70
20	Students 20	16	80	15	75
21	Students 21	15	75	14	70
22	Students 22	16	80	15	75
TOTAL		319	1635	314	1570
MEAN		14.50	74.32	14.27	71.36

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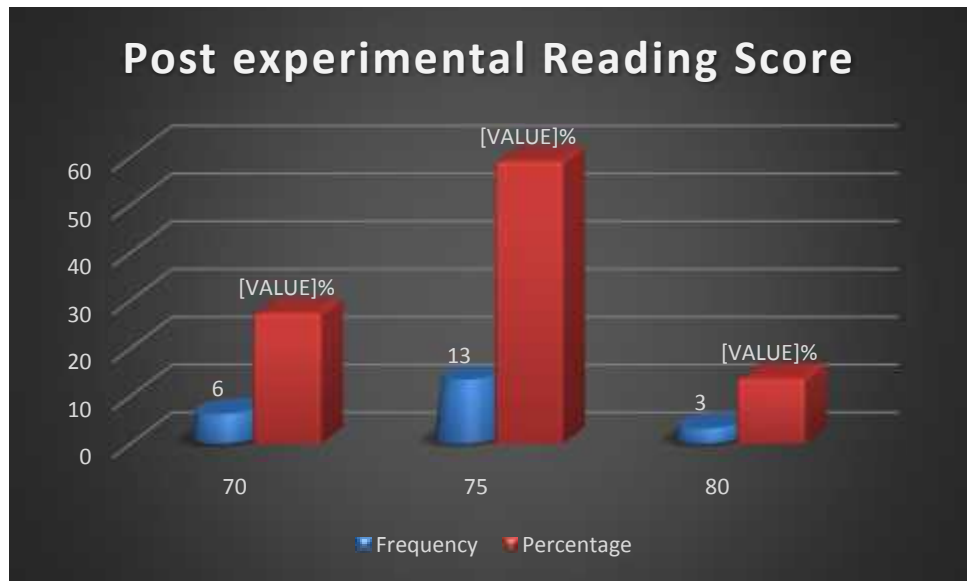


Figure 4.3. The students' post-test score on reading comprehension for experimental group

Based on the figure 4.3., it shows the students' reading comprehension score after being taught by using jigsaw, that there were 6 students who had score 70 (27.3%); there were 13 students who had score 75 (59.1%); and there were 3 students who had score 80 (13.6%). Moreover, the mean score from the group of data on post experiment, is 74.32.

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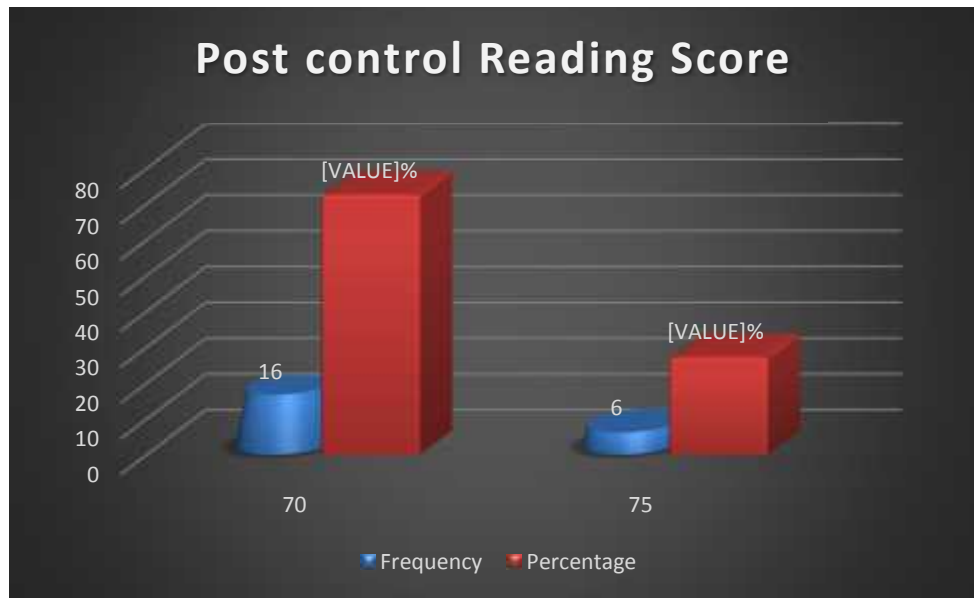


Figure 4.4. The students' post-test score on reading comprehension for control group

Otherwise, the figure 4.4. shows the students' reading comprehension score on control group, that there were 16 students who had score 70 (72.7%); and there were 6 students who had score 75 (27.3%). Furthermore, the mean score from the group of data on post experiment, is 71.36.

Table 4.3. The data presentation of the students' pre-test score on vocabulary mastery for experimental and control group.

No	Students	Experimental class		Control class	
		Pre- test		Pre- test	
		Raw score	Score	Raw score	Score
1	Students 1	10	50	10	50
2	Students 2	9	45	10	50
3	Students 3	10	50	9	45

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4	Students 4	11	55	10	50
5	Students 5	9	45	11	55
6	Students 6	9	45	11	55
7	Students 7	10	50	9	45
8	Students 8	9	45	12	60
9	Students 9	10	50	11	55
10	Students 10	10	50	10	50
11	Students 11	9	45	12	60
12	Students 12	10	50	11	55
13	Students 13	11	55	11	55
14	Students 14	10	50	10	50
15	Students 15	11	55	11	55
16	Students 16	13	65	10	50
17	Students 17	11	55	12	60
18	Students 18	11	55	11	55
19	Students 19	13	65	10	50
20	Students 20	10	50	11	55
21	Students 21	11	55	9	45
22	Students 22	11	55	11	55
TOTAL		228	1140	232	1160
MEAN		10.36	51.82	10.55	52.73

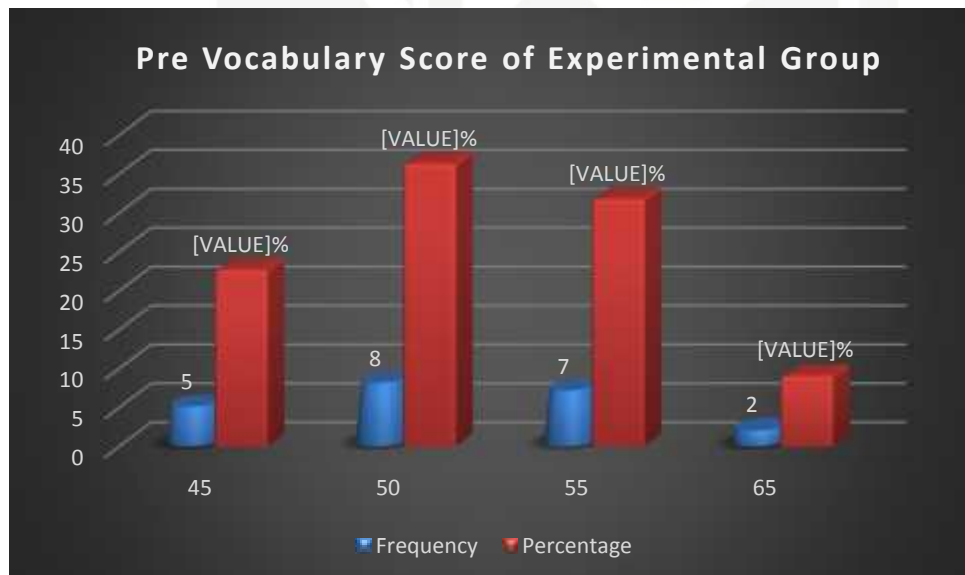


Figure 4.5. The students' pre-test score on vocabulary mastery for experimental group

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Since vocabulary became one of the sub skills were investigated, it shows on figure 4.5. that the students' reading comprehension score before being taught by using jigsaw, that there were 5 students who had score 45 (22.7%); there were 8 students who had score 50 (36.4%); there were 7 students who had score 55 (31.8%); and there were 2 students who had score 65 (9.1%). Moreover, the mean score from the group of data on pre experiment, is 51.82.

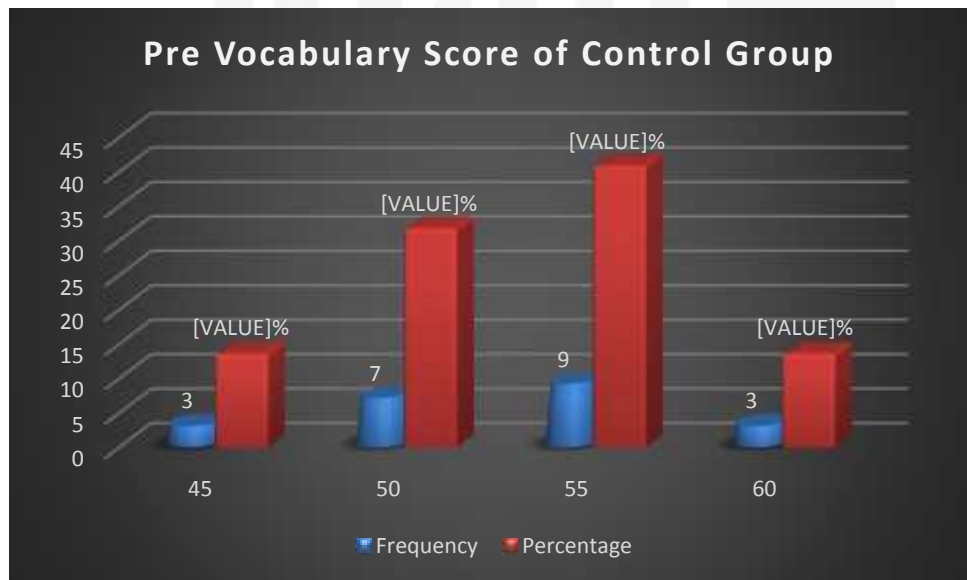


Figure 4.6. The students' pre-test score on vocabulary mastery for control group

Based on figure 4.6. about the students' pre-test score on vocabulary mastery in control group, it showed that there were 3 students who had score 45 (13.6%); there were 7 students who had score 50 (31.8%); there were 9 students who got score 55 (40.9%); and there were 3 students who got score 60 (13.6%). However, it has 52.73 mean score.

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Table 4.4. The data presentation of the students' post-test score on vocabulary mastery for experimental and control group.

No	Students	Experimental class		Control class	
		Post- test		Post- test	
		Raw score	Score	Raw score	Score
1	Students 1	14	70	14	70
2	Students 2	14	70	15	75
3	Students 3	15	75	14	70
4	Students 4	14	70	14	70
5	Students 5	14	70	15	75
6	Students 6	15	75	14	70
7	Students 7	14	70	14	70
8	Students 8	15	75	14	70
9	Students 9	14	70	14	70
10	Students 10	15	75	14	70
11	Students 11	14	70	14	70
12	Students 12	15	75	14	70
13	Students 13	15	75	14	70
14	Students 14	14	70	14	70
15	Students 15	14	70	14	70
16	Students 16	15	75	14	70
17	Students 17	14	70	14	70
18	Students 18	15	75	14	70
19	Students 19	14	70	14	70
20	Students 20	16	80	15	75
21	Students 21	15	75	15	75
22	Students 22	16	80	15	75
TOTAL		321	1605	313	1565
MEAN		14.59	72.95	14.23	71.14

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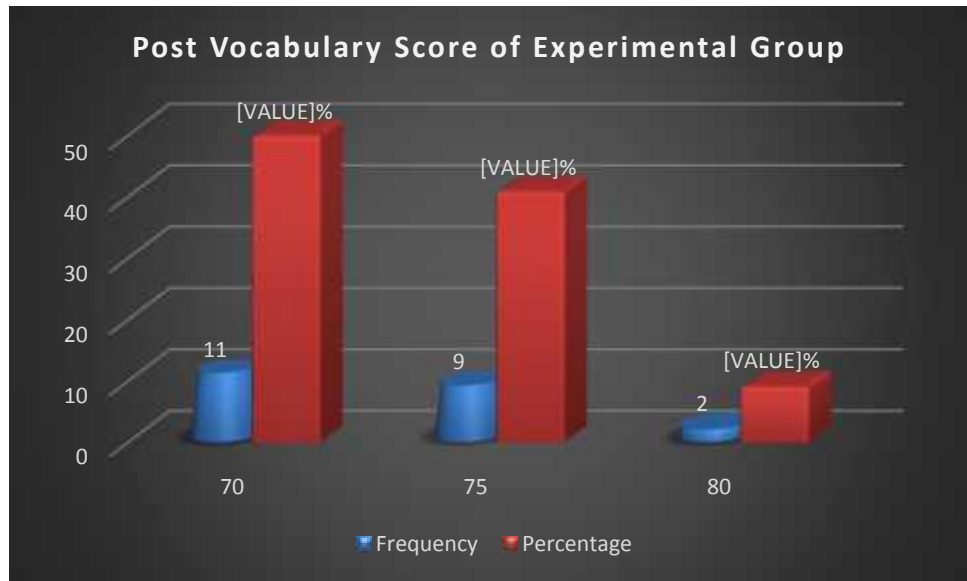


Figure 4.7. The students' post-test score on vocabulary mastery for experimental group

Based on the figure 4.7, it showed that there were 11 students who got score 70 (50.0%), which indicated the most frequent number of students score existing in group of data; Furthermore, there were 9 students who had score 75 (40.9%); and finally, there were 2 students who had score 80 (9.1%). While the mean score of post vocabulary score in experimental group was 72.95.

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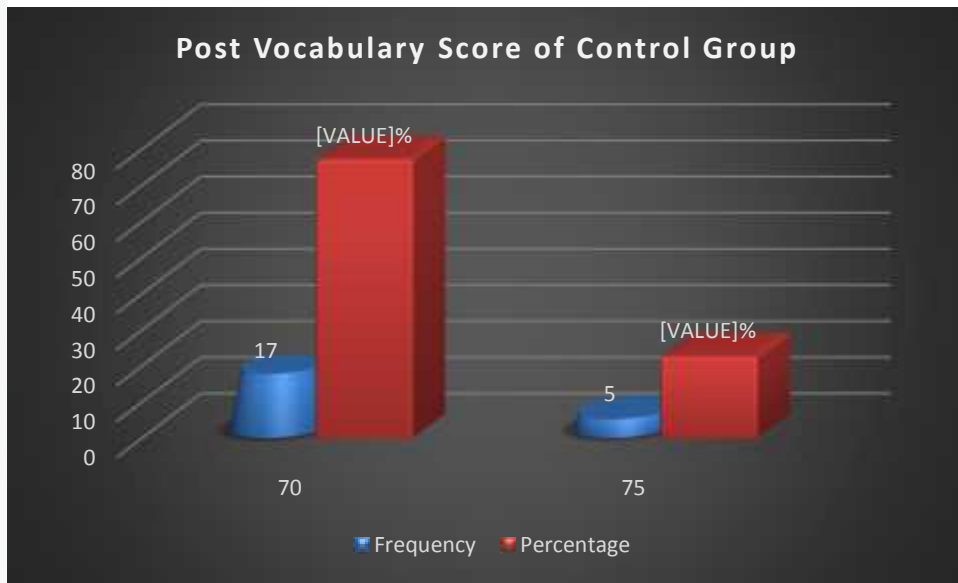


Figure 4.8. The students' post-test score on vocabulary mastery for experimental group

Finally, it showed on figure 4.8., that there were 17 students who had score 70 (77.3%); and there were 5 students who had score 75 (22.7%).

However, the mean score of the students' post-test score on vocabulary mastery was 71.14.

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After that the students' answer sheet of the eighth grade process of data was collected in order to get the data about the students' ability in reading comprehension and vocabulary mastery on narrative text.

Meeting 1:

Table. 4.5
The Activities of teachers and Students using Jigsaw Technique

No	Activities	Yes	No
1.	Teacher divides students into 5 person in a group	✓	
2.	Teacher ask students to choose a group leader		✓
3.	Teacher gives material to students	✓	
4.	Teacher ask one students only one segment to learn		✓
5.	Teacher ask students to make expert group		✓
6.	Teacher ask students back to Jigsaw group		✓
7.	Students present their segment to the group	✓	
8.	Teacher give quiz		✓

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Meeting 2:

Table. 4.6
The Activities of teachers and Students using Jigsaw Technique

No	Activities	Yes	No
1.	Teacher divides students into 5 person in a group	✓	
2.	Teacher ask students to choose a group leader	✓	
3.	Teacher gives material to students	✓	
4.	Teacher ask one students only one segment to learn	✓	
5.	Teacher ask students to make expert group	✓	
6.	Teacher ask students back to Jigsaw group	✓	
7.	Students present their segment to the group	✓	
8.	Teacher give quiz		✓

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Meeting 3:

Table. 4.7
The Activities of teachers and Students using Jigsaw Technique

No	Activities	Yes	No
1.	Teacher divides students into 5 person in a group	✓	
2.	Teacher ask students to choose a group leader	✓	
3.	Teacher gives material to students	✓	
4.	Teacher ask one students only one segment to learn	✓	
5.	Teacher ask students to make expert group	✓	
6.	Teacher ask students back to Jigsaw group	✓	
7.	Students present their segment to the group	✓	
8.	Teacher give quiz	✓	

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Meeting 3:

Table. 4.8

The Activities of teachers and Students using Jigsaw Technique

No	Activities	Yes	No
1.	Teacher divides students into 5 person in a group	✓	
2.	Teacher ask students to choose a group leader	✓	
3.	Teacher gives material to students	✓	
4.	Teacher ask one students only one segment to learn	✓	
5.	Teacher ask students to make expert group	✓	
6.	Teacher ask students back to Jigsaw group	✓	
7.	Students present their segment to the group	✓	
8.	Teacher give quiz	✓	

4.3. DATA ANALYSIS AND HYPOTHESIS TESTING

4.3.1. Hypothesis 1

The procedure of inferential statistics began to state the null hypothesis, of which Pallant (2001) states that if the significance value is greater than 0.05, this indicates that there is no violation of the assumption of equality of variance and that equal variances are

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assumed for the variable concerned. An independent t-test was conducted to determine any significant difference on reading comprehension pretest mean score between experimental group and control group at the eighth grade of SMPN 1 Rumbio Jaya.

The result of reading comprehension pretest mean score between experimental group and control group was analyzed by using Independent Sample T-test, and presented from the SPSS output , which is stated from the following Table 4.5.

Table 4.9. The Analysis of Independent Sample T-test of the students' reading comprehension pretest mean score between experimental group and control group at the eighth grade of SMPN 1 Rumbio Jaya.

		Independent Samples Test								
		Levene's Test for		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error	95% Confidence	
									Lower	Upper
Reading Comprehension score	Equal variances assumed	.978	.328	-.123	42	.903	-.227	1.848	-3.957	3.503
	Equal variances not assumed			-.123	39.287	.903	-.227	1.848	-3.965	3.511

Based on Independent T-test analysis for the students' reading comprehension pretest mean score between experimental group and control group on Table 4.5. above, it showed that there wasno significant difference ofstudents' reading comprehension pretest mean score between experimental group and control group at the eighth grade of SMPN 1 Rumbio Jaya. T-test result was -

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0.123, df was 42. In the conclusion p-value was 0.903, which 2-tailed value was higher than 0.05 (alpha value). The result showed that the scores did not differ much between reading comprehension pretest mean score between experimental group and control group. It might conclude that there is no significant difference on reading comprehension pretest mean score between experimental group and control group at the eighth grade of SMPN 1 Rumbio Jaya. Since H_0 is accepted, it is not necessary to find out the effect size on the effect of jigsaw technique on the students' reading comprehension.

4.3.2. Hypothesis 2

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

- H_0 : There is no significant difference on reading comprehension post test mean score between experimental group and control group at the eighth grade of SMPN 1 Rumbio Jaya.
- H_{a2} : There is a significant difference on reading comprehension post test mean score experimental group and control group at the eighth grade of SMPN 1 Rumbio Jaya.

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The result of the students' reading comprehension post test mean score experimental group and control group was analyzed by using Independent Sample T-test, and presented at the following Table 4.6.

Table 4.10. The Analysis of Independent Sample T-test of the students' reading comprehension post-test mean score between experimental group and control group at the eighth grade of SMPN 1 Rumbio Jaya.

		Independent Samples Test								
		Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Interval of the	
									Lower	Upper
Reading Comprehension score	Equal variances assumed	.554	.461	3.529	42	.001	2.955	.837	1.265	4.644
	Equal variances not assumed			3.529	37.958	.001	2.955	.837	1.260	4.650

Based on Independent t-test analysis for the students' reading comprehension post test mean score experimental group and control group on Table 4.6. above, it showed that there is a significant difference on reading comprehension post test mean score experimental group and control group at the eighth grade of SMPN 1 Rumbio Jaya.. The t-test result was 3.529, df was 42. In the conclusion, p-value was 0.001, which 2-tailed value was lower than 0.05 (alpha value). The result showed that the scores differ much between reading comprehension pretest mean score between experimental group and control group. It might conclude that There is a significant difference on reading comprehension post test mean

score experimental group and control group at the eighth grade of SMPN 1 Rumbio Jaya.



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Based on the conclusion that alternative hypothesis is accepted, it is necessary to find out the effect size as follows:

$$Eta\ Squared = \frac{t^2}{t^2 + (N_1 + N_2) - 2}$$

$$Eta\ Squared = \frac{(3.529)^2}{(3.529)^2 + 44 - 2}$$

$$Eta\ Squared = \frac{12.453}{12.453 + 42}$$

$$Eta\ Squared = \frac{12.453}{54.45}$$

$$Eta\ Squared = 0.22$$

According to Pallant (2010, p.210), the guidelines for interpreting this value are 0.01= small effect, 0.06= medium effect, 0.14= large effect. The effect size for the difference above was 0.22 or 22%, therefore the researcher can conclude that there was a large effect obtained from the students' reading comprehension post test mean score experimental group and control group by using Jigsaw technique.

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4.3.3. Hypothesis 3

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

- Ho: There is no significant difference on students reading comprehension between pretest and post test mean score of using jigsaw technique of eighth grade at SMPN 1 Rumbio Jaya.
- Ha: There is a significant difference on students reading comprehension between pretest and post test mean score of using jigsaw technique of eighth grade at SMPN 1 Rumbio Jaya.

The result of the students' reading comprehension post test mean score experimental group and control group was analyzed by using Independent Sample T-test, and presented at the following Table 4.11.

Table 4.7. The Analysis of Paired Sample t-test of the students' reading comprehension between pretest and post test mean score of using jigsaw technique of eighth grade at SMPN 1 Rumbio Jaya.

		Paired Samples Test							
		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	Difference				
					Lower	Upper			
Pair 1	Post Experiment Reading - Post Control Reading	2.955	3.331	.710	1.478	4.431	4.161	21	.000

From the table 4.7. from the statistical analysis of paired samples test showed that the mean was 2.955, standard deviation was 3.331, standard error mean was 0.710, t-test result was 4.161 by degree of freedom was 21, and significant was 0.000. By orienting number of significance. If probability > 0.05, null hypothesis (H_0) is rejected. If probability < 0.05 alternative hypothesis (H_a) is accepted. On the hypothesis -3, it might conclude that there is a significant difference on students reading comprehension between pre-test and post-test mean score of using jigsaw technique of eighth grade at SMPN 1 Rumbio Jaya.

Based on the conclusion that alternative hypothesis is accepted, it is necessary to find out the effect size as follows:

$$Eta\ Squared = \frac{t^2}{t^2 + N - 1}$$

$$Eta\ Squared = \frac{(4.161)^2}{(4.161)^2 + 22 - 1}$$

$$Eta\ Squared = \frac{17.312}{17.312 + 21}$$

$$Eta\ Squared = \frac{17.312}{38.312}$$

$$Eta\ Squared = 0.451$$

According to Pallant (2010, p.210), the guidelines for interpreting this value are 0.01= small effect, 0.06= medium effect, 0.14= large effect. The effect size for the difference above was 0.451 or 45.1%, therefore the researcher can conclude that there was a large effect obtained from students reading comprehension between pre-test and post-test mean score of using jigsaw technique of eighth grade at SMPN 1 Rumbio Jaya.

4.3.4. Hypothesis 4

The procedure of inferential statistics began to state the null hypothesis, of which Pallant (2001) states that if the significance value is greater 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. An independent t-test was conducted to determine if any significant difference on vocabulary mastery on pretest mean score

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between experimental group and control group at the eighth grade of SMPN 1 Rumbio Jaya.

The result of vocabulary mastery on pretest mean score between experimental group and control group was analyzed by using Independent Sample t-test, and presented from the SPSS output , which is stated from the following Table 4.8.

Table 4.8. The Analysis of Independent Sample T-test of the students’ vocabulary mastery on pretest mean score between experimental group and control group at the eighth grade of SMPN 1 Rumbio Jaya.

Independent Samples Test										
		Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Interval of the	
									Lower	Upper
Vocabulary Mastery	Equal variances assumed	.431	.515	-.586	42	.561	-.909	1.553	-4.042	2.224
	Equal variances not assumed			-.586	40.122	.561	-.909	1.553	-4.047	2.228

Based on Independent T-test analysis for the students’ vocabulary mastery on pretest mean score between experimental group and control group on Table 4.5. above, it showed that there was no significant difference of students’ vocabulary mastery on pretest mean score between experimental group and control group at the eighth grade of SMPN 1 Rumbio Jaya. T-test result was -0.586, df was 42. In the conclusion p-value was 0.561, which 2-tailed p-value was higher than 0.05 (alpha value). The result showed that the scores did not differ much between vocabulary mastery on pretest mean score between experimental

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group and control group. It might conclude that there is no significant difference on vocabulary mastery on pretest mean score between experimental group and control group at the eighth grade of SMPN 1 Rumbio Jaya. Since H_0 is accepted, it is not necessary to find out the effect size on the effect of jigsaw technique on the students' vocabulary mastery.

4.3.5. Hypothesis 5

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

- H_0 : There is no significant difference on vocabulary mastery post-test mean score between experimental group and control group at the eighth grade of SMPN 1 Rumbio Jaya.

H_a : There is significant difference on vocabulary mastery post-test mean score experimental group and control group at the eighth grade of SMPN 1 Rumbio Jaya.

The result of the students' vocabulary mastery post-test mean score experimental group and control group was analyzed by using Independent Sample t-test, and presented at the following Table 4.13.



Table 4.13. The Analysis of Independent Sample t-test of the students' vocabulary mastery post-test mean score experimental group and control group at the eighth grade of SMPN 1 Rumbio Jaya.

		Independent Samples Test								
		Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Interval of the	
								Lower	Upper	
Vocabulary Mastery	Equal variances assumed	9.526	.004	2.153	42	.037	1.818	.845	.114	3.523
	Equal variances not assumed			2.153	35.860	.038	1.818	.845	.105	3.531

Based on Independent t-test analysis for the students' vocabulary mastery post-test mean score experimental group and control group on Table 4.9. above, it showed that there is a significant difference on vocabulary mastery post-test mean score experimental group and control group at the eighth grade of SMPN 1 Rumbio Jaya. The t-test result was 2.153, df was 42. In the conclusion, p-value was 0.037, which 2-tailed p-value was lower than 0.05 (alpha value). The result showed that the scores differ much between vocabulary mastery post-test mean score experimental group and control group. It might conclude that There is a significant difference on vocabulary mastery post-test mean score experimental group and control group at the eighth grade of SMPN 1 Rumbio Jaya.

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Based on the conclusion that alternative hypothesis is accepted, it is necessary to find out the effect size as follows:

$$Eta\ Squared = \frac{t^2}{t^2 + (N_1 + N_2) - 2}$$

$$Eta\ Squared = \frac{(2.153)^2}{(2.153)^2 + 44 - 2}$$

$$Eta\ Squared = \frac{4.634}{4.634 + 42}$$

$$Eta\ Squared = \frac{4.634}{46.634}$$

$$Eta\ Squared = 0.09$$

According to Pallant (2010, p.210), the guidelines for interpreting this value are 0.01= small effect, 0.06= medium effect, 0.14= large effect. The effect size for the difference above was 0.099 or 9.9%, therefore the researcher can conclude that there was a medium effect obtained from the students' vocabulary mastery post-test mean score experimental group and control group by using Jigsaw technique.

4.3.6. Hypothesis 6

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

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- Ho: There is no significant difference on students' vocabulary mastery between pretest and post test mean score of using jigsaw technique of eighth grade at SMPN 1 Rumbio Jaya.
- Ha: There is a significant difference on student vocabulary mastery between pretest and post test mean score of using jigsaw technique of eighth grade at SMPN 1 Rumbio Jaya.

The result of the students' vocabulary mastery between pretest and post test mean score of using jigsaw technique was analyzed by using Independent Sample T-test, and presented at the following Table 4.14.

Table 4.14. The Analysis of Paired Sample t-test of the students' student vocabulary mastery between pretest and post test mean score of using jigsaw technique of eighth grade at SMPN 1 Rumbio Jaya.

		Paired Samples Test							
		Paired Differences				t	df	Sig. (2-tailed)	
		Mean	Std. Deviation	Std. Error Mean	Difference				
				Lower	Upper				
Paired	Post Experiment Vocabulary - Post Control Vocabulary	1.818	3.290	.701	.360	3.277	2.592	21	.017

From the table 4.10. on the statistical analysis of paired samples test showed that the mean was 1.818, standard deviation was 3.290, standard error mean was 0.701, t-test result was 2.592 by degree of freedom was 21, and significant was 0.017. By orienting number of significance. If probability > 0.05,



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null hypothesis (H_0) is rejected. If probability < 0.05 alternative hypothesis (H_a) is accepted. On the hypothesis -6, it might conclude that there is significant difference on student vocabulary mastery between pretest and post-test mean score of using jigsaw technique of eighth grade at SMPN 1 Rumbio Jaya.

Based on the conclusion that alternative hypothesis is accepted, it is necessary to find out the effect size as follows:

$$Eta\ Squared = \frac{t^2}{t^2 + N - 1}$$

$$Eta\ Squared = \frac{(2.592)^2}{(2.592)^2 + 22 - 1}$$

$$Eta\ Squared = \frac{6.720}{6.720 + 21}$$

$$Eta\ Squared = \frac{6.720}{27.720}$$

$$Eta\ Squared = 0.242$$

According to Pallant (2010, p.210), the guidelines for interpreting this value are 0.01= small effect, 0.06= medium effect, 0.14= large effect. The effect size for the difference above was 0.242 or 24.2%, therefore the researcher can conclude that there was a large effect obtained from students vocabulary mastery between pretest and post-test mean score of using jigsaw technique of eighth grade at SMPN 1 Rumbio Jaya.

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4.4. DISCUSSION

This research proves that the proposed Jigsaw technique can improve the students' reading comprehension and vocabulary mastery in the experimental group. The students of experimental group showed that their enthusiasm to be engaged in learning activities and their improvement in their reading comprehension.

Jigsaw technique could improve the students' reading comprehension ability. Since by using Jigsaw technique the students acquire a proper comprehension in answering the questions. It attempts to equip readers with the ability to determine the purposes of reading, the ability to extract, to comprehend, and to assimilate information, the ability to make predictions, to examine reading materials based on the purposes of reading, the ability to pass judgments, and finally the ability to make decisions based upon information gleaned from reading. These foster students' independence when reading. It engages students in an active process where they must use their reasoning abilities and their own ideas. In such a way it will improve their reading comprehension.

Moreover in improving students reading comprehension, teacher should teach vocabulary to their students since vocabulary has strong relationship with reading comprehension. Having a lot of vocabulary makes the students understand the text easily. Although strategy of reading and experience of students help them in comprehend a text, but vocabulary

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mastery is more important in helping the students to comprehend the text. It is in line with Hirsch (2003) who describe that knowing at least 90 percent of the words enables the reader to get the main idea from the reading and guess correctly what many of the unfamiliar words mean. Considering to the result that many students lack of vocabulary mastery, it is recommended to use English in English classes, since it facilitates the students to learn materials efficiently. By using English as medium of instruction, it helps students increase their vocabulary mastery. Although using Indonesia language is also needed in English class to overcome the misunderstanding that may occur in mostly second language settings. The teachers may want to use different methods in teaching reading skill to make English class more interesting and fun. Since the data analysis indicated that Jigsaw Method has large effect toward vocabulary mastery, the teacher might implement it as one of various techniques in teaching reading.