CHAPTER IV

RESULT AND DISCUSSION

In this chapter, the writer presents the data which had been collected from the research in the field of study. The data were the result of pretest-posttest of experimental group and control group, the result of data analysis, discussion.

A. Result

In this section described the obtained data of the effectiveness of team pair solo technique on speaking performance score of the eighth graders of SMP Negeri 1 Palamgka Raya. The presented data consisted of distribution of pretest score of experiment and control groups and also the distribution of posttest score of experiment and control groups.

1. The Result of Pretest Score of Experimental Group and Control Group

The students' pretest score are distributed in the following table in order to analyze the students' knowledge before conducting the treatment.

Table 1.6 Pretest Score of the Experiment and Control Group

Experiment Group			Control Group		
Code	**Score**	**Classification**	**Code**	**Score**	**Classification**
E01	25	Poor	C01	20	Very Poor
E02	50	Fairly Good	C02	55	Fairly Good
E03	45	Fairly Good	C03	70	Good
E04	45	Fairly Good	C04	20	Very Poor
E05	75	Good	C05	55	Fairly Good
E06	65	Good	C06	55	Fairly Good
E07	55	Fairly Good	C07	65	Good
E08	45	Fairly Good	C08	50	Fairly Good
E09	55	Fairly Good	C09	40	Poor
E10	45	Fairly Good	C10	45	Fairly Good
E11	40	Poor	C11	55	Fairly Good
E12	80	Good	C12	20	Very Poor
E13	80	Good	C13	40	Poor
E14	55	Fairly Good	C14	55	Fairly Good
E15	25	Poor	C15	50	Fairly Good
E16	40	Poor	C16	30	Poor
E17	40	Poor	C17	75	Good
E18	35	Poor	C18	55	Fairly Good
E19	75	Good	C19	45	Fairly Good
E20	25	Poor	C20	60	Fairly Good
E21	55	Fairly Good	C21	45	Fairly Good
E22	80	Good	C22	20	Very Poor
E23	65	Good	C23	60	Fairly Good
E24	60	Fairly Good	C24	55	Fairly Good
E25	45	Fairly Good	C25	40	Poor
E26	45	Fairly Good	C26	55	Fairly Good
E27	35	Poor	C27	50	Poor
E28	55	Fairly Good	C28	60	Fairly Good
E29	20	Very Poor	C29	40	Poor
E30	55	Fairly Good	C30	25	Poor
E31	20	Very Poor	C31	45	Fairly Good
E32	65	Good	C32	55	Poor

a. The Result of Pretest Score of Experimental Group

The pretest was conducted on Saturday 19th December 2015 in the VIII 3 class. The students' pretest score of experiment group were distributed in the

following table in order analyzing the students' background knowledge of speaking performance score before the treatment. Then, it was presented using distribution frequency in the following table:

Table 1.7 Frequency Distribution of Pretest Experiment Group

Experiment

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	20	2	6,3	6,3	6,3
	25	3	9,4	9,4	15,6
	35	2	6,3	6,3	21,9
	40	3	9,4	9,4	31,3
	45	6	18,8	18,8	50,0
	50	1	3,1	3,1	53,1
	55	6	18,8	18,8	71,9
	60	1	3,1	3,1	75,0
	65	3	9,4	9,4	84,4
	75	2	6,3	6,3	90,6
	80	3	9,4	9,4	100,0
	Total	32	100,0	100,0	

The distribution of students' predicate in pretest score of experiment group can also be seen in the following figure**.**

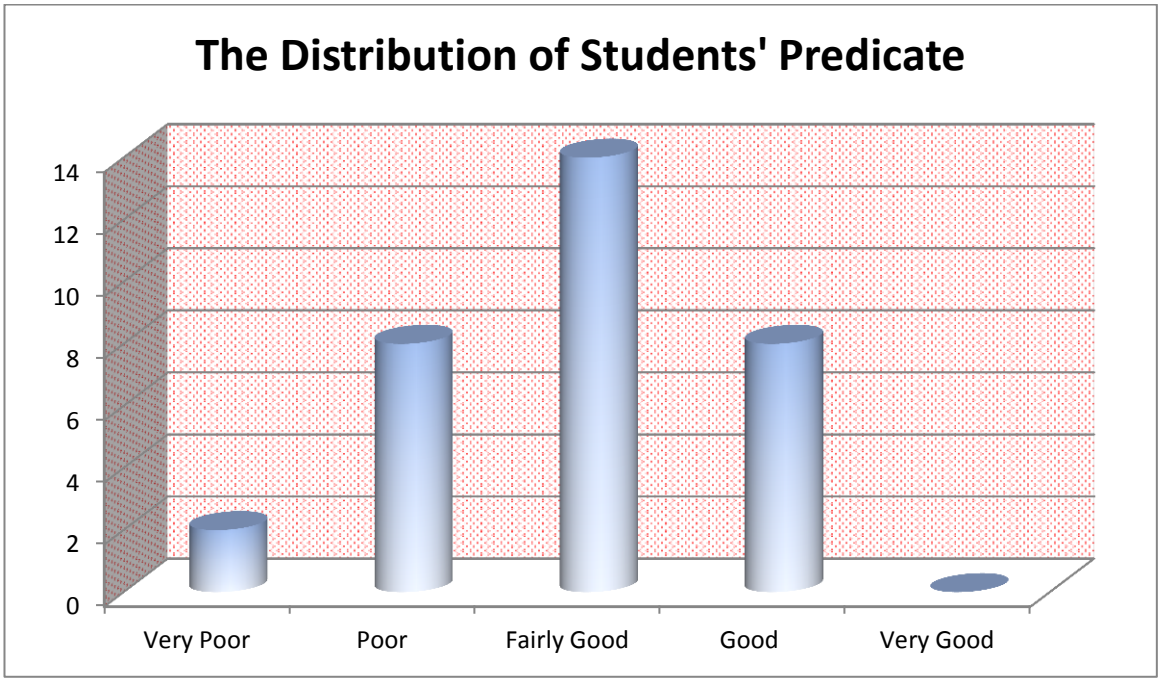

Figure 1.1 The Distribution of Students' Predicate in Pretest Score of Experimental Group

Based on the figure above, it can be seen that the students' predicate in pretest score. There were two students who got very poor predicate. They are E-29 and E-31. There were eight students who got poor predicate. They are E-01, E-11, E-15, E-16, E-17, E-18, E-20, and E-27. There were fourteen students who got fairly good predicate. They are E-02, E-03, E-04, E-07, E-08, E-09, E-10, E-14, E-21, E-24, E-25, E-26, E-28, and E-30. There were eight students who got good predicate. They are E-05, E-06, E-12, E-13, E-19, E-22, E-23, and E-32, and there were not students who got very good predicate.

The next step, the writer calculated the scores of mean, median, mode, standard error of mean, and standard deviation using SPSS 21 program as follows.

Table 1.8 the calculation of Mean, Median, Mode, Standard Error of Mean, and Standard Deviation.

Statistics

Experiment

N	Valid	32
	Missing	0
Mean		50,00
Std. Error of Mean		3,086
Median		47,50
Mode		45[a]
Std. Deviation		17,460
Minimum		20
Maximum		80

Based on the calculation above, the higher score pretest of experimental group was 80, the lowest score was 20, the result of mean was 50.00, median was 47.50, mode was 45, standard error of mean was 3.086, and the standard deviation was 17.460.

b. The Result of Pretest Score of Control Group

The pretest was conducted on Saturday 21st December 2015 in the VIII 2 class. The students' pretest score of control group were distributed in the following table in order analyzing the students' background knowledge of speaking performance score before the treatment. Then, it was presented using distribution frequency in the following table:

Table 1.9 Frequency Distribution of Pretest Control Group

Control

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	20	4	12,5	12,5	12,5
	25	1	3,1	3,1	15,6
	30	1	3,1	3,1	18,8
	40	4	12,5	12,5	31,3
	45	4	12,5	12,5	43,8
	50	3	9,4	9,4	53,1
	55	9	28,1	28,1	81,3
	60	3	9,4	9,4	90,6
	65	1	3,1	3,1	93,8
	70	1	3,1	3,1	96,9
	75	1	3,1	3,1	100,0
	Total	32	100,0	100,0	

The distribution of students' predicate in pretest score of experiment group can also be seen in the following figure.

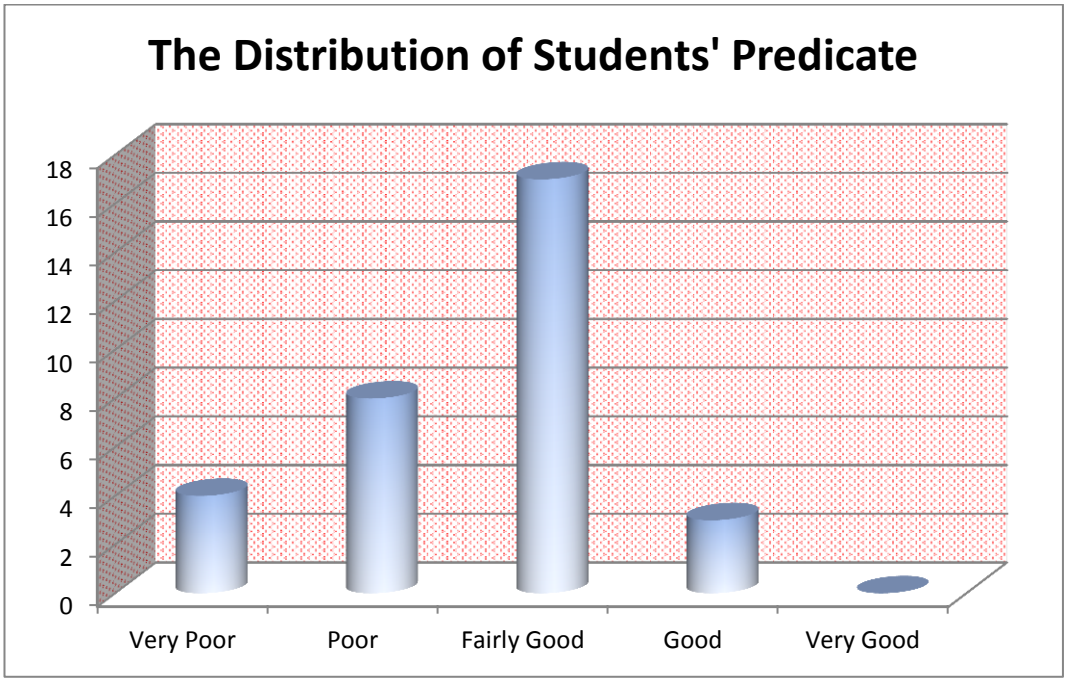

Figure 1.2 The Distribution of Students' Predicate in Pretest Score of Control Group

Based on the figure above, it can be seen that the students' predicate in pretest score. There were four students who got very poor predicate. They are C-01, C-04, C-12, and C-22. There were eight students who got poor predicate. They are C-09, C-13, C-16, C-25, C-27, C-29, C-30, and C-31. There were seventeen students who got fairly good predicate. They are C-02, C-05, C-06, C-08, C-10, C-11, C-14, C-15, C-18, C-19, C-20, C-21, C-23, C-24, C-26, C-28, and C-31. There were three students who got good predicate. They are C-03, C-07, and C-17, and there were not students who got very good predicate.

The next step, the writer calculated the scores of mean, median, mode, standard error of mean, and standard deviation using SPSS 21 program as follows.

Table 2.0 The calculation of Mean, Median, Mode, Standard Error of Mean, and Standard Deviation.

Statistics

Control

N	Valid	32
	Missing	0
Mean		47,19
Std. Error of Mean		2,589
Median		50,00
Mode		55
Std. Deviation		14,643
Minimum		20
Maximum		75

Based on the calculation above, the higher score pretest of control group was 75, the lowest score was 20, the result of mean was 47.19, median was 50.00, mode was 55, standard error of mean was 2.589, and the standard deviation was 14.643.

2. The Result of Posttest Score of Experimental Group and Control Group

The students' posttest score are distributed in the following table in order to analyze the students' knowledge before conducting the treatment.

Table 2.1 Posttest Score of the Experiment and Control Group

Experiment Group			Control Group		
Code	**Score**	**Classification**	**Code**	**Score**	**Classification**
E01	55	Fairly Good	C01	40	Poor
E02	65	Good	C02	45	Fairly Good
E03	60	Fairly Good	C03	80	Good
E04	65	Good	C04	40	Poor
E05	75	Good	C05	65	Fairly Good
E06	75	Good	C06	55	Fairly Good
E07	60	Fairly Good	C07	50	Fairly Good
E08	65	Good	C08	55	Fairly Good
E09	65	Good	C09	45	Fairly Good
E10	55	Fairly Good	C10	55	Fairly Good
E11	50	Fairly Good	C11	60	Fairly Good
E12	80	Good	C12	20	Very Poor
E13	75	Good	C13	45	Fairly Good
E14	65	Good	C14	55	Fairly Good
E15	50	Fairly Good	C15	60	Fairly Good
E16	45	Fairly Good	C16	40	Poor
E17	60	Fairly Good	C17	70	Fairly Good
E18	50	Fairly Good	C18	60	Fairly Good
E19	80	Good	C19	55	Fairly Good
E20	45	Fairly Good	C20	60	Fairly Good
E21	60	Fairly Good	C21	55	Fairly Good
E22	80	Good	C22	20	Very Poor
E23	80	Good	C23	60	Fairly Good
E24	60	Fairly Good	C24	60	Fairly Good
E25	65	Good	C25	50	Fairly Good
E26	65	Good	C26	55	Fairly Good
E27	35	Poor	C27	50	Fairly Good
E28	60	Fairly Good	C28	70	Good
E29	35	Poor	C29	50	Fairly Good
E30	65	Good	C30	40	Poor
E31	40	Poor	C31	45	Fairly Good
E32	65	Good	C32	55	Fairly Good

a. The Result of Posttest Score of Experimental Group

The posttest was conducted on Saturday 11th January 2016 in the VIII 3 class. The students' posttest score of experiment group were distributed in the following table in order analyzing the students' background knowledge of speaking performance score before the treatment. Then, it was presented using distribution frequency in the following table:

Table 2.2 Frequency Distribution of Posttest Experiment Group

Experiment

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	35	2	6,3	6,3	6,3
	40	1	3,1	3,1	9,4
	45	2	6,3	6,3	15,6
	50	3	9,4	9,4	25,0
	55	2	6,3	6,3	31,3
	60	6	18,8	18,8	50,0
	65	9	28,1	28,1	78,1
	75	3	9,4	9,4	87,5
	80	4	12,5	12,5	100,0
	Total	32	100,0	100,0	

The distribution of students' predicate in posttest score of experiment group can also be seen in the following figure.

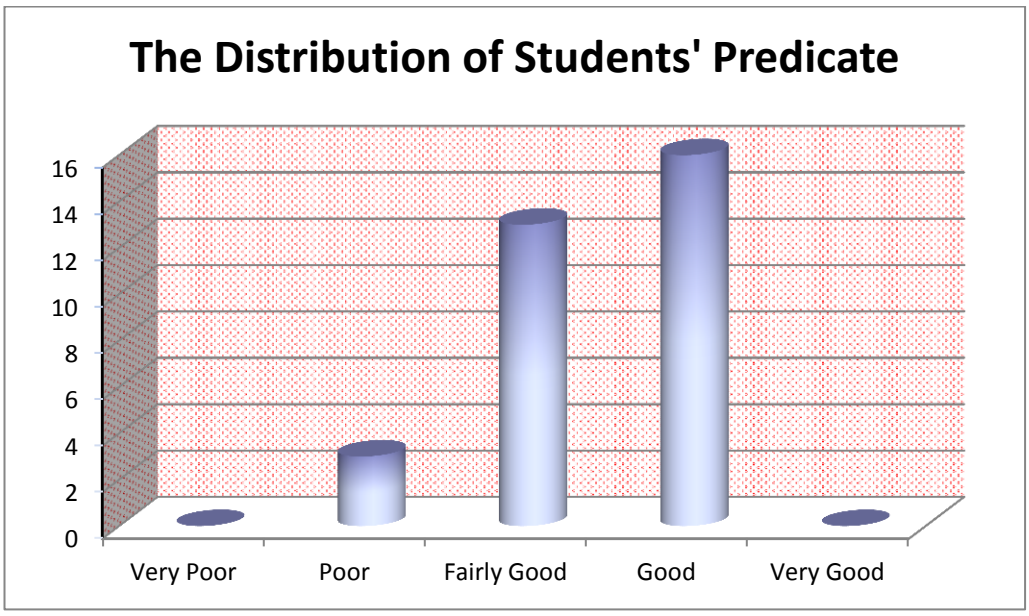

Figure 1.3 The Distribution of Students' Predicate in Posttest Score of Experimental Group

Based on the figure above, it can be seen that the students' predicate in posttest score. There were not students who got very poor predicate. There were three students who got poor predicate. They are E-27, E-29, and E-31. There were three teen students who got fairly good predicate. They are E-01, E-04, E-07, E-10, E-11, E-15, E-16, E-17, E-18, E-20, E-21, E-24, and E-28. There were sixteen students who got good predicate. They are E-02, E-04, E-05, E-06, E-08, E-09, E-12, E-13, E-14, E-19, E-22, E-23, E-25, E-26, E-30, and E-32, and there were not students who got very good predicate.

The next step, the writer calculated the scores of mean, median, mode, standard error of mean, and standard deviation using SPSS 21 program as follows.

Table 2.3 The calculation of Mean, Median, Mode, Standard Error of Mean, and Standard Deviation.

Statistics

Experiment

N	Valid	32
	Missing	0
Mean		60,94
Std. Error of Mean		2,227
Median		62,50
Mode		65
Std. Deviation		12,600
Minimum		35
Maximum		80

Based on the calculation above, the higher score posttest of experiment group was 80, the lowest score was 35, the result of mean was 60.94, median was 62.50, mode was 65, standard error of mean was 2.227, and the standard deviation was 12.600.

b. The Result of Posttest Score of Control Group

The posttest was conducted on Tuesday 5th January 2016 in the VIII 2 class. The students' posttest score of control group were distributed in the following table in order analyzing the students' background knowledge of speaking performance score before the treatment. Then, it was presented using distribution frequency in the following table:

Table 2.4 Frequency Distribution of Pretest Control Group

Control

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	20	2	6,3	6,3	6,3
	40	4	12,5	12,5	18,8
	45	4	12,5	12,5	31,3
	50	4	12,5	12,5	43,8
	55	8	25,0	25,0	68,8
	60	6	18,8	18,8	87,5
	65	1	3,1	3,1	90,6
	70	2	6,3	6,3	96,9
	80	1	3,1	3,1	100,0
	Total	32	100,0	100,0	

The distribution of students' predicate in posttest score of experiment group can also be seen in the following figure.

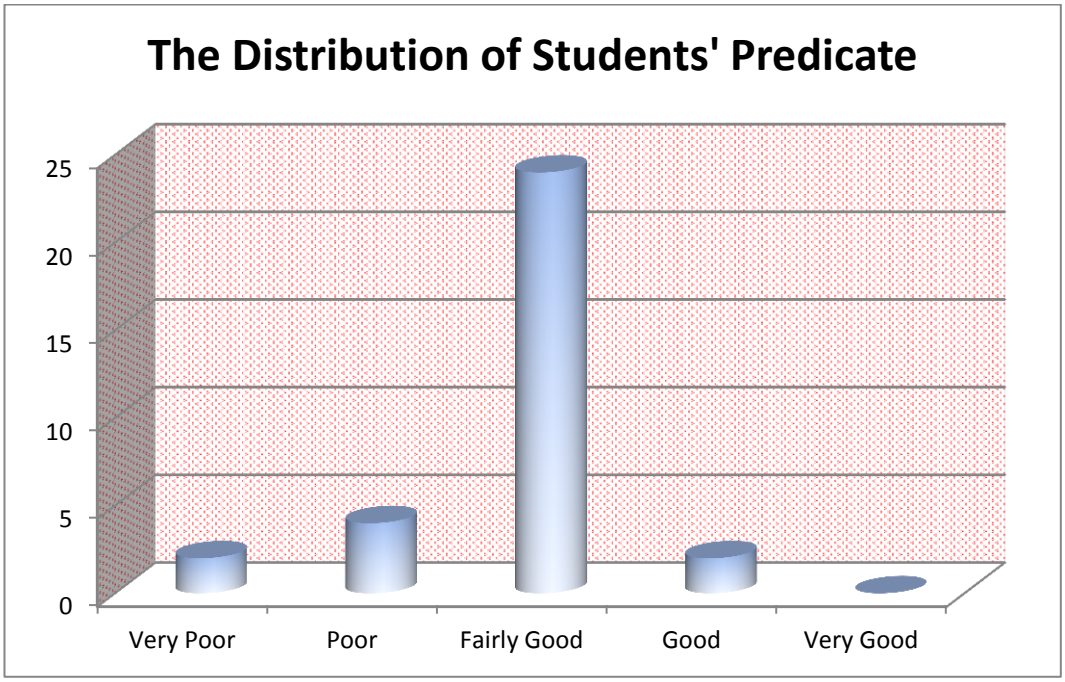

Figure 1.4 The Distribution of Students' Predicate in Posttest Score of Control Group

Based on the figure above, it can be seen that the students' predicate in posttest score. There were two students who got very poor predicate. They are C-12 and C-22. There were four students who got poor predicate. They are C-01, C-04, C-16, and C-30. There were twenty three students who got fairly good predicate. They are C-02, C-05, C-06, C-07, C-08, C-09, C-10, C-11, C-13, C-14, C-15, C-17, C-18, C-19, C-20, C-21, C-23, C-24, C-25, C-26, C-27, C-29, C-31, and C-32. There were two students who got good predicate. They are C-03 and C-28, and there were not students who got very good predicate.

The next step, the writer calculated the scores of mean, median, mode, standard error of mean, and standard deviation using SPSS 21 program as follows.

Table 2.5 The Calculation of Mean, Median, Mode, Standard Error of Mean, and Standard Deviation.

Statistics

Control

N	Valid	32
	Missing	0
Mean		52,03
Std. Error of Mean		2,221
Median		55,00
Mode		55
Std. Deviation		12,563
Minimum		20
Maximum		80

Based on the calculation above, the higher score posttest of control group was 80, the lowest score was 20, the result of mean was 52.03, median was 55.00, mode was 55, standard error of mean was 2.221, and the standard deviation was 12.563.

3. The Comparison Result of Pre-test and Post-test of Experimental and Control Group

Table 2.6 The Comparison Result of Pre-test and Post-test of Experimental and Control Group

Experimental Group					Control Group			
No	**Code**	**Pretest**	**Posttest**	**Difference**	**Code**	**Pretest**	**Posttest**	**Difference**
1	E01	25	55	30	C01	20	40	20
2	E02	50	65	15	C02	55	45	-10
3	E03	45	60	15	C03	70	80	10
4	E04	45	65	20	C04	20	40	20
5	E05	75	75	0	C05	55	65	10
6	E06	65	75	10	C06	55	55	0
7	E07	55	60	5	C07	65	50	-15
8	E08	45	65	20	C08	50	55	5
9	E09	55	65	10	C09	40	45	5
10	E10	45	55	10	C10	45	55	10
11	E11	40	50	10	C11	55	60	5
12	E12	80	80	0	C12	20	20	0
13	E13	80	75	-5	C13	40	45	5
14	E14	55	65	10	C14	55	55	0
15	E15	25	50	25	C15	50	60	10
16	E16	40	45	5	C16	30	40	10
17	E17	40	60	20	C17	75	70	-5
18	E18	35	50	15	C18	55	60	5
19	E19	75	80	5	C19	45	55	10
20	E20	25	45	20	C20	60	60	0
21	E21	55	60	5	C21	45	55	10
22	E22	80	80	0	C22	20	20	0
23	E23	65	80	15	C23	60	60	0
24	E24	60	60	0	C24	55	60	5
25	E25	45	65	20	C25	40	50	10
26	E26	45	65	20	C26	55	55	0
27	E27	35	35	0	C27	50	50	0
28	E28	55	60	5	C28	60	70	10
29	E29	20	35	15	C29	40	50	10
30	E30	55	65	10	C30	25	40	15
31	E31	20	40	20	C31	45	45	0
32	E32	65	65	0	C32	55	55	0
Total		**1600**	**1950**	**350**	**Total**	**1510**	**1665**	**155**
Mean		**50**	**60.93**		**Mean**	**47.18**	**52.03**	
Highest		**80**	**80**		**Highest**	**75**	**80**	
Lowest		**20**	**35**		**Lowest**	**20**	**20**	

4. Testing the Normality and Homogeneity

a. Normality Test

The writer used SPSS 21 to measure the normality of the data.

Table 2.7 Testing Normality of Posttest Experimental and Control Group

One-Sample Kolmogorov-Smirnov Test

		Experiment	Control
N		32	32
Normal Parameters[a,b]	Mean	60,94	52,03
	Std. Deviation	12,600	12,563
Most Extreme Differences	Absolute	,158	,156
	Positive	,155	,138
	Negative	-,158	-,156
Kolmogorov-Smirnov Z		,893	,882
Asymp. Sig. (2-tailed)		,403	,418

a. Test distribution is Normal.
b. Calculated from data.

The table showed the result of test normality calculation using SPSS 21.0 program. To know the normality of data, the formula could be seen as follows:

If Significance > 0.05 = data is normal distribution

If Significance < 0.05 = data is not normal distribution.

Based on the data above, it could be seen that p-value (sig) of the posttest scores of the experiment group was 0.403 and control group was 0.418 which

higher than the level significance (0.05). Thus, it be concluded that the data was normal distribution.

b. Homogeneity Test

Table 2.8 Testing Homogeneity of Posttest Experimental and Control Group

Test of Homogeneity of Variances

Levene Statistic	df1	df2	Sig.
2,406	6	23	,060

The table showed the result of homogeneity test calculation using SPSS 21.0 program. To know the homogeneity of data, the formula could be seen as follows:

If Sig. > 0.05 = data is normal distribution

If Sig. < 0.05 = data is not normal distribution

Based on the data above, significant data is 0.06. The result is 0.60 > 0.05. It meant that the result of posttest of experiment and control group were homogenous.

5. Result Data Analysis

a. Testing Hypothesis Using Manual Calculation

To test the hypothesis of the study, the writer used t-test statistical calculation. Firstly, the writer calculated the standard deviation and the error of X_1 and X_2 at the previous data presentation. It could be seen on this following table:

Table 2.9 The Standard Deviation and Standard Error of X_1 and X_2

Variable	Standard Deviation	Standard Error
X_1	12.600	2.227
X_2	12.563	2.221

X_1 = Experimental Group

X_2 = Control Group

The table showed the result of the standard deviation calculation of X_1 was 12.600 and the result of the standard error of was 2.227. The result of the standard deviation of X_2 was 12.563 and the result of the standard error was 2.221.

The next step, the writer calculated the standard error of the difference mean between X_1 and X_2 as follows:

Standard error of mean of score difference between Variable I and Variable II

$SE_{M1} - SE_{M2} = SE_{M1}^{2} + SE_{M2}^{2}$

$SE_{M1} - SE_{M2} = \sqrt{(2.227)^2 + (2.221)^2}$

$SE_{M1} - SE_{M2} = \sqrt{4.95953 + 4.93284}$

$SE_{M1} - SE_{M2} = \sqrt{9.89237}$

$SE_{M1} - SE_{M2} = 3.14521$

The calculation above showed the standard error of the differences mean between X_1 and X_2 was 3.14521. Then, it was interested to the t_{test} formula to get the value of t_{test} as follows:

$$t_o = \frac{M1-M2}{SEm1-SEm2}$$

$$t_o = \frac{60.94-52.03}{3.14521}$$

$$t_o = \frac{8.91}{3.14521}$$

$$t_o = 2.831$$

Which the criteria:

If t-test ≥ t-table, Ha is accepted and Ho is rejected

If t-test ≤ t-table, Ha is rejected and Ho is accepted

Then, the writer interpreted the result of t-test; previously, the writer accounted the degree of freedom (df) with the formula:

Df $= (N_1 + N_2) - 2$

$= 32 + 32 - 2 = 62$

The writer chose the significant levels at 5%, it means the significant level of refusal of null hypothesis at 5%. The writer decided the significant level at 5% due to hypothesis typed stated on non-directional (two-tailed test). It meant that hypothesis cannot direct the prediction of alternative hypothesis. Alternative hypothesis symbolized by "1". This symbol could direct the answer of hypothesis, "1" can be (>) or (<). The answer of hypothesis could not be predicted whether on more than or less than.

The calculation above showed at the result of t-test calculation as in the table follows:

Table 3.0 The Result of T-Test Using Manual Calculation

Variable	**T test**	**T table**		**Df**
		5%	**1%**	
$X_1 - X_2$	2.831	1.999	2.657	62

Where:

X_1 = Experimental Group

X_2 = Control Group

T test = The Calculated Value

T table = The Distribution of t Value

Df = Degree of Freedom

Based on the result of hypothesis test calculation, it was found that the value of $t_{observed}$ was greater than the value of t_{table} at 1% and 5% significance level or 1.999 <2.831> 2.657 it means H_a was accepted and H_o was rejected. It could be interpreted based on the result of calculation that H_a stating that Team Pair Solo was effective technique on speaking performance of the eight graders of SMP N 1 Palangka Raya was accepted and H_o stating that Team Pair Solo was effective technique on speaking performance of the eight graders of SMP N 1 Palangka Raya was rejected. It meant that team pair solo technique was effective for speaking performance score of the eight graders of SMP N 1 Palangka Raya gave effect 5% and 1 % significant level.

b. Testing Hypothesis Using SPSS 21.0 Program

The writer also applied SPSS 21.0 program to calculate t-test in testing hypothesis of the study. The result of the t-test using SPSS 21.0 program could be seen as follows:

Table 3.1 Mean, Standard Deviation and Standard Error of Experiment Group and Control Group using SPSS 21.0 Program

Group Statistics

	Group	N	Mean	Std. Deviation	Std. Error Mean
Score	Experiment	32	60,94	12,600	2,227
	Control	32	52,03	12,563	2,221

The table showed the result of mean of experiment group was 60.94, standard deviation was 12.600, and standard error of mean was 2.2227. The result of mean of control group was 52.03, standard deviation was 12.563, and standard error of mean was 2.221.

Table 3.2 The Calculation of T-Test Using SPSS 21.0

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Score	Equal variances assumed	,041	,840	2,831	62	,006	8,906	3,145	2,619	15,194
	Equal variances not assumed			2,831	61,999	,006	8,906	3,145	2,619	15,194

The table showed the result t-test calculation using SPSS 21.0 program. To know the variances score of data, the formula could be seen as follows:

If Sig. > 0.05 = Equal variances assumed

If Sig. < 0.05 = Equal variances assumed

Based on data above, significant data is 0.840. The result is 0.840 > 0.05 it meant the t-test calculation uses at the equal variances assumed. It found that the result of $t_{observed}$ is 2.831, the result of mean difference between experiment and control group is 8.906, and the standard error difference between experiment and control group is 3.145.

B. Discussion

The result of analysis showed that there was significant effect of Team Pair Solo (TPS) technique on speaking performance score of the eighth graders of SMP N 1 Palangka Raya. It can be seen from the means score between pretest and posttest. The mean score of posttest reached higher score than the mean score of pretest (X= 60.94 > 52.03). It indicated that the students score increased after conducting treatment.

In addition, after the data was calculated using t test formula using SPSS 21.0 program showed that the $t_{observed}$ was higher than t_{table} at 5% and 1% significance level or 1.999 < 2.831> 2.657. It meant Ha is accepted and Ho is rejected. This finding indicated that alternative hypothesis (Ha) stating that there is significant effect of team pair solo (tps) technique on speaking performance score of the eighth graders of SMP Negeri 1 Palangka Raya was accepted. And the null hypothesis (Ho) that stating that there is no significant effect of team pair solo (tps) technique on speaking performance score of the eighth graders of SMP Negeri 1 Palangka Raya was rejected. Team pair solo technique was effective and supported the previous research done by Chandra Argi Pratiwi and Rosita Amalia that also stated teaching speaking by using team pair solo technique was effective.

The results supported theory by Kagan in Chapter II page 20, stated that Team-Pair-Solo is designed to motivate students to tackle and succeed at

problems which initially re beyond their ability. This strategy builds confidence when attempting more difficult content material.

In conducting this research, the writer got some problems. Such us: some students did not participate and wasting time. To overcome those problems above the writer did several ways. First, the writer did controlling intensively to each group. (See p. 22). Teacher divides the students into teams. Each team consists of 4 students. Students work as a team to solve a problem or accomplish a task. In this phase, the teacher should be controlled the students during discussing. Meant, the writer paid attention on the students' activity in the group, and warned them if they did not participate. Dealing with the second problem the writer did the class setting. Meant, the class was design to shorten time such as the chairs was arranged based on group.

Those are the result of pretest compared with posttest for experimental group and control group of students at SMP Negeri 1 Palangka Raya. Based on the theories and the writer's result, Team Pair Solo (TPS) technique gave significance effect on speaking performance score of the eighth graders of SMP Negeri 1 Palangka Raya.