CHAPTER IV

RESEARCH FINDINGS AND DISCUSSION

In this chapter, the researcher presents about research findings and discussion that include data of research findings, data analysis, the result of normality and homogeneity testing, hypothesis testing and discussion.

A. Research Findings

In this chapter, the researcher presented the data on student's reading comprehension before and after being taught by using small group discussion as technique in the process of teaching reading comprehension. The researcher presented and analyzed the data which had been collected through two kinds of test, they are pre-test and post-test. It was conducted for thirty five students.

As mentioned before, the researcher used test as the instrument in collecting data. It was given to class X- 5 students of SMAN 1 Tulungagung. The number of question given by researcher was 20 questions. It was consist of multiple choice test. There were 35 students as respondent or subject at the research. The data of the students' score before and after teaching reading comprehension by using small group discussion technique can be seen in the following table.

Description of Students' Reading Comprehension Score Before and After being Taught by Small Group Discussion Technique

In this section, the researcher presented the result of the pre-test and post-test that had been done before and after treatment. Pre-test was held on

Tuesday, January 10th, 2017 at 07.00 - 08.30 am. It's consisted of 20 items multiple choices. Post-test was administered on Tuesday, January 24th, 2017 at 07.00 – 08.30 am. The list of students' score of reading comprehension can be seen in the table below:

Table 4.1 Students Score Before and After They were Taught Using Small Group Discussion Technique

No	Subject	Pre-test Score (x)	Post-test Score (y)	Point Difference (D)	D^2
1	A	80	95	15	225
2	B	70	90	20	400
3	C	50	75	25	625
4	D	70	90	20	400
5	E	70	85	15	225
6	F	65	90	25	625
7	G	55	90	35	1225
8	H	55	75	20	400
9	I	70	95	25	625
10	J	50	75	25	625
11	K	60	85	25	625
12	L	55	75	20	400
13	M	50	80	30	900
14	N	55	80	25	625
15	O	50	85	35	1225
16	P	55	85	30	900
17	Q	50	75	25	625
18	R	60	85	25	625

19	S	60	80	20	400
20	T	60	80	20	400
21	U	65	90	25	625
22	V	50	85	35	1225
23	W	80	85	5	25
24	X	50	85	35	1225
25	Y	70	75	5	25
26	Z	60	95	35	1225
27	AA	55	85	30	900
28	BB	65	90	25	625
29	CC	65	75	10	100
30	DD	60	85	25	625
31	EE	95	100	5	25
32	FF	50	80	30	900
33	GG	65	75	10	100
34	HH	70	80	10	100
35	II	65	75	10	100
	N=35	**$\sum X=2155$**	**$\sum Y=2930$**	**$\sum D=775$**	**$\sum D^2=19925$**

Table 4.3 shows the increasing point of students' pre-test and post-test score there are 3 students has increased 5 point (W, Y, and EE), 4 students has increased 10 point (CC, GG, HH, and II), 2 students has increased 15 point (A and E), 6 students has increased 20 point (B, D, H, L, S, and I), 11 students has increased 25 point (C, F, I, J, K, H, Q, R, U, BB, and DD), 4 students has increased 30 point (M, P, AA, and FF), and 5 students has increased 35 point (G, O, V, X, and Z). So, it can be concluded that from 35 students there are 10

students got excellent score (90-100), 16 students got very good score (80-89), and 9 students good score (70-79).

Table 4.3 also shows some important points concerning with the result of the computation of *Mx*, *My*, *MD*, T-score, and degree of freedom, they are as follow:

a. Finding *Mx* and *My*

$$Mx = \frac{\sum x}{N} = \frac{2155}{35} = 61.57$$

$$My = \frac{\sum y}{N} = \frac{2930}{35} = 83.71$$

b. Finding *MD*

$$MD = \frac{\sum D}{N} = \frac{775}{35} = 22.14$$

c. Finding T-score

$$t = \frac{MD}{\sqrt{\frac{\sum D^2 - \frac{(\sum D)^2}{N}}{N(N-1)}}}$$

$$= \frac{22.14}{\sqrt{\frac{19925 - \frac{(775)^2}{35}}{35(34)}}}$$

$$= \frac{22.14}{\sqrt{\frac{19925 - 17160.7}{1190}}}$$

$$= \frac{22.14}{\sqrt{\frac{2764.3}{1190}}}$$

$$= \frac{22.14}{\sqrt{2.32}}$$

$$= \frac{22.14}{1.52}$$

$$= 14.56$$

d. Degree of freedom

$f = N - 1$

$= 35 - 1$

$= 34$

It can be seen that the mean of the students' pre-test and post-test score has significant difference scores where *Mx* = 61.57, *My* = 83.71, *MD* = 22.14, T-score = 14.56, and degree of freedom = 34. This means that the mean of pre-test and post-test has increased from 61.57 to be 83.71. So, it can be concluded that the small group discussion technique is helpful the students to increase their achievement in reading comprehension.

To know the students' achievement that is good or not, the researcher give criteria as suggested by the English teacher of SMAN 1 Tulungagung. This is as follows:

Table 4.2 The Scores' Criteria

Grade	Interval Class	Criteria
A^+	90 – 100	Excellent
A	80 – 89	Very Good
B	70 – 79	Good
C	50 – 69	Fair
D	0 – 49	Poor

The scores' criteria above shows that A+ (90-100) means excellent score, A (80-89) means very good score, B (70-79) means good score, C (50-69) means fair score, and D (0-49) means poor score. So, it help and make easy to the researcher classified the students' score based on the score's criteria.

From the data of the students pre-test and post-test score, the researcher arrange the frequency and the percentage of the students' score that can be seen as in the following table.

Table 4.3 Frequency of Students' Score

No	Score	Fx	Fy
1	90 – 100	1	10
2	80 – 89	2	16
3	70 – 79	5	9
4	50 – 69	27	0
5	0 – 49	0	0
		$X_1 = 35$	$X_2 = 35$

It shows that in pre-test there were one student who got excellent score (90-100), two students got very good score (80 – 89), five students got good score (70 – 79), and twenty seven students got fair score (50 – 69). While, in post-test there were ten students got excellent score (90-100), sixteen students got very good score (80 – 89), and nine students got good score (70 – 79). So, it can be concluded that the students score before and after they were taught using small group discussion technique has increased score from 1 to be 10 students got excellent score (90-100), 2 to be 16 students got very good score (80 – 89), 5 to be 9 students got good score (70 – 79), and has decreased from 27 to be 0 students got fair score (50 – 69).

The percentage of the students pre-test and post-test' score can be found by using this formula:

$$P = \frac{F}{N} x100\%$$

Where:

P : percentage

F : frequency

N : total of students

Table 4.4 Percentage of the Students' Pre-test

Grade	**Criteria Score**	**Fx**	**%**
A^+	90 – 100	1	02.86%
A	80 – 89	2	05.71%
B	70 – 79	5	14.29%
C	50 – 69	27	77.14%
D	0 – 49	0	0
		N = 35	P = 100%

From the data percentage of the students' pre-test score, it can be seen that from 100% percentage one student (02.82%) got grade A+ means excellent score, two students (05.71%) got grade A means very good score, five students (14.29%) got grade B means good score, and twenty seven students (77.14%) got C means fair score.

Table 4.5 Percentage of the Students' Post-test

Grade	**Criteria Score**	**Fy**	**%**
A^+	90 – 100	10	28.58%
A	80 – 89	16	45.71%
B	70 – 79	9	25.71%
C	50 – 69	0	0
D	0 – 49	0	0
		N = 35	P = 100%

From the data percentage of the students' post-test score, it can be seen that from 100% percentage ten students (28.58%) got grade A+ means

excellent score, sixteen students (45.71%) got grade A means very good score, and nine students (25.71%) got grade B means good score.

So, it can be concluded that the students' pre-test and post-test score in the percentage and criteria was different. After using small group discussion technique in teaching and learning the table 4.4 and 4.5 show that criteria score of A^+ grade has increased from 02.86% to 28.58%, A grade has increased from 05.71% to 45.71%, B grade has increased from 14.29% to 25.71%, C grade has decreased from 77.14% to 0%, and D grade has equal percentage from 0% to 0%. In conclusion, it shows that after using small group discussion as a technique to teach reading comprehension had increased than before using small group discussion technique.

B. Data Analysis

Data analysis was done to know the different score of the students' score in reading comprehension before and after being taught using Small Group Discussion technique. Referring to the data in the form of students' score gained from pre-test and post-test as stated above, the next step was analyzing those data by computing it by using T - test.

To find out whether there is different of students' score in reading comprehension before and after being taught using Small Group Discussion technique, the researcher used percentage formula and divided the test result into five criteria; those are excellent, very good, good, fair and poor. It means that if the students can understand the reading comprehension well so they get excellent score, when the students still confused about reading comprehension,

they get very good and good score, fair and poor score is got by the students when they just understand little reading comprehension test.

To know the correlations between the students' score of pre-test and post-test is described in the following table:

Table 4.6 Correlations

Correlations

		Pretest	Postest
Pretest	Pearson Correlation	1	.516**
	Sig. (2-tailed)		.002
	N	35	35
Postest	Pearson Correlation	.516**	1
	Sig. (2-tailed)	.002	
	N	35	35

**. Correlation is significant at the 0.01 level (2-tailed).

Based on the table above, *output correlations* shows the large correlation between both samples, where can be seen numeral both correlation is (0.516) and numeral significance (0.002). For interpretation of decision based on the result of probability achievement, that is:

a) If the probability >0.05 then the null hypothesis accepted

b) If the probability <0.05 then the null hypothesis rejected

The large of numeral significant (0.002) lower than (0.050). It means that the hypothesis clarify there is no significant different score using *Small Group Discussion technique* toward students reading comprehension at the first grade of SMAN 1 Tulungagung. The other word, Small Group Discussion is effective to teaching reading comprehension.

To know whether there is difference mean of students' pretest and posttest, it can be seen as follow:

Table 4.7 Paired Samples Statistic

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pretest	61.57	35	10.345	1.749
	Postest	83.71	35	7.002	1.184

Based on the table 4.11 above, shows *Mean* of pre-test score (61.57) and post-test score (83.71), while *N* for cell there are 35, *Standard Deviation* for pre-test (10.345) and post-test (7.002), *Standard Error Mean* for pre-test (1.749) and post-test (1.184).

Table 4.8 Paired Samples Correlations

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Pretest & Postest	35	.516	.002

Based on the table 4.12 above, it shows that the correlations between two scores of pre-test and post-test = 0.516 and sig = 0.002. For interpretation of decision based on the result of probability achievement, that is:

a) If the sig > 0.05, means H_0 is accepted

b) If the sig < 0.05, means H_0 is rejected

It shows that sig= 0.002 is lower than 0.05 means that H_0 is rejected and H_a is accepted. So, it concluded that there is significant correlation between pre-test and post-test scores.

Table 4.9 Paired Samples Test

Paired Samples Test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1 Pretest – Postest	-22.143	9.017	1.524	-25.240	-19.045	-14.528	34	.000

Based on the table 4.13, *output paired samples test* shows the result of compare analysis with using T test. *Output shows mean* pre-test and post-test is 22.143, standard deviation is 9.017, mean standard error is 1.524. The lower different is 25.240 and upper different is 19.045. The result test t = 14.528 with df = 34 and significance is 0.000.

With the guideline of T_{count} and T_{table} where df= 34 got from $T_{table=}$ 1.69. So, T_{count} (14.528) > T_{table} (1.69) means that H_o is rejected and H_a is accepted. Therefore, it concluded that there is the significant differences between pre-test and post-test score where mean of post-test is 83.71 higher than mean of pre-test is 61.57 means that teaching reading comprehension through using Small Group Discussion technique is effective.

C. The Result of Normality and Homogeneity Testing

In this part the researcher discuss about the result of normality and homogeneity testing.

1. The Result Normality Testing

Normality testing is conducted to determine whether the gotten data is normal distribution or not. The researcher used SPSS.16. *One-Sample Kolmogorov-Smirnove test* by the value of significance (α) = 0.050. The result can be seen below:

Table 4.10 Normality Testing

One-Sample Kolmogorov-Smirnov Test

		Pretest	Postest	Unstandardized Residual
N		35	35	35
Normal Parameters[a]	Mean	61.57	83.71	.0000000
	Std. Deviation	10.345	7.002	8.86171422
Most Extreme Differences	Absolute	.137	.150	.129
	Positive	.137	.150	.129
	Negative	-.132	-.144	-.095
Kolmogorov-Smirnov Z		.813	.890	.764
Asymp. Sig. (2-tailed)		.524	.406	.603

a. Test distribution is Normal.

Based on the table above is known that the significance value from pre-test is 0.813 and from the post test is 0.890. Both value from pre-test and post-test are bigger than 0.05. The sig/p value on pre-test is 0.813 and it is lower 0.05 (0.813 > 0.05) means that the data is in normal distribution. Then, for post-test score the value of sig/p is

0.890 and that is bigger than 0.05 (0.890 > 0.05) means that the data is in normal distribution. It also means that H_0 is accepted and H_a is rejected. So, it can be interpreted that both of data (pre-test and post-test score) are in normal distribution.

2. The Result Homogeneity Testing

Homogeneity testing is conducted to know whether the gotten data has a homogeneous variance or not. To know the homogeneity, the researcher used *Test of Homogeneity of Variances* with SPSS.16 by the value of significance (α) = 0.050. The result can be seen below:

Table 4.11 Homogeneity Testing

Test of Homogeneity of Variances

Levene Statistic	df1	df2	Sig.
.720	4	29	.585

Based on the table above is known that the sig/p value is 0.585 higher than 0.05 means H_0 is accepted and H_a is rejected. So, it can be interpreted that the data is homogeny.

D. Hypothesis Testing

From the data analysis it could be identify that:

1. When the value of T_{count} > T_{table} in *df* = 34 with the significant level 0.05. The alternative hypothesis (H_a) is accepted and the null hypothesis (H_o) is rejected. It means that there is significant different score of reading

comprehension achievement to tenth grade students at SMAN 1 Tulungagung before and after being taught using small group discussion technique.

2. When the value of $T_{count} < T_{table}$ in *df* = 34 with the significant level 0.05. The null hypothesis (H_o) is accepted and the alternative hypothesis (H_a) is rejected. It means that there is no significant different score of reading comprehension achievement to tenth grade students at SMAN 1 Tulungagung before and after being taught using small group discussion technique.

The mean of total reading comprehension test score of 35 students before being taught using small group discussion is (61.57). After getting treatment, the means score of students' reading is (83.71). It means that the students' score is improved.

Based on the statistical calculation using t-test, the researcher gives interpretation to t_{count}. First, she considered the *d.f.* with the *d.f.* (35-1=34). She checked to the score of "t" at the significant level of 0,05. In fact, with the *d.f.* of (34) and the critical value 0,05 significant t_{table} was (1.69).

By comparing the "t" that she got in calculation t_{count} = (14.528) and the value of "t" on the $t_{table} = t_{0.05}$ = (1.69), it is known that t_{count} is bigger than t_{table} = 14.528 > 1.69.

Because the t_{count} is bigger than t_{table} the null hypothesis (Ho) is rejected and the alternative hypothesis (Ha) is accepted. It means that there is significant different score of students reading comprehension achievement of

tenth grade students of SMAN 1 Tulungagung before and after being taught by small group discussion technique.

E. Discussion

From the research method in chapter III in this research, teaching and learning process is divided into three steps. First step is the researcher administrated pre-test by giving reading comprehension test. It is used to know the students' earlier reading comprehension before they get treatment.

The second is given treatment to the students. The treatment here is teaching reading comprehension by using small group discussion technique. The material is about narrative text. After the student got treatment, they were more enthusiastic to learn reading comprehension. The last step was giving post-test to the students after they got treatment.

From the research finding in chapter IV, the output data of *Paired Samples Statistics* shows mean of pre-test is 61.57 and post-test is 83.71 has increased and if compared the differences both of value is 22.14. It was found that the students' reading comprehension achievement after being taught by Small Group Discussion technique had better than the students' reading comprehension achievement before being taught by Small Group Discussion technique. Therefore, from both mean it can concluded that there is significant differences in the students' achievement of reading comprehension means that teaching reading comprehension through small group discussion technique is effective.

The standard deviation is to measure how much the variance of the sample. The standard deviation of pre-test is 10.345 < 61.57 and post-test is 7.002 < 83.71 where if the standard deviation is getting higher than the mean it means that the mean is not homogeny and if the standard deviation is getting smaller than the mean it means that the mean is homogeny. So, it can be concluded that standard deviation of pre-test and post-test was homogeny means that the sample of this research almost has the same mean.

The standard error mean is to measure the accuracy with which a sample represents a population. The standard error mean of pre-test is 1.749 < 61.57 and post-test is 1.184 < 83.71 where if the standard error mean is getting higher than the mean it means that the sample is not representative and if the standard error mean is getting smaller than the mean it means that the sample is representative. So, it can be concluded that the sample of this research indicated good sample or representative from population.

Based on the output data of *Paired Samples Test* it was found that t_{count} = 14.528 and t_{table} = 1.69 and if compared the differences both of value is 12.838. From this comparison, t_{count} = 14.528 is bigger than t_{table} = 1.69 which means the alternative hypothesis (Ha) is accepted, while the null hypothesis (Ho) is rejected. Therefore, it can be concluded that there is significance different score of the reading comprehension of the tenth grade students of SMAN 1 Tulungagung in academic year 2016/2017 before and after being taught using small group discussion.

Based on the result of research findings and explanation above, it can be concluded that using small group discussion technique is effective in teaching reading comprehension at senior high school especially for the tenth grade students of SMAN 1 Tulungagung. It proved that Small Group Discussion technique has significant effect to the students' reading comprehension achievement. Small Group Discussion is one of the essential or important technique to improve student's creativity to solve problem, especially to conduct their reading comprehension (Buzan, 2005:1).

Small group discussion is one of the cooperative learning methods that consist of small member of 3-5 students which in this technique the students work together through interaction whose interdependent relationship allows them to achieve a mutual goal. By using this technique can make the students are more confidence to give opinion about a problem, together to solve and to get good answer of the question. Group discussion technique is always where teacher gives opportunity to the students to the scientific discussion in giving and answering the question based on the topic.

Based on the explanation above, it can be concluded that the teacher must not only focus on presenting materials for the students but the most important one must be considered that is how to presents the materials. In this research, the researcher uses small group discussion technique as a way in teaching reading comprehension. In this technique students study reading narrative text and discuss with their group based on the story. It makes them more responsible in their study. The teacher is not only keep silent and sitting

on the chair during teaching and learning, but she have to control the students activity by going around to the each group to make sure that the students involved in their group. This technique is done to make the use of small group discussion in teaching and learning process.

After the researcher did the research in teaching reading comprehension to tenth grade students at SMAN 1 Tulungagung, small group discussion technique not only motivate the students to learning reading comprehension but also help the students comprehend the text easily. So, they can learn to develop their ability in reading comprehension, especially of narrative text. Small group discussion technique surely showed the real effectiveness in teaching reading comprehension because it can help the students to improve their reading comprehension achievement, especially of tenth grade students at SMAN 1 Tulungagung.