BAB IV

RESEARCH FINDING AND DISCUSSION

In this chapter, the researcher present about research finding and discussion that include description data, data analysis, and discussion.

A. **The Description of Data**

In this section, the researcher presented the data of students reading achievement before and after being taught by using mindmapping technique as strategy in teaching reading. As mentioned before, the researcher used test as the instrument in collecting data. There were two kinds of test that was used by the researcher in analyzing data, they were pretest and postest. Test was given to the students of X-IIS 2 at MAN 3 Tulungagung which consist of 31 students. The form of test was multiple choice and essay. The students were answered the question the topic that was given by the researcher about narrative text. The topic that was used in pretest and postest was a bit different, but the topic which the researcher selected in both test had the same level.

The pretest was conducted on April 19th, 2018. The researcher asked the students to answered the question included multiple choice and essay about narrative text. The researcher were given 90 minutes.

After getting the data of pretest, the researcher gave treatment to the students using mindmapping technique in teaching reading. Treatment was done three times on April 20th, 23th, and 26th, 2018.

After treatment had finished, the researcher gave postest to know the students reading achievement after being taught by using mindmapping technique. The postest conducted on 27th April 2018. The researcher asked the students to answered the question included multiple choice and essay.

Table 4.1 The Category of Students' Score

No	Score	Category
1.	85-100	Very good
2.	70-84	Good
3.	56-75	Average
4.	46-55	Poor
5.	0-45	Very poor

The category of score above shows that score 85-100 included to very good category, score 76-84 included to good category, score 56-75 included to average category, score 46-55 included to poor category, and score <45 included to very poor category. It helped the researcher to classify the students' score based on the category of score.

The data of the students' reading score before and after being taught by using mindmapping was explained as follow:

1. **Description of students' reading achievement before being taught by using mindmapping technique**

   In this part, the researcher presented the students' reading achievement before being taught by using mindmapping technique. In this

presentation, the researcher analyzed the collected data through pretest which held on Thursday 19th , 2018 at 08.15-09.45 am. Pretest was administered to 31 students. The pretest was in the form multiple choice and essay. It was done before treatment process by using mindmapping technique. The test intended to know the basic competence of students reading achievement before giving the treatment. The descriptions of the students' score of reading achievement before treatment were presented in appendix 7.

The students' score above then were computed by using SPSS. The result was shown in the table 4.2 below:

Table 4.2 Descriptive Statistic of Pretest

Statistics

Pretest

N	Valid	31
	Missing	0
Mean		66.26
Median		66.00
Mode		56
Sum		2054

Based on the table 4.2 above, it can be seen that the students consist of 31 students. It shows that mean score 66.26, indicated that averages of 31 students' score is 66.26. Based on the criteria of students' score 66.26 is classified average score. The median score is 66.00. The mode is simply that value which has the highest frequency. It means that the most frequent students' score is 56 indicated that many student got poor score.

Table 4.3 Frequency of Pretest

Pretest

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	34	1	3.2	3.2	3.2
	38	1	3.2	3.2	6.5
	50	1	3.2	3.2	9.7
	52	1	3.2	3.2	12.9
	54	3	9.7	9.7	22.6
	56	4	12.9	12.9	35.5
	58	1	3.2	3.2	38.7
	64	2	6.5	6.5	45.2
	66	3	9.7	9.7	54.8
	72	1	3.2	3.2	58.1
	74	1	3.2	3.2	61.3
	76	3	9.7	9.7	71.0
	78	3	9.7	9.7	80.6
	80	3	9.7	9.7	90.3
	82	1	3.2	3.2	93.5
	90	2	6.5	6.5	100.0
	Total	31	100.0	100.0	

Based on the table 4.3 above, the frequency of pretest after being distributed there are 2 students got score 0-45, which means that the students' reading achievement is very poor, 5 students got score 46-55 that means on the student's reading achievement is poor, 12 students got score 56-75 that means on the students' reading achievement is average, 10 students got score 76-85 that means on the students' reading achievement

is good, and 2 students got score 86-100 that means on the students'
reading achievement is very good.

2. **Description of students reading achievement after being taught by using mindmapping technique**

In this part, the researcher presented the students reading achievement after being taught by using mindmapping technique. In this presentation, the researcher analyzed the collected data through postest which held on Friday, April 27th 2018. Postest was administered to 31 students. The descriptions of the students' score of reading achievement after treatment were presented in appendix 7.

The students' score above then were computed by using SPSS. The result was shown in the table 4.4 below:

Table 4.4 Descriptive Statistic of Postest

Statistics

Postest

N	Valid	31
	Missing	0
Mean		82.65
Median		80.00
Mode		80
Sum		2562

Based on the table 4.4 above, it can be seen that the students consist of 31 students. It shows that mean score 82,65, indicated that averages of 31 students' score is 82,65. Based on the criteria of students' score 82,65 is classified good score. The median score is 80.00. The mode is simply that

value which has the highest frequency. It means that the most frequent students' score is 80 indicated that many student got good score.

Table 4.5 Frequency of Postest

Postest

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	68	1	3.2	3.2	3.2
	76	5	16.1	16.1	19.4
	78	2	6.5	6.5	25.8
	80	10	32.3	32.3	58.1
	82	3	9.7	9.7	67.7
	84	2	6.5	6.5	74.2
	86	1	3.2	3.2	77.4
	88	1	3.2	3.2	80.6
	92	1	3.2	3.2	83.9
	94	1	3.2	3.2	87.1
	96	4	12.9	12.9	100.0
	Total	31	100.0	100.0	

Based on the table 4.5 above, the frequency of postest after being distributed there are 0 students got score 0-45, which means that the students' reading achievement is very poor, 0 students got score 46-55 that means on the student's reading achievement is poor, 1 student got score 56-75 that means on the students' reading achievement is average, 22 students got score 76-85 that means on the students' reading achievement is good, and 8 students got score 86-100 that means on the students' reading achievement is very good.

3. The significant difference between pretest and postest

To know the significant difference between pretest and postest score, the researcher used SPSS 16.0 to found the descriptive statistic of data.

Table 4.6 Descriptive Statistic of Data

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Pretest Score	31	34	90	66.26	14.130
Postest Score	31	68	96	82.65	7.125
Valid N (listwise)	31				

Based on the data 4.6 presented the minimum score is 34 meanwhile the maximum score is 90. Then, the mean of pretest is 66.26. The mean of students included in low score. After being given treatment using mindmapping , the minimum score is 68 meanwhile the maximum score is 96. The mean of postest is 82.65. Furthermore, the students has an improvement score in postest than the score in pretest after being given a treatment.

B. Normality and Homogeneity Testing

1. Normality

Normality testing is a test to measure whether the data has a normal distribution or not. The normality of both pretest and postest data was measured by SPSS 16.0 used the formula of One Sample Kolmogorov-Smirnov Test. The result was showed as below:

Table 4.7 Result of Normality Test

One-Sample Kolmogorov-Smirnov Test

		Nilai Pretest	Nilai Postest	Unstandardized Residual
N		31	31	31
Normal Parameters[a]	Mean	66.26	82.65	.0000000
	Std. Deviation	14.130	7.125	4.42671348
Most Extreme Differences	Absolute	.142	.225	.106
	Positive	.121	.225	.106
	Negative	-.142	-.143	-.076
Kolmogorov-Smirnov Z		.790	1.255	.593
Asymp. Sig. (2-tailed)		.561	.086	.874

a. Test distribution is Normal.

Based on the description of SPSS result above, the test distribution is normal.

2. Homogeneity

Homogeneity testing is aimed to know whether the samples are homogeneous or not. The researcher was helped by SPSS 16.0 to calculate the homogeneity of the data. The formula which used is Homogeneity of Levene Statistic. The result is presented below:

Table 4.8 Result of Homogeneity Test

Test of Homogeneity of Variances

Postest

Levene Statistic	df1	df2	Sig.
1.938	7	15	.134

From the output data above, it is found that the significance score is 0.134. In the calculation of homogeneity, If the significance score is bigger than 0.05, it means the data are homogenous. In this case, the significance score (0.134>0.050). So the sample variance of test is having homogeneity or homogenous.

C. Hypothesis Testing

The hypothesis of this research examined the effectiveness of before and after using mindmapping technique in reading comprehension. The hypothesis which is examined in this research as follows:

1. Null Hypothesis (H_o)

   There is no significant difference between the students' reading achievement before being taught using mindmapping technique and after being taught using mindmapping technique.

2. Alternative Hypothesis (H_a)

   There is significant difference between the students' reading achievement before taught using mindmapping technique and after being taught using mindmapping technique.

The computation used to know the effectiveness of mindmapping technique in reading comprehension. These subjects are referred as paired because they are drawn from the same subject. The result is as follow:

Table 4.9 Paired Sample Statistics

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pretest	66.26	31	14.130	2.538
	Postest	82.65	31	7.125	1.280

From the table above, the mean of pretest is 66.26 and the mean of postest is 82.65. The total number of students (N) both in pretest and postest is 31. The std. Deviation of pretest is 14.130 and the std. Deviation of postest is 7.125. The std. Error Mean of pretest is 2.538 and the std. Error Mean of postest is 1.288. By looking the difference score, it can be conclude that the score between postest is higher than pretest (82.65 > 66.26)

Table 4.10 Paired Sample Correlations

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Pretest & Postest	31	.784	.000

Based on table 4.10, output Paired Sample Correlation showed the large correlation between samples, the correlation was (.784) and Sig. is (.000). For the interpretation of decision based on the result of probability achievement that was:

a. If the probability > 0.050, so the null hypothesis (H_o) accepted.

b. If the probability < 0.050, so the null hypothesis (H_o) rejected.

The Sig. was 0.000 smaller from 0.050 (0.000 < 0.050). It means that the null hypothesis (H$_o$) was rejected. So, there is significant difference in reading comprehension before and after using mindmapping technique at tenth grade of MAN 3 Tulungagung.

Table 4.11 Paired Sample Test

Paired Samples Test

		Paired Differences							
					95% Confidence Interval of the Difference				Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	T	Df	
Pair 1	Pretest – Postest	-16.387	9.625	1.729	-19.918	-12.857	-9.479	30	.000

Based on table 4.11, output Paired Samples Test shows the result of compare analysis with using T-test. The difference mean score of pretest and postest is 16.387. Standard deviation is 9.625, mean standard error is 1.729, the lower different is 19.918, while upper different is 12.857. The result of t$_{count}$ is 9.479 with df is 30 and significance is 0.000. The significance value is 0.000 and the significance level is 0.05. It means that the significance value is smaller than significance level (0.000 < 0.05). So, the alternative hypothesis (Ha) is accepted and null hypothesis (Ho) is rejected.

Based on the result of analysis above, the alternative hypothesis (Ha) is accepted and the null hypothesis (Ho) is rejected. It means that there is significant different of students' reading achievement before and after being taught using mindmapping technique.

D. Discussion

The output data of Paired Samples Test shows the mean score of students' reading achievement before being taught using mindmapping technique is 66.26. And then, after getting treatment the mean score is 82.65. It was increased the students' reading achievement because the mean score of postest is higher than the mean score of pretest. It was found that there is difference of mean score between pretest and postest is 16.387 after computing T-test.

The result of Paired Samples Test shows the significance value (2-tailed) is 0.000. It means that the significance level is less than 0.050 (0.000 < 0.050) that means the Alternative Hypothesis (H_a) is accepted, while the Null Hypothesis (H_o) is rejected. So, it can be concluded that there is significance difference score on students' reading achievement of tenth grade students at MAN 3 Tulungagung before and after taught by using mindmapping technique.

Based on the explanation above, it can be concluded that mindmapping is effective to improve students' reading achievement especially for the tenth grade students at MAN 3 Tulungagung. This finding is in line with the previous study which has been done by Kartika, Sari Evi (2014) at MTsN Karangrejo Tulungagung showed the significance different score after students being taught using mindmapping technique.

Based on the result of teaching reading comprehension by using mindmapping technique made the students understood and quickly found the information of the text. Davis (2010:89) mention that mind mapping can help the learners for planning, communication, to be more creative, economize the time, problem solving, attention centered arranged and explaining things, to memorize more be better, study more quickly and efficient. It can be concluded that mindmapping technique is so importat to found a particular information. This technique easy to applied in teaching reading comprehension.

According to Buzan (2007:36) Mind mapping can evaluate learner's knowledge after teaching the topic. In the class, after the researcher applied mind mapping technique can make the students more creative and easy to develop their mind. They also have interest to learn English by using mind mapping technique.

The mind mapping technique can be used to explore almost any topic, through narrative, recount and descriptive work particularly well as they front students "ideas and lend them to discussing idea in groups.

The relation this finding to the reality in the field is the theory of mind mapping can support students in the aspect of thinking and doing the assignment. The researcher knows the improvement of students during and after the treatment. It is known by the result of post-test student after the researcher applied the treatment. Students are interesting, open-ended, and

interactive in the teaching learning process and when they have problem during the treatment.

This research shows that mindmapping technique is very useful in reading teaching and learning process. It does not only helpful for student but also for the teacher.It has been proven increase students' achievement in reading.

From the explanation above, the implementation of mindmapping tecnique in teaching and learning process gives a positive effect on the students' reading achievement, because they can understand easily and relax without any burden. It can be done because by fun learning, information can be understood well. The description above implies that the technique is fun for the students, so that they can learn better. Consequently, they can improve the reading achievement through the implementation of mindmapping technique.