CHAPTER IV

RESEARCH FINDING AND DISCUSSION

In this chapter, the researcher presented description of the data which discussed the characteristics of each variable, the testing of the hypothesis which explains the result of the static computation and also the discussion of this study.

A. Research Finding

The research finding presented the results of the study that were described by providing number of graphs, charts, and tables. The participant of this study were the students of B class in the second year of SMPN 1 Ngantru which consist of 28 students. In this presentations, the researcher presented and analyzed the data which had been collected through two kinds of tests, they are pre-test and post-test. It was done in order to know the students ability in comprehending the text. As mentioned before, the researcher used test as the instrument in collecting data. It was given to B class of second year in SMPN 1 Ngantru Tulungagung.

The number of question given by researcher was 20 questions. It consists of multiple choice test. There were 28 students as respondents or subject in this research. The description of data discussed about the data of each variable and reports being computed using descriptive statistic like histogram, mean, standard deviation, etc. The results of statistic computation were as follows:

Description of Students' Reading Comprehension Scores Before and after being Taught by Using Mind Mapping Technique.

In the process of teaching reading, mind mapping technique was applied in the students of B class in SMPN 1 Ngantru Tulungagung. The class consists of 28 students. From the learning process in reading using Mind Mapping technique, the students were able to follow the process well. The students were enthusiasms and pay attention to the lesson given by the researcher. Before started to teach, the researcher explained first about mind mapping technique as clearly as possible. The researcher explained the technique in order to avoid the confusion of the students, later the students could understand about the technique given by the researcher. So those, the students can join the class well.

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 February, 19th 2016. The questions consist of 15 items multiple choices and 5 T/F test. After gave pre test, continued to treatment one. First, the researcher open the class by saying greeting to all students. Then ask to pray together. After that, checked the student's attendance list. The researcher going to gave warming up to the students related with the material that has been learnt.

In treatment one the topic of narrative text was Cinderella. So the researcher ask to students what they have known related with Cinderella. For example, asked about who was Cinderella, where did Cinderella live and etc. Next, the researcher explained about the purpose of learning. All the students listen carefully and pay attention about researcher's explanation. Especially when

explained about definition, generic structure and language features of narrative text. After all the students understand, the researcher going to explained what is mind mapping. The students was curious about that, because first time heard it.

Then the researcher explained that mind mapping or concept map is a way of recording information. Mind mapping, also referred to as webbing or thinking maps is a valuable strategy for students to use, to support and improve reading comprehension. Buzan (2005:5) says,

> Mind mapping helps students structure and order their thinking by creating a visual readers use various sources of knowledge simultaneously to interpret the grapheme information that exist in the text. In understanding text, readers apply more interactive strategies that two other strategies. In attempt of getting meaning of a text, readers can not just rely on visual information or non visual information. The knowledge is applied interactively.

The researcher also explained how to make mind mapping technique such as : The teacher distributes a text to the students, the students find out the key words in each sub topic, then the students make a scheme or concept in a map form and finally explaining of the relationship of each concept (Buzan (2007: 49). After they understand, the researcher gave example about narrative text and applied it into mind mapping technique. In the picture (see in appendix lesson plan 1) showed that Cinderella story has been changed in mind mapping form. The story break down in circle and square chart each generic structure (Orientation, complications and the resolution).

All of each form, connected by using line and bow in one unity. For more interested, can added different colors of each form. After finished, comprehended that picture going to answered the questions based on the text. In the last activity,

the researcher gave confirmation and gave feedback toward student's comprehension.

In treatment two, the topic of narrative text was The Legend of Tangkuban Perahu. In form of all activity almost same, but the differences on the questions. The researcher also provide the different map (see in appendix lesson plan 2). In treatment three the topic of narrative text was Malin Kundang. This treatment ordered students to divided in some groups. One group consisted of 3 - 4 students. So they became 8 groups. Each group asked to make mind map up to them in form of it. The theme was Malin Kundang story. They felt challenging to make great map. So they drew the best. The students made mind map in many form such as : picture of beautiful tree, bubbles, clouds, scenery, flowers and ship. They also used colorful paper for drawing a map. To make the picture more beautiful, they added different color of each items (see appendix for detail picture).

In treatment four, or last treatment the topic of narrative text was Story of Aji Saka and Dewata Cengkar. After the researcher explained the material, she asked the students to do 5 questions about it. In the last activity, the researcher gave confirmation and gave feedback toward student's comprehension. Post test was administered on February, 26th 2016. The questions consist of 15 items multiple choices and 5 T/F test. After finished, the researcher thanked to all students because of their helping during this research.

The list of students' score of reading comprehension can be seen in the table below :

Table 4.1 Students Score Before and After Taught by Using Mind Mapping Technique.

No.	Name	Pre-test Score	Post-test Score
1.	AAP	90	95
2.	AHA	80	85
3.	AIM	80	85
4.	BF	95	100
5.	BMP	70	80
6.	DSP	80	85
7.	ERS	70	90
8.	IPW	90	95
9.	INS	70	95
10.	KML	85	90
11.	MOV	90	70
12.	MAM	95	95
13.	MIA	90	95
14.	MMA	85	95
15.	MS	90	95
16.	OIK	85	90
17.	PI	85	85
18.	PAZ	90	90
19.	PAG	75	95
20.	REW	85	90
21.	SS	95	95
22.	SN	85	90
23.	SENA	75	70
24.	SOP	90	95
25.	SDA	90	95
26.	SAS	90	95
27.	YWSP	85	90
28.	ZMC	95	95

The table above (Table 4.1) showed the result of reading test before and after taught by using mind mapping technique. The researcher got data from the student's score of reading comprehension test. The subject of this study was B class which consists of 28 students. The maximum score in pre test was 95 and

post test was 100. The minimum score in pre test and post test were same in 70. To know the students' achievement that is good or not, the researcher give criteria as follow:

Table 4.2 The Categorization Score of Pre-test and Post-test

No.	Interval Class	Criteria	Frequency of Pre-test	Frequency of Post-test	Percentage of Pre-test	Percentage of Post-test
1.	91 – 100	Excellent	4	14	14%	50%
2.	81 – 90	Very Good	17	11	60%	38%
3.	71 – 80	Good	4	1	14%	4%
4.	61 – 70	Fair	3	2	12%	8%
5.	0 – 60	Poor	0	0	0%	0%

To make the reader easy to read detailed information of table 4.2 above, the researcher put them chart in figure 4.1 below :

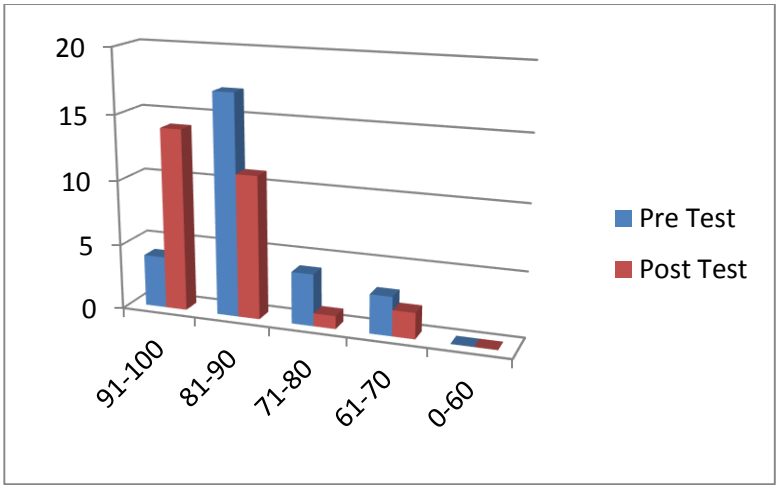

Figure 4.1 Histogram categorization of Pre test and Post test

From the chart above showed that there were zero student who get score between 0-60 in pre test although post test. There were 3 students who get score between 61-70 in pre test and 2 students in post test. There were 4 students who get score between 71-80 in pre test and 1 students in post test. There were 17 students who get score between 81-90 in pre test and 11 students in post test. There were 4 students who get score between 91-100 in pre test and 14 students in post test. The results of pre-test were presented below :

Table 4.3 Frequency of Pre Test Score

Pretest

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	70	3	10.7	10.7	10.7
	75	2	7.1	7.1	17.9
	80	3	10.7	10.7	28.6
	85	7	25.0	25.0	53.6
	90	9	32.1	32.1	85.7
	95	4	14.3	14.3	100.0
	Total	28	100.0	100.0	

The researcher also gave an elaboration of histogram to make the data clear. The histogram of the results of pre test score were presented in figure 4.2 below :

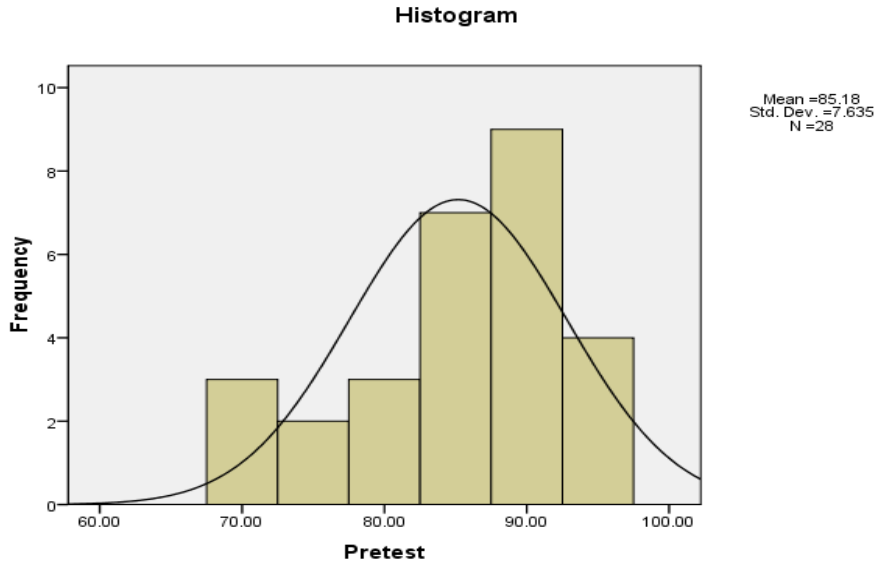

Figure 4.2 Histogram of Pre test Score

Based on table above showed that score minimum was 70 and score maximum was 95. Score 70 has 3 frequency (10.7%), score 75 has 2 frequency (7.1 %), score 80 has 3 frequency (10.7%), score 85 has 7 frequency (25 %), score 90 has 9 frequency (32.1 %) and score 95 has 4 frequency (14.3 %). Besides showing the frequency and the histogram of the result of pre test, the researcher also showed the maximum and minimum score, range, mean and standard deviation by using SPSS Software 16.0 version :

Table 4.4 The Calculations of Pre-test

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance
VAR00001	28	30.00	60.00	90.00	78.5714	8.59125	73.810
Valid N (listwise)	28						

From the calculation result of students score before being taught using

Mind Mapping technique, the highest score achieved by students is 90 and the lowest one is 60, from the students number is 28. Mean of pre-test is 78.571. It was categorize as Good. The Standard Deviation is 8.591. The Standard Deviation is a short average of differences of all scores from the mean (Brown as cited in Isnawati 2012 : 64). The results of post-test were presented below :

Table 4.5 Frequency of Post Test Score

VAR00001

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	70	2	7.1	7.1	7.1
	80	1	3.6	3.6	10.7
	85	4	14.3	14.3	25.0
	90	7	25.0	25.0	50.0
	95	13	46.4	46.4	96.4
	100	1	3.6	3.6	100.0
	Total	28	100.0	100.0	

The researcher also gave elaborate histogram to make the data clear. The histogram of the results of post test score were presented in figure 4.3 below :

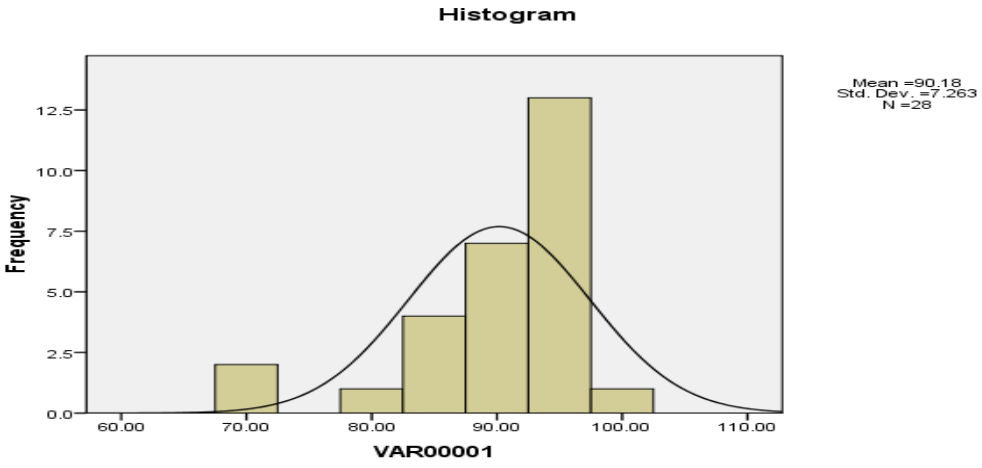

Figure 4.3 Histogram of Post test Score

Based on table above, it showed that score minimum was 70 and score maximum was 100 Score 70 has 2 frequency (7.1%), 80 has 1 frequency (3.6 %) 85 has 4 frequency (14.3 %), score 90 has 7 frequency (25%) and score 95 has 13 frequency (46.4 %) and score 100 has 1 frequency (3.6 %) Besides showing the frequency and the histogram of the result of post test, the researcher also showed the maximum and minimum score, range, mean and standard deviation by using SPSS Software 16.0 version :

Table 4.6 The Calculations of Post-test

Descriptive Statistics

		VAR00001	Valid N (listwise)
N	Statistic	28	28
Range	Statistic	30.00	
Minimum	Statistic	70.00	
Maximum	Statistic	100.00	
Mean	Statistic	90.1786	
	Std. Error	1.37249	
Std. Deviation	Statistic	7.26256	
Variance	Statistic	52.745	

From the calculation result of students score after being taught using Mind Mapping technique, the highest score achieved by students is 100 and the lowest one is 70, from the students number is 28. Mean of post-test is 90.17. It was categorize as Very Good. Range of post test was 30.00. The Standard Deviation is 7.26 and the variance was 52.74.

Table 4.7 Paired Sample 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	Pre test - Posttest	-5.00000	8.05076	1.52145	-8.12176	-1.87824	-3.286	27	.003

The table clearly showed that mean of the score was -5. Meanwhile the standard deviation was 8.05. The standard error was 1.52. 95% confidence interval of the difference lower is -8.121 and upper is -1.878, the t-count is -3.286, while df is 27 and the significance (2-tailed) is 0.003. Finally, to know the degree of freedom, it is found the result from the formula below:

df = N – 1

Notes :

df : degree of freedom

N : Total students

Became df = N – 1

= 28 - 1

= 27

So, the df = 27

From the calculation using SPSS above, it can be seen that the mean is -5, the standard deviation is 8.05, standard error mean is 1.521, the difference lower is 8.121 and upper is 1.878, while df is 27 and the significance (2-tailed) is 0.003.

From the table of t test above can be seen that the number of t_{count} is 3.286. It is higher than t_{table} 5% significant level. In df 27 the significant level at 5% is 2.052 (See in appendix). It showed that 3.286 > 2.052. It means that Ho is rejected, so there was significant score before and after taught using mind mapping technique.

B. Hypothesis Testing

Hypothesis testing is purposed to test the hypothesis of the research. It is to test whether the null hypothesis (Ho) is rejected or not. They are two kinds of hypothesis ; they are Ha (Alternative Hypothesis) and Ho (Null Hypothesis). Ha said that there was any difference score to second grade before using mind mapping technique and after using mind mapping technique. The difference is significant, and Ho said that there is no different score to second grade before using mind mapping technique and after using mind mapping technique. The difference is not significant.

The hypothesis was tested by using t-test through SPSS 16.0 version. Amirudin (2008: 189) states " If $t_{table} \leq t_{count}$, then Ho is rejected and Ha is accepted. Whether the null hypothesis (Ho) is rejected or accepted. It will be proved under the interpretation of the output on T-test. The interpretation to test hypothesis are stated as follow :

1. If the value of t_{count} is higher than t_{table} in the significant level 5%, the Ho (null hypothesis) is rejected and Ha (alternative hypothesis) is accepted. It means that there was any difference score to second grade before using mind mapping technique and after using mind mapping technique. The difference is significant.

2. If the value of t_{count} is lower than t_{table} in the significant level 5%, the Ho (null hypothesis) is accepted and Ha (alternative hypothesis) is rejected. It means that that there is no different score to second grade before using mind mapping technique and after using mind mapping technique. The difference is not significant.

C. Discussion

As stated on research method in chapter III, in this research the researcher conducted research in the class that is trough teaching and learning process. The teaching and learning process in this case was divided into three steps. First step, the researcher measures students' achievement in reading comprehension before taught using Mind Mapping technique. It was conducted by administering test called pre-test. The second step was giving treatment to the student. The treatment was conducted in the classroom by applying Mind Mapping Technique to teach Narrative text. The first treatment was carried out on February 19th, 2016.

In this section the researcher explained the material and the rule of Mind Mapping Technique. The third step was administering post-test. It was given to know the students' score after being taught by using Mind Mapping Technique. The researcher wanted to know how far the students comprehend the text after the treatment. The analysis of the post-test result also proved that the students' score was better than in the pre-test which means that their reading comprehension improved. After the data collected, the data were analyzed by using SPSS 16.0.

It is showed from the Standard Deviation of pre-test was 8.59 and post-test was 7.26. The score minimum of pre-test and post-test was same in 70. The score maximum of pre-test was 95 and post-test was 100. Those data analysis is to know the significant difference between before and after taught using Mind Mapping technique toward reading comprehension in narrative text. The researcher computed the data using descriptive statistic that is t-test. The result of t-test showed that the number of students were 28, the t_{value} is 3.286. The degree of freedom is 27, the *t* value is 2.052. From the result of data analysis above, it can be conclude that there is significant difference score in teaching reading by using Mind Mapping technique.

It is proven by the result of computation that showed the t_{count} is 3.286. It is higher than t_{table} at either 5% significant level. In df 27 the significant level at 5% is 2.052. It showed that 3.286 > 2.052. It means Ho is rejected, so there were significant different score between before and after taught using Mind Mapping technique. It was also proven by showing the different the mean of total score in pre-test from 28 students is 78.57. Besides, the mean of total score in post-test from 28 students is 90.17.

From the data, it can be seen that the students reading comprehension ability on post test is much better than pre test. It means that the students' reading comprehension ability had increased after getting treatment. Thus, it can be concluded that the use of Mind Mapping technique is effective to reading comprehension ability of the eighth grade students of SMPN 1 Ngantru Tulungagung.

The majority of students displayed eagerness in using Mind Maps, making the classroom environment livelier, useful for organizing information and more straightforward in helping them to understand a passage, they were also able to remember important information better. Incorporating Mind Maps into the teaching and of comprehension skills enhance student's understanding and mmory of comprehension passages (Wong and Ong (2007 :78).

This finding support the result of some previous studies (Muhammad Fathoni (2010), Diana (2012), Roni (2015) revealing that Mind Mapping is effective to teach reading comprehension in narrative text. In other word, Mind Mapping can be base consideration of reading's teacher who experienced a same problem by using this study. By the result that, the teachers can using Mind Mapping technique because mind mapping has been proved an effective for finishing that problem.