CHAPTER IV

RESEARCH FINDING AND DISCUSSION

In this chapter presents the findings as the result of analyzing the data. Therefore, this chapter discusses the description of data, hypothesis testing, and discussion.

A. The Description of Data

In this chapter, the purpose of the researcher is to know the effectiveness of Story Mapping technique toward students' reading comprehension. The researcher used test in collecting data. It was given to the eight grade students of VIII-D at SMPN 2 Sumbergempol as a subject of this research. The number of questions given were 25 and the test was in the forms of multiple choice. There were 20 students as subject at the research.

The students were given pre-test before getting treatment process by Story Mapping technique in teaching reading comprehension in narrative text. This test was intended to know the students reading achievement before the students got treatment.

After getting the result of students' pre-test, the researcher gave treatment to the students by Story Mapping teachnique. When the researcher applied Story Mapping technique, the students were interested in making the story map from the text. They could visualize the story, they enjoyed to read and participated the learning process.

After getting the treatment, the researcher gave a post-test to the students. The post-test was given by asking the students to answer the question about narrative text. The question were 25 in the form of multiple choice. Post-test was used to know students' reading comprehension after being taught by using story mapping. The researcher wanted to know how far the students comprehend and understand about the text through visualizing the story and remember about the key elements in the story that given to the students when treatment process is done. Apparently, the result of the test showed that students' reading comprehension improved significantly.

As stated earlier, there were 20 students given pre-test and post-test through the same type multiple choice but in different question of test format in reading test. The score of the test was divided into five criteria (table 4.1). The data of students' score in pre-test can be seen in the table 4.2, and the data of students score in post-test can be seen in table 4.5.

Table 4.1 Criteria of Students' Score

Score	Criteria
92 - 100	Excellent
80 - 88	Good
68 - 76	Average
52 - 64	Poor
0 - 48	Very Poor

1. **The Result of Students' Score before being Taught by Story Mapping Technique**

The number of item in pre-test was 25 questions were administered for 20 students. The pre-test was done before teaching reading comprehension in narrative text by Story Mapping. This test was given to know students' reading comprehension before they get treatment. The pre-test was administered on 01th March 2016. There are 20 students as subjects or respondents of the research The data of students score on pre-test could be seen in the following table (table 4.1)

Table 4.2 Score of Students Pre-test

No	Subject	Pre-test Score
1	APS	64
2	BS	76
3	DL	60
4	DFA	80
5	EIB	56
6	KA	80
7	MSSB	70
8	MJ	68
9	RDI	68
10	RA	60
11	RR	68
12	RGR	72
13	SA	84
14	SM	80
15	S	76
16	TDF	68
17	WPP	60
18	YW	80

19	YAS	76
20	DA	76
		∑X= 1400

Based on the students'list scores of pre-test and the criteria of students above, there are 10 students who had average score, five students had poor score, and five students had good score. Then the researcher continued to calculate the mean score by dividing the total of students' scores with the total students as described at the formula below:

$$\bar{x} = \frac{\sum x}{n}$$

$$= \frac{1422}{20}$$

$$= 71.1$$

The mean score of students pre-test was 71.1

Table 4.3 Descriptive Statistic of Pre-test

Statistics

VAR00001

N	Valid	20
	Missing	0
Mean		71.1000
Median		71.0000
Mode		68.00[a]
Std. Deviation		8.16862

a. Multiple modes exist. The smallest value is shown

Based on the descriptive statistic by SPSS (table 4.3) and also from the calculation manually. It shown that mean score of pre-test was 71.10, it means that the average of 20 students were got 71.10. Based on the criteria of students' score 71.10 was average/enough score. Then, median score was 71.00 and the mode score was 68.00. The mode was simply that value which has the highest frequency. And the standard deviation was 8.168.

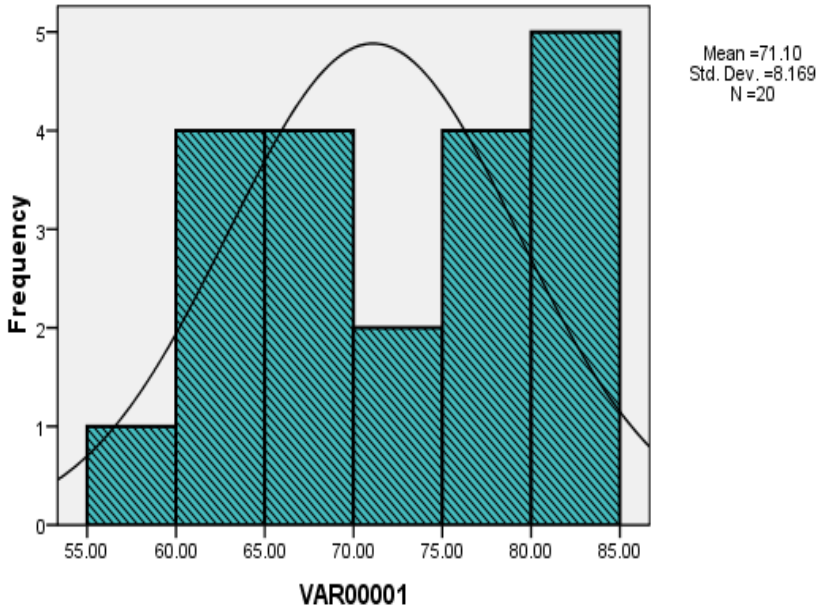
Table 4.4 Frequency of Pre-test

VAR Pre-test

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	56	1	5.0	5.0	5.0
	60	3	15.0	15.0	20.0
	64	1	5.0	5.0	25.0
	68	4	20.0	20.0	45.0
	70	1	5.0	5.0	50.0
	72	1	5.0	5.0	55.0
	76	4	20.0	20.0	75.0
	80	4	20.0	20.0	95.0
	84	1	5.0	5.0	100.0
	Total	20	100.0	100.0	

The researcher also gave elaborate histogram to make data clear. The histogram of the result of pre-test was presentd below:

Figure 4.1 Histogram of pre-test



Based on the table 4.4 it can be shown that one student (5.0%) got score 56, it means that the student ability in reading comprehension at SMPN 2 Sumbergempol is poor. Then, there were three students (15.0%) who got score 60, it means that the students had poor ability in reading comprehension. There was one student (5.0%) who got score 64, it also means that the student had poor ability in reading comprehension. There were four students (20.0%) who got score 68, it means that they had average ability in reading comprehension. There was one student (5.0%) who get 70 score, it also means hat the student had average ability. There was one student (5.0%) who got 72 score, it means that the student had average ability in reading comprehension. There were four students (20.0%) who got 76 score, it means that the students had average ability in reading

comprehension. There were four students (20.0%) who got 80 score, it means that the students had good ability in reading comprehension. There was one student (5.0%) who got 84 score, it means that the student had a good ability in reading comprehension.

2. The Result of Students' Score after being Taught by Story Mapping Technique

The number of item in post-test was 25 questions were administered for 20 students. The post-test was done after teaching reading by using Story Mapping tchnique. This test was given to know students' reading comprehension after they get treatment. The data of students score on post-test could be seen in the following table 4.5

Table 4.5 Score of Students Post-test

No	Subject	Post-test Score
1	APS	84
2	BS	80
3	DL	64
4	DFA	80
5	EIB	88
6	KA	84
7	MSSB	88
8	MJ	80
9	RDI	72
10	RA	88
11	RR	92
12	RGR	76
13	SA	96
14	SM	84

15	S	80
16	TDF	76
17	WPP	88
18	YW	88
19	YAS	80
20	DA	84
		∑X= 1652

Based on the students'list scores of post-test and the criteria of students above, there are three students who had average score, one students had poor score, 14 students had good score, and two students had excellent score. Then the researcher continued to calculate the mean score by dividing the total of students' scores with the total students as described at the formula below:

$$\bar{x} = \frac{\sum x}{n}$$

$$= \frac{1652}{20}$$

$$= 82.6$$

The mean score of students post-test was 82.6

Table 4.6 Descriptive Statistic of Post-test

Statistics

VAR00002

N	Valid	20
	Missing	0
Mean		82.6000
Median		84.0000
Mode		80.00[a]

Std. Deviation	7.25766

a. Multiple modes exist. The smallest value is shown

Based on the descriptive statistic by SPSS (table 4.6) and also from the calculation manually. It shown that mean score of post-test was 82.60, it means that the average of 20 students were got 82.60. Based on the criteria of students' score 82.60 was good score. Then, median score was 84.00 and the mode score was 80.00. The mode was simply that value which has the highest frequency. And the standard deviation was 7.257.

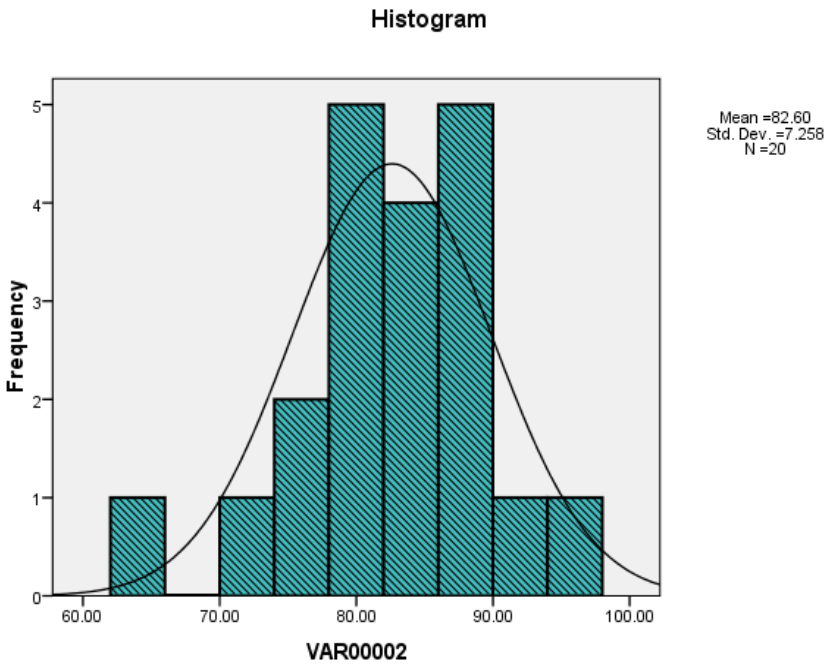
Table 4.7 Frequency of Post-test

VAR Post-test

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	64	1	5.0	5.0	5.0
	72	1	5.0	5.0	10.0
	76	2	10.0	10.0	20.0
	80	5	25.0	25.0	45.0
	84	4	20.0	20.0	65.0
	88	5	25.0	25.0	90.0
	92	1	5.0	5.0	95.0
	96	1	5.0	5.0	100.0
	Total	20	100.0	100.0	

The researcher also gave elaborate histogram to make data clear. The histogram of the result of post-test was presentd below:

Figure 4.2 Histogram of Post-test



Based on the table 4.7 it can be seen that there was only one student (5.0%) who got score 64, it means that the student had a poor ability in reading comprehension. Then, there was only one student (5.0%) who got score 72, it means that the student had average ability in reading comprehension. There were two students (10.0%) who got score 76, it means that the student had average ability in reading comprehension. There were five students (25.0%) who got score 80, it means that they had good ability in reading comprehension. There was four students (20.0%) who get 84 score, it also means that the student had good ability.

There was one student (5.0%) who got 92 score, it means that the student had excellent ability in reading comprehension. There was also one student (5.0%) who got 96 score, it means that the students had excellent ability in reading comprehension.

Therefore, there were differences of data presentation between before and after being taught by Story Mapping technique in reading comprehension. The data present that the score after being taught by Story Mapping technique is better and higher than before being taught by Story Mapping technique.

3. The Significant Difference of Students' Reading Comprehension before and after being Taught by Story Mapping Technique.

After the researcher got data in the form of score pre-test and post-test, then the researcher analyzed the data. Data analysis is done to know the different score before and after getting the treatment by searching the gain "d" (post-test – pre-test) and total gain score (d^2). The result of pre-test and post-test to significant test can be seen in the table (4.8) below.

Table 4.8 The Significant Difference before and after being Taught by Story Mapping Technique

No	Subject	Pre-test	Post-test	Gain (d) posttest - pretest	d^2
1	APS	64	84	20	400
2	BS	76	80	4	16
3	DL	60	64	4	16
4	DFA	80	80	0	0
5	EIB	56	88	32	1024
6	KA	80	84	4	16

7	MSSB	70	88	18	324
8	MJ	68	80	12	144
9	RDI	68	72	4	16
10	RA	60	88	28	784
11	RR	68	92	24	576
12	RGR	72	76	4	16
13	SA	84	96	12	144
14	SM	80	84	4	16
15	S	76	80	4	16
16	TDF	68	76	8	64
17	WPP	60	88	28	784
18	YW	80	88	8	64
19	YAS	76	80	4	16
20	DA	76	84	8	64
		X= 1422	X= 1652	∑d = 230	$\sum d^2$= 4500

Based on the table above, known the students' score in pre-test and post-test. The gain the students' scores of pre-test and post-test to know how far the difference of students' reading comprehension. Further, sum the gain score (d) and sum the gain square to catch the d^2 value. From the table 4.8 above, the researcher got the total of pre-test's score was 1422, and the total of post-test's score was 1652.

Then, the researcher analyzed the data to get the value of t_{count} which then it was be compared with the value of t_{table} to know the significances. The data will be calculated used t-test formula. The calculation explained below:

a. Identify mean

$$\bar{d} = \frac{\sum d}{n}$$

$$= \frac{230}{20}$$
$$= 11.5$$

b. Identify t-score (calculation see appendix)

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

c. Degree of freedom

$$df = n - 1$$
$$= 20 - 1$$
$$= 19$$

The result above was the same when the researcher used statistical test using computation paired sample t-test by SPSS 16.0 as shown below:

Table 4.9 Paired Sample Statistic

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pre-test	71.1000	20	8.16862	1.82656
	Post-test	82.6000	20	7.25766	1.62286

The presentation of the data, the performance of students' reading comprehension scores before and after being taught by Story Mapping technique. The total number of the students *(N)* both in pre-test and post-test is 20. The mean of pre-test is 71.1000 and the mean of post-test is 82.6000. It means that, if the mean score is higher, it would be influence with the quality of the increasingly score.

Table 4.10 Paired Sample Correlation

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Pre-test & Post-test	20	.184	.438

Table 4.11 Paired Sample Test

Paired Sample 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 – Post-test	-1.15000E1	9.88087	2.20943	-16.12439	-6.87561	-5.205	19	.000

From the presentation of data on the table 4.11, output paired samples test shows the result of compare analysis with using t-test. The difference mean score of pre-test and post-test is 1.15000. Standard deviation is 9.88087, mean standard error is 12.20943, the lower different is -16.12439, while upper different is -6.87561. The result t_{count} is 5.205 (symbol minus in this matter ignored) with df is 19 and significance (2-tailed) is 0.000.

The significance value is 0.00 and the significance level is 0.05. It means that the significance value is smaller than significance level (0.00 < 0.05). So, the alternative hypothsis (Ha) is accepted and null hypothesis (H_0) is rejected.

Then, the researcher gave interpretation with compare t_{count} with t_{table} where degree of freedom (*df)* = N-1, 20-1= 19, so the *df* was 19. The researcher

looks for the score of t_{table}. At the significance level of 0.05, the score of t_{table} is 2.093. By comparing "t", the researcher has got the calculation of t_{count} is 5.205 and the value of "t" on the t_{table} is 2.903. It means that t_{count} is bigger than t_{table} (5.205> 2.093). So, the alternative hyphothesis (Ha) is accepted and the null hyphothesis is rejected.

It means that there is significant different of students' reading achievement in reading comprehension before and after being taught by using Story Mapping technique.

B. Hypothesis Testing

In the experimental study there are two hypothesis, they are null hyphothesis and alternate hypothesis.

1. Null Hypothesis (H_0): If t_{count} is smaller than t_{table}, the null hypothesis (H_0) is accepted and (H_a) alternative hypothesis is rejected. It means that there is no significant different score of the students' reading comprehension before and after being taught by using story mapping technique of the eight grade students at SMPN 2 Sumbergempol. There is not significant.

2. Alternative Hypothesis (Ha): If t_{count} is bigger than t_{table}, the alternative hypothesis (Ha) is accepted and (H_0) null hypothesis is rejected. It means that there is significant different score of the students' reading comprehension before and after being taught by using story mapping technique of the eight grade students at SMPN 2 Sumbergempol. The different is significant.

In the testing of hypothesis, if the null hypothesis (H_0) is rejected so the alternative hypothesis (Ha) is accepted or in contrary. Thus, to know whether the significanct level is bigger or smaller than t_{table} the researcher analyzed the data by using SPSS statistic 16.0 by after knowing the result the SPSS value it shows the null hypothesis (H_0).

The data analyzed statistically, it could be seen that the value of t_{count} is 5.205, where as t_{table} with significant level 0.05 is 2.093. It can be concluded that the t_{count} is bigger than t_{table} (5.205 > 2.093). It means that alternative hypothesis (Ha) which states that there is significance different on the students' reading comprehension ability before being taught by Story Mapping technique and after being taught by Story Mapping technique is accepted. But, null hypothesis (H_0) which states that there is no significance different on the students' reading comprehension ability before being taught by Story Mapping technique and after being taught by Story Mapping technique is rejected. It means that there is any significant difference on the students' reading comprehension ability before and after being taught by Story Mapping technique at the second grade of SMPN 2 Sumbergempol. Therefore, Story Mapping technique was effective toward students' reading comprehension, and it is suggested to be used to teach reading, especially for the eight grade at SMPN 2 Sumbergempol.

C. Discussion

The objectives of this research are to find the score of reading comprehension of the students on the eight grade (VIII D) at SMPN 2 Sumbergempol in the academic year of 2015/ 2016 before and after being taught

by Story Mapping technique. It is to find out whether there is significant difference scores of students in reading comprehension before and after being taught by Story Mapping technique.

The researcher conducted some steps to attain the objectives of the research. The researcher used test as instrument of the research to get the data and the method to collect the data is administering test. The researcher did some steps, there are administerig pre-test, giving treatment four meeting in the VIII D class, and administering post-test.

Based on the score that the researcher got from pre-test and post-test. The researcher analyzed the data by using paired sample t-test on SPSS 16.00. The output paired sample statistic shown that the mean score of pre-test is 71.10 and the mean score of post-test is 82.60 which can be interpreted that the reading comprehension of the students had been improved after getting the treatment. On the output of paired sample test shown that the score of t_{count} is 5.205 with the df 19, the score of level significance is 0.000 and the score of t_{table} for standard significant 5% (0.05) and df 19 is 2.903. Based on the data, the researcher knows that t_{count} higher than t_{table} (5.205 > 2.903) means that the null hyphothesis (H_0) was rejected, alternative hyphothesis (Ha) isaccepted, and the level of significance less than 0.05 (0.000 < 0.05) means that the null hyphothesis (H_0) is rejected, alternative hyphothesis (Ha) was accepted. It be concluded that there is any significant different scores of the students in reading comprehension before and after being taught by Story Mapping technique of the eight grade students at

SMPN 2 Sumbergempol. It means that the Story Mapping is effective toward students' reading comprehension.

In fact, from the result of data anaysis above in, Story Mapping technique can increase students in reading comprehension. As sccording to Akyol (1999),

> "the story map method is accepted as an effective technique in distinguishing significant and insignificant information in the story, directing students (making them focus on important components), providing active participation, transferring information into long term memory, activating foreknowledge, and predicting."

The researcher modified the graphic of Story Map for reading comprehension that appropriate with the eight grade to make them interested. There are many kind of Story Mapping figures. And this Story Mapping technique can be used effectively in the classroom to increase students' reading comprehensionat the eight grade.

The finding is related with the previous study that is using Story Mapping technique to teach reading comprehension. In the previous study the using of Story Mapping is also effective to improve the reading comprehension achievement of the eight grade students by conducting two cycles on Classroom Action Research (CAR) design (Dwi Wahyu Wicaksono, 2013). And the other previous study show that Story Mapping technique is effective to improve students' reading comprehension to the eight grade of SMP N 3 Ketapang, by using two cycles on Classroom Action Research (CAR) design (Fitrisya Anggraeyni**,** 2013). Those previous studies conducted support the belief that Story Mapping technique will have a positive effect on reading comprehension. The present research attests to the previous statement and supports it.

Besides the proof gotten from statistical calculation, during research, the researcher could see some advantages of Story Mapping technique for the students' learning. During the research, the students enjoyed and actived to participation during teaching and learning process. They actived to fill the map as a graphic organizer, thus they easily understand the content of the story because the researcher as a teacher uses Story Mapping as a technique to teaching reading comprehension. By Story Mapping technique , the students were interested to read the story, because it made the students easy in comprehending the story. So, the score of the students after being taght by Story Mapping technique was increase. This finding is in line with the theory provided by Richard and Jo Anne L (1998: 413), "there are many benefits to learning how to use and constract graphic representation, not the least of which is that they make is easier for students to find and reorganize important ideas and information in the text."

Beside the increasing of the students' score of reading comprehension, their ability in writing also can be increased. During the research, the students could write the summarize of the story. It make the student know how to summaries, what must they find out the ideas to summarise the story or the text. This finding is related with theory from by Richard and Jo Anne L (1998: 413) stated that "in addition to using graphic outlining, teacher can scaffold students' writing of summaries to distinguish important ideas from less important ideas." By Story Mapping technique, the students learn how to writing the summaries and reading for comprehend the content of the text or story totally.

The other finding from this research was the students' motivation. During the research, the students were motivated in joining the teaching and learning process. It can be seen from the students who were enthusiastic to fill the Map or graphic organizer. The increasing motivation of the students can be increasing the reading comprehension from the students which was seen from the score of the students after being taught by Story Mapping technique. This finding is related with the previous research (Roihatul Millah, 2013) stated that the researcher got some result dealing with the implementation story mapping, the students were more enthusiastic to join the class since they were motivated with the teaching stategy applied by the teacher. While, Kukuh Prakumasari (2015) state that one of the result of of Story Mapping technique is the students are more motivated to learn. They are more active and interested in teaching-leaning process.

Based on the explanation above, teaching reading by Story Mapping is good to improve students' reading comprehension of the eight grade at Junior High School. From the result of data analysis, there is significant difference score of students in reading comprehension before and after being taught by Story Mapping technique. It can be conclude that Story Mapping technique is effective toward students' reading comprehension of the eight grade at SMPN 2 Sumbergempol in the academic year 2015/2016.