

CHAPTER IV

RESEARCH FINDING AND DISCUSSION

This chapter the researcher will present the research finding and discussion. It consists of research finding, hypothesis testing and discussion.

A. The Significant Difference

In this chapter, the researcher presents the data on student's writing achievement before and after being taught using digital mind mapping as a strategy in the process of teaching writing descriptive text. The purpose of the study is to know the effectiveness of using a digital mind mapping in writing descriptive text. In this finding, the researcher presented and analyzed the data which had been collected through two kinds of tests, they are pretest and posttest. It was given to class X-MIA 1 students of MAN 2 Tulungagung that consist of 35 students.

The topic in pretest and posttest was a bit different, but the kind of text was same. The topic in the test is about someone. In pre-test, the researcher chose family or friend. Then in the post-test, the researcher chose idol. In the both of test, the students should write a describe text about the characteristic of someone. The instruction was researcher wrote in the writing prompt of student task.

To know the student's achievement was good or not, the researcher gave the criteria as follow:

Table 4.1 Table of Criteria Students' Score

No.	Range of	Qualification	Value
1.	33 – 40	Excellent	81 - 100
2.	25 – 32	Good	61 - 80
3.	17 – 24	Average	41 - 60
4.	9 – 16	Poor	21 - 40
5.	1 – 8	Very poor	1 - 20

The students' score then were computed by using SPSS. The student's score can be seen in appendix and result was shown in the Table 4.2 below.

Table 4.2 Descriptive of Pre-Test

Statistics

VAR00003

N	Valid	35
	Missing	0
Mean		52.5357
Median		53.7500
Mode		53.75
Std. Deviation		8.36597

From the table 4.2 above, we can know that the students consist of 35 students. It shown that mean score 52.5357, it means that the mean of 35 students are got 52.5. Based on criteria success of students' score 52.5 is average. Meanwhile, the median score were 53.75 and the mode

is 53.75. It means that the most frequent score is 53.75 that indicated many students got enough score. And the last, the standard deviation is 8.36597.

Table 4.3 Frequency of Pre-Test

VAR00003

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 40.00	3	8.6	8.6	8.6
41.25	1	2.9	2.9	11.4
42.50	1	2.9	2.9	14.3
43.75	1	2.9	2.9	17.1
45.00	3	8.6	8.6	25.7
46.25	3	8.6	8.6	34.3
47.50	1	2.9	2.9	37.1
50.00	3	8.6	8.6	45.7
53.75	7	20.0	20.0	65.7
55.00	1	2.9	2.9	68.6
57.50	3	8.6	8.6	77.1
62.50	3	8.6	8.6	85.7
63.75	1	2.9	2.9	88.6
65.00	1	2.9	2.9	91.4
66.25	2	5.7	5.7	97.1
67.50	1	2.9	2.9	100.0
Total	35	100.0	100.0	

Based on the table 4.3 we can see that 3 students got score 40, it means that the achievement of students' writing descriptive text is poor. The students got score 41-60 are 24 students, it means that the

achievement of students' writing descriptive text is average. Finally the student who got score 61-80 they are categorized good.

The post-test in this experimental group was given by asking the students to describe someone especially their idol. This test is to know student writing achievement after students got a treatment. The data of the students' score after being taught by using a digital mind mapping can be seen in appendix.

Table 4.4 Descriptive of Post-Test

Statistics

VAR00004

N	Valid	35
	Missing	0
Mean		64.7500
Median		65.0000
Mode		70.00
Std. Deviation		5.14317

Based on the table 4.4 above we can see that the students consist of 35 students. It shown that means score is 64.7500. That means the students got good criteria and their writing score is better. The median score is 65.0000. In this study the most frequent score is 53.75 and 70.00, so there are many

students got good score in writing descriptive text. And the last, the standard deviation is 5.14317.

Table 4.5 Frequency of Post-Test

VAR00004

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 53.75	1	2.9	2.9	2.9
57.50	4	11.4	11.4	14.3
58.75	1	2.9	2.9	17.1
61.25	4	11.4	11.4	28.6
62.50	5	14.3	14.3	42.9
63.75	2	5.7	5.7	48.6
65.00	4	11.4	11.4	60.0
67.50	5	14.3	14.3	74.3
70.00	6	17.1	17.1	91.4
71.25	1	2.9	2.9	94.3
75.00	2	5.7	5.7	100.0
Total	35	100.0	100.0	

From the table 4.5, if it was suitable with the criteria of students' score, it was found there are 6 students got score 41-60, it means the students were categorized average. Next, in categorized good with score 61-80 there are 29 students.

There are some differences of data presentation between before and after treatment process done. The data present that the score after taught by a digital mind mapping better than before taught used a digital mind mapping as a strategy in teaching writing.

B. Data Analysis

Data analysis was done to know the different achievement before doing the test and after doing the test by searching after test and score before test. The researcher uses statistical test using Paired Sample T-Test stated by SPSS 18 to ensure the effectiveness of teaching used by a digital mind mapping in toward students' achievement. The result is shown as follows:

Table 4.6 Paired Sample Statistics

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	VAR00003	52.5357	35	8.36597	1.41411
	VAR00004	64.7500	35	5.14317	.86935

From the table 4.6 output Paired Sample statistics shows mean of pretest is 52.53 and mean of posttest is 64.75, it indicates that on average, the use of mind mapping has caused the improvement of students' achievements and improved is better that without digital mind mapping. N for each other is 35. Then, the standard deviation of pre-test is 8.36 and for post-test are 5.14. And the last standard error mean for pre-test is 1.41 and for post-test is 0.86.

Table 4.7 Paired Sample Correlations

Paired Samples Correlations

	N	Correlation	Sig.
Pair 1 VAR00003 & VAR00004	35	.568	.000

Table 4.7 explains that the output of paired sample correlations show the large correlation between samples. The numeral both correlations are 0.568 and numeral of significance is 0.000. The interpretation of decision based on the result of probability achievement, they are:

1. If the probability > 0.05 then the null hypothesis cannot be rejected
2. If the probability < 0.05 then the null hypothesis is rejected

In other word, the large numeral significance 0.000 smaller from 0.05 so that the hypotheses clarify digital mind mapping is a strategy that effective to improve students' writing achievement.

Table 4.8 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 VAR00003 - VAR00004	-12.21429	6.89393	1.16529	-14.58243	-9.84614	-10.482	34	.000

From the table, it show that the Tcount is 10.482 with the df is 34. The score of writing before being taught by a digital mind mapping is enough with score of 52.5357, and after the students got a treatment the mean of writing score is 64.7500. The result of Tcount is 10.428. Therefore, digital mind mapping is an appropriate strategy to improve writing achievement for the students.

Then the researcher gave interpretation to t_0 . First, the researcher considered the df , $df = N - 1$, in here df is 34. The researcher consulted the score in t-table. The significant level of 0.000, the score of t-table is 2.032. By comparing the “t” that the researcher has got calculation tcount is 10.482 and the value of “t” on t-table t_0 is 2.032. From the calculation above, tcount is bigger than t-table ($10.482 > 2.032$).

The t_{count} was bigger than t_0 the alternative hypithesis (H_a) saying that there is significant different achievement of the students before and after

being taught by use digital mind mapping is not rejected and the null hypothesis (H_0) saying that there is no any significant different achievement of the students before being taught by use digital mind mapping and after taught by use a digital mind mapping was rejected. It means that there was significant different achievement before and after being taught by using a digital mind mapping on students writing descriptive text. It could be concluded that the digital mind mapping was effective used in teaching writing descriptive text.

C. Hypothesis Testing

The hypotheses testing of this study are as follow:

1. Alternative hypothesis (H_a): The significant level $<$ the standard level of significant 0.05, the alternative hypothesis (H_a) is accepted and the Null hypothesis is rejected. It means that, there is different score of students' achievement before and after taught using digital mind mapping strategy.
2. Null hypothesis (H_0): The significant level $>$ the standard level of significant 0.05, the null hypothesis (H_0) is accepted and the alternative hypothesis is rejected. It means that, there is no significant different score of students' achievement before and after taught using digital mind mapping.

D. Discussion

Based on the data of research finding, the mean score of post-test was bigger than the mean score of pre-test and by calculated using SPSS Statistics 18 in the significant of two tails shown the result was 0.000, it means that the result of the significant level $<$ the standard significant level ($0.00 < 0.05$). That is means that using of digital mind mapping was affective and improves the students' achievement in writing descriptive text.

Digital mind mapping is a strategy to help the students in get an idea easier. It can help the students before write or describe something. Before writing, student can write the part of thing that they want describe. It means that students know what thing that they should describe in next. The interesting of student when write descriptive text also will be improved. Students are demanded to be more creative when describe using digital mind mapping as a strategy. The combination of picture, color, and others make the students get ideas easier. According to Buzan (2007) mind mapping helps the students in terms of: plan, communicate, become more creative, save time, solving the problem, focus on learning, develop and clarify thoughts, remember be better, and learn more quickly and efficiently. The result, the score of the students after taught using digital mind mapping is better than before taught using digital mind mapping.

Beside can help the students to get an idea, organizing ideas, increase vocabulary, improving creativity and arranging sentences. Digital mind mapping has other benefits. By digital mind mapping, the students can move

objects and concepts around simply by drag and drop them, in contrast, with paper mind maps, students need to erase and rewrite again and again (Erdogan, 2008). Digital mind maps can be saved as files, the file can be shared among learners, and bits of it may be copied for other maps. Further digital mind maps enable students to include hyperlinks and email links to their maps. Students can also attach and view video clips, animated pictures, and images (Riley & Ahlberg, 2004). Digital mind mapping also has simple application which easy to understand and use, so the students enjoy use it.

In fact, digital mind mapping is useful to the students. This strategy can support students in the aspect of thinking and doing the task. It could be seen in the treatment process, the students are more interested when we applies this strategy together. The implication of using digital mind mapping is can make the students easier to write or describe something, students also more interest and motivated when doing the task. Digital mind mapping also help student in memorize something. So, student are creative and quickly when thinking and doing the task. Then, the students' achievement in writing descriptive text is better than before using digital mind mapping.

Beside the researcher, mind mapping strategy also has successfully implemented by Dianto, Roni in a thesis entitle the Effectiveness of Using Mind Mapping Technique toward the Students' Achievement in Writing Descriptive Text at Mtsn Tunggangri Tulungagung in Academic Year 2014/2015. Next, by Purnomo, Adi in a thesis entitle Improving Descriptive Writing Skill Through Mind-Mapping Technique in 8th Grade Students of

MTs Muhammadiyah 1 Cekelan in the Academic Year of 2013 / 2014, and then, by Alma Prima Nurlaila in a thesis entitled the Use of Mind Mapping Technique in Writing Descriptive Text. Those research shows that digital mind mapping strategy is very useful to applying in writing teaching and learning process. It does not only helpful for student but also for the teacher.