

CHAPTER IV

RESEARCH FINDINGS AND DISCUSSION

This chapter presents of two items, the findings of research and the discussion of the research. In findings item, the researcher shows all of the data which were collected during in the research. While in the discussion item, the researcher analyses all the data in finding item.

4.1 Research Finding

The finding of this research was deal with calculation of trying out of instrument, the analysis of data and the hypothesis testing. The finding was described as follows:

4.1.1 Calculation of Try-out Instrument

a. Validity

This research aimed to measure the instrument to be valid or not in improving the students' vocabulary mastery. The researcher conducted trying out of instrument on Wednesday, March 4th, 2020. It was given to the students at X Social 1. There were 39 students that held the trying out of instrument. The item test is valid if r_{xy} are greater than r_{table} or $r_{xy} > r_{table}$. The researcher consulted the table of r with $df = n-2$, $df = 39 - 2 = 37$ and significant level 0,05 was 0,325.

The researcher calculated the validity test by using statistical analysis SPSS. The result conclusion of valid and

invalid test was described in the following table:

Table 4.1.

The Result Conclusion of Validity Test

Valid	Invalid
2,3,4,5,7,8,11,12,13,18,23,26,27,30	1,6,9,10,14,15,16,17,19,20,21,22,2
31,34,35,36,37,38,39,41,42,44,47,48,50	4,25,28,29,32,33,40,43,45,46,49
Total = 27 Item	Total = 23 Item

Based on the table above, the 27 items which were valid was used for post-test questions and for the 23 invalid items, were not used for the test.

b. Reliability

After measuring the validity, the researcher calculated the reliability. This research was aimed to know the instrument was reliable or not. The researcher calculated the reliability used Split-Half by determining the beginning and the ending of the questions number. The item test is reliable when $r_{hitung} > r_{table}$.

To calculated reliability of trying out instrument used SPSS calculation as follows:

Table 4.2

The Result of Reliability Test

Case Processing Summary			
		N	%
Cases	Valid	39	100.0
	Excluded ^a	0	.0
	Total	39	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics		
Spearman-Brown Coefficient	Equal Length	.829
	Unequal Length	.829
Guttman Split-Half Coefficient		.814
a. The items are: item_1, item_2, item_3, item_4, item_5, item_6, item_7, item_8, item_9, item_10, item_11, item_12, item_13, item_14, item_15, item_16, item_17, item_18, item_19, item_20, item_21, item_22, item_23, item_24, item_25.		
b. The items are: item_26, item_27, item_28, item_29, item_30, item_31, item_32, item_33, item_34, item_35, item_36, item_37, item_38, item_39, item_40, item_41, item_42, item_43, item_44, item_45, item_46, item_47, item_48, item_49, item_50.		

Based on the SPSS calculation above, it showed that in Guttman Split-Half column was 0,814 and the r table 0,325 with the table significant 5%. The reliability could be said reliable if the Guttman Split-Half > r table. In this part showed that 0,814 > 0,325. It meant that the instrument of the research was reliable.

4.1.2 The Analysis of Data

This purpose of this research was to find out the significant differences between scramble method and word mapping in improving the students' vocabulary mastery at the tenth grade students of MA Darul Hikmah Menganti in the academic year 2019/2020.

In this study, the researcher collected the data from the post-test only. The data was described into two point as experimental and control class. The experimental was divided into two classes, those were experimental class who taught by scramble method and experimental class who taught by word mapping. The scramble method class was X Science 2 which consisted of 35 students, the word mapping class was X Social 2 which consisted of 35 students and the control class was taught by conventional method and it was consisted of 40 students from X Science 1.

4.1.2.1 The Result of Post-test

Post-test was given after doing treatment. It was conducted by researcher on March, 13th 2020. The following table showed the score of post-test in both experimental classes of Scramble Method and Word Mapping and also to the control class which was taught by conventional method. The table showed as follow:

Table 4.3**The Post-test Score of Experimental Class**

Scramble Method			Word Mapping		
No.	Students' Code	Posttest Score	No.	Students' Code	Posttest Score
1	E-SM 1 A2	84	1	E-WM 1 S2	60
2	E-SM 2 A2	86	2	E-WM 2 S2	76
3	E-SM 3 A2	82	3	E-WM 3 S2	58
4	E-SM 4 A2	82	4	E-WM 4 S2	58
5	E-SM 5 A2	82	5	E-WM 5 S2	64
6	E-SM 6 A2	82	6	E-WM 6 S2	60
7	E-SM 7 A2	86	7	E-WM 7 S2	72
8	E-SM 8 A2	86	8	E-WM 8 S2	88
9	E-SM 9 A2	86	9	E-WM 9 S2	72
10	E-SM 10 A2	72	10	E-WM 10 S2	72
11	E-SM 11 A2	82	11	E-WM 11 S2	60
12	E-SM 12 A2	82	12	E-WM 12 S2	68
13	E-SM 13 A2	86	13	E-WM 13 S2	72
14	E-SM 14 A2	60	14	E-WM 14 S2	55
15	E-SM 15 A2	86	15	E-WM 15 S2	60
16	E-SM 16 A2	60	16	E-WM 16 S2	60
17	E-SM 17 A2	80	17	E-WM 17 S2	55
18	E-SM 18 A2	80	18	E-WM 18 S2	72
19	E-SM 19 A2	80	19	E-WM 19 S2	82
20	E-SM 20 A2	96	20	E-WM 20 S2	84
21	E-SM 21 A2	82	21	E-WM 21 S2	74

22	E-SM 22 A2	82	22	E-WM 22 S2	82
23	E-SM 23 A2	88	23	E-WM 23 S2	82
24	E-SM 24 A2	82	24	E-WM 24 S2	84
25	E-SM 25 A2	60	25	E-WM 25 S2	74
26	E-SM 26 A2	78	26	E-WM 26 S2	82
27	E-SM 27 A2	82	27	E-WM 27 S2	82
28	E-SM 28 A2	60	28	E-WM 28 S2	74
29	E-SM 29 A2	80	29	E-WM 29 S2	60
30	E-SM 30 A2	80	30	E-WM 30 S2	84
31	E-SM 31 A2	82	31	E-WM 31 S2	82
32	E-SM 32 A2	84	32	E-WM 32 S2	88
33	E-SM 33 A2	86	33	E-WM 33 S2	90
34	E-SM 34 A2	78	34	E-WM 1 S2	74
35	E-SM 35 A2	84	35	E-WM 2 S2	84
Total		2808		Total	2544
Mean		80,23		Mean	72,69

Table 4.3 above described about the posttest of experimental scramble method class and word mapping class. In experimental scramble method class, the highest score was 96 while the lowest was 60. Besides, in the experimental word mapping class the highest score was 90 while the lowest was 55. In addition, in the mean score of experimental scramble class score was 80,23 while in the word mapping class was 72,69.

Table 4.4**The Post-test Score of Control Class**

No	Students' Code	Posttest Score
1	C-1 A1	60
2	C-2 A1	52
3	C-3 A1	60
4	C-4 A1	68
5	C-5 A1	60
6	C-6 A1	52
7	C-7 A1	52
8	C-8 A1	56
9	C-9 A1	60
10	C-10 A1	64
11	C-11 A1	48
12	C-12 A1	56
13	C-13 A1	68
14	C-14A1	56
15	C-15 A1	56
16	C-16 A1	68
17	C-17 A1	52
18	C-18 A1	64
19	C-19 A1	68
20	C-20 A1	52
21	C-21 A1	60
22	C-22 A1	60
23	C-23 A1	56
24	C-24 A1	64
25	C-25 A1	68
26	C-26 A1	60
27	C-27 A1	68
28	C-28 A1	56
29	C-29 A1	72
30	C-30 A1	60
31	C-31 A1	64
32	C-32 A1	64
33	C-33 A1	68
34	C-34 A1	60

35	C-35 A1	68
36	C-36 A1	72
37	C-37 A1	62
38	C-38 A1	64
39	C-39 A1	64
40	C-40 A1	62
Total		2444
Mean		61,10

Table 4.4 above described about the posttest of control class which was taught by conventional method. In control class, it showed that the highest score was 72 while the lowest was 48. In addition, the average or mean of the control class was 61,10.

Based on the score of both experimental class and control class above, it could be seen that the score of the experimental scramble method class was 80.23, experimental with word mapping class was 72, 69 and control class with conventional class was 60.10, it showed that the highest score was experimental class who taught by scramble method with the mean score 80.23. So it could be said that the experimental class which taught by scramble method was highest than other.

4.1.2.2 The Result of Statistical Calculation

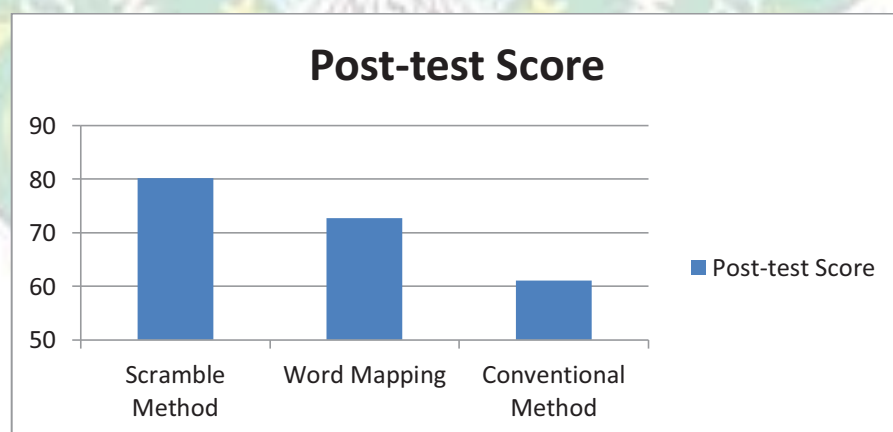
After obtaining the data above, the researcher calculated the post-test score (mean) of each group by using statistical SPSS 25.0. The data was as the following table:

Table. 4.5
Summary Description of Measurement

Descriptive								
Score								
	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1	35	80.23	8.286	1.401	77.38	83.07	60	96
2	35	72.69	10.767	1.820	68.99	76.38	55	90
3	40	61.10	6.059	.958	59.16	63.04	48	72
Total	110	70.87	11.615	1.107	68.68	73.07	48	96

To make it easier to understand the data descriptive above, the data of post-test score were presented in the following diagrams;

Figure 4.1 The Post-test Score



This out put descriptives was covered the result of descriptive data that included mean, standard deviation, lower bound, upper bound, and standard error. It could be seen from the diagrams above that the mean of the experiment with

scramble method was 80,23, while the mean of experimental with word mapping was 72,69 and for the mean of control group which taught by conventional method was 61.10. It showed that the students' score of each class was relatively different. Even the class who taught by word mapping was higher than a conventional group, but the class which taught by scramble method was highest than of all. Therefore, the scramble method and word mapping were effective in improving the students' vocabulary mastery than the control class which was taught only by conventional method.

In order to prove the effectiveness of the methods that were used in scramble method class and word mapping class, the statistically calculation was needed. The following was the analysis output by using one way ANOVA.

Table 4.6
ANOVA Test of Post-test

ANOVA					
Score					
	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	6998.904	2	3499.452	48.583	.000
Within Groups	7707.314	107	72.031		
Total	14706.218	109			

Based on the the table of ANOVA above, it could be seen that the result of the probability or the significance was

0,000. It was lower than 0,05 or ($0,000 < 0,05$). It meant that null hypothesis was rejected and alternative hypothesis was accepted. Therefore, it could be concluded that there was any significance difference of the methods of learning process on students' vocabulary mastery.

4.1.3 Hypothesis Testing

This research was aimed to answer the problem statement of research. The research was to know the effectiveness of scramble method and word mapping in improving the students' vocabulary mastery (A True Experimental Study in the tenth grade of MA Darul Hikmah Menganti the academic year 2019/2020). To prove the hypothesis, the data obtained in scramble method class and word mapping class were calculated by using one way ANOVA in SPSS. Before the description of the data calculation was shown, the researcher wrote Null Hypothesis (H_0) and the alternative hypothesis (H_a) as follows:

- a. $H_0 : \mu_1 = \mu_2$ or there is no significant difference between the mean score of scramble method and word mapping in improving students' vocabulary mastery.
- b. $H_a : \mu_1 \neq \mu_2$ or there is significant difference between the mean score of scramble method and word mapping in improving students' vocabulary mastery.

Based on the result of ANOVA, the significant was 0,000. The assumption of the hypothesis was if the significant $< 0,05$ Ha accepted and if the significant $> 0,05$ Ha rejected. So, the result of the ANOVA table was $0,000 < 0,05$. Therefore, it could be concluded that there was significant difference between the scramble method and word mapping in improving the vocabulary mastery.

4.2 Discussion

According to Shoimin (2014:166) Scramble is a game arranging the words and letter which has been randomly located to create the word that has meaning. This game is applied to develop the insight of vocabulary thinking. Meanwhile Widyawati (2016:23) states that A word map is a visual organizer that helps students engage with and think about new terms or concepts in several ways. Both of the technique includes in cooperative learning in which the teaching method assigns students into groups that consists of four or five heterogeneous members in each group.

This study was intended to find out whether there was significant difference between the students who were taught by using scramble method and students who were taught by using word mapping or not. This study was compared by using conventional method in which the conventional method was at the X Science 1 as the control class. And for the experimental class was divided into two classes. Those were X Science 2 was the experimental with scramble method and X Social 2 was the experimental with word mapping.

This research was true experimental research with post test only control group, so the researcher used treatment and post test as the instrument. In true experimental research, treatment is usually done in finding out the significant difference between groups experiencing different method. Treatment was given before the post test. The students were treated by the researcher based on group. After having the treatment, the the students was asked to do the post test. This test has purpose to find out the improvement between the students' vocabulary after the treatment.

The result of the post test showed that In experimental scramble method class, the highest score was 96 while the lowest was 60. Besides, in the experimental word mapping class the highest score was 90 while the lowest was 55. In control class, it showed that the highest score was 72 while the lowest was 48. In addition, the average or mean of the control class was 61,10. Based on the score of both experimental class and control class above, it could be said that the experimental class which taught by scramble method was highest than other.

In this research the researcher conducted the data analysis by using one way ANOVA in SPSS 25.0. The description data of the mean score in both experimental and control class were different. The experimental of scramble method was 80.23, the experimental of word mapping was 72.69 and the control class was 60.10. From the mean score, it could be seen that there were differences in each class. So, it could be said that the scramble method was effective in improving the students' vocabulary mastery than word mapping

method. Meanwhile, the word mapping method was effective in improving the students' vocabulary mastery than the conventional method.

The result of one way ANOVA showed that the significant was 0.000. The assumption of the hypothesis was if the significant $< 0,05$ H_a accepted and if the significant $> 0,05$ H_a rejected. So, based on the result of the ANOVA table was $0,000 < 0,05$. It meant that the null hypothesis was rejected and the alternative hypothesis was accepted. To answer the research question, the researcher concluded from the result that there was significant difference between the students who taught by using scramble method and who taught by word mapping in improving the students' vocabulary mastery at the tenth grade of MA Darul Hikmah Menganti in the academic year of 2019/2020.

