CHAPTER IV

RESEARCH FINDING AND DISCUSSION

This chapter presents the data findings of the research including data presentation and data analyzing, hypothesis testing, and discussion.

A. Finding

1. Data Presentation

In this chapter, the purpose of the researcher is to know The Effectiveness of Teaching Vocabulary by Anagram Technique toward Vocabulary Mastery of Eighth Grade Students of MTs Wahid Hasyim Setinggil in Academic Year 2015/2016. The researcher conducted pre-test and post-test involves VIII B classes that consist of 23 students. So, the researcher uses a population sampling which connects each other (T-Test for one sample that is value between pre test and post test).

The data were collected through administering test. The first test was pre-test done before the treatment applied to the students. The purpose was to know the students' vocabulary ability before being the treatment. The result of pre-test showed that their vocabulary mastery was enough. But, they got difficulty to rearrange and mentioning the word.

After administering the pre-test, the researcher was given treatment to the students by using Anagram technique. In this case the researcher used cards for media. There is 25 cards of word. The researcher gave the cards to students, and each student taken one card then researcher gave clues of word at the black board. The game involves matching cards of word by using Anagram and may be played as whole class activities, where everyone must forward into front class to match the word. During the treatment, the students felt enjoy and enthusiastic. After the treatment was implementation, the researcher administered posttest to know the students' ability of vocabulary after being taught by using Anagram technique. Apparently, the result of the post-test showed that the students' vocabulary mastery improved significantly.

To describe the data, the researcher showed the criteria of score of the student's test result, mean of the test result, to know the students' score whether it was good or not, the researcher gave the criteria as follows:

Table 4.1 Criteria of the Score

	Interval Class	**Criteria**
1.	80-100	Very Good
2.	70-79	Good
3.	60-69	Enough/ Fair
4.	50-59	Poor
5.	0-49	Bad/ Low

Pre-test and post-test given by the researcher was a bit different format in vocabulary test. In the pre test the test consisted of 25 questions. The type of test are 10 transpose the letter, then 10 rearrange and gap filling (missing word), and 5 mention word by anagram. Then in the post test, the kinds of test are 10 transpose the letter, then 5 rearrange and gap filling (missing words), and 10 mention other word by anagram. The student's score in both pre-test and post-test were presented in the following tables:

1) **The result of student's achievement before using Anagram technique.**

Table 4.2 The Result of Pre-test Before Using Anagram Technique

No	Name	Score of pre test
1	And	59.0
2	Ana	62.0
3	Un	58.0
4	Kr	80.0
5	Lu	75.0
6	Fe	55.0
7	Ci	62.0
8	Ma	60.0
9	Ut	55.0
10	Ah	68.0
11	De	72.0
12	Ir	59.0
13	Kh	69.0
14	Se	64.0
15	Ev	62.0
16	Am	59.0
17	Ha	64.0
18	Kha	75.0
19	Azk	71.0
20	Ely	64.0
21	Rka	78.0

22	Usw	80.0
23	Ssk	64.0
		ΣX = 1515

The pre-test was administered on February, 27th 2016. The table shows that from 17 students dividing of score in pre-test. The result of the mean of pre-test score is:

$$X = \frac{\Sigma X}{N}$$

$$X = \frac{1515}{23}$$

$$X = 65.869$$

The mean score of students pre-test was 65.869.

To make the data set meaningful, the researcher organized the frequency and the percentage of score in pre-test by using IBM SPSS Statistic 16.0. Table 4.3 and Figure 4.2 represent the statistical result:

Table 4.3 Frequency of Score in Pre-test

Pretest

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	55	2	8.7	8.7	8.7
	58	1	4.3	4.3	13.0
	59	3	13.0	13.0	26.1
	60	1	4.3	4.3	30.4
	62	3	13.0	13.0	43.5
	64	4	17.4	17.4	60.9
	68	1	4.3	4.3	65.2
	69	1	4.3	4.3	69.6
	71	1	4.3	4.3	73.9
	72	1	4.3	4.3	78.3
	75	2	8.7	8.7	87.0
	78	1	4.3	4.3	91.3
	80	2	8.7	8.7	100.0
	Total	23	100.0	100.0	

2) **The result of student's achievement after being taught using Anagram technique**.

Table 4.4 The Result of Post-test After Being Taught Using Anagram Technique

No	Name	Score of post test
1	And	70.0
2	Ana	77.0
3	Un	80.0
4	Kr	90.0
5	Lu	82.0
6	Fe	78.0
7	Ci	86.0
8	Ma	86.0
9	Ut	74.0
10	Ah	75.0

11	De	82.0
12	Ir	77.0
13	Kh	75.0
14	Se	84.0
15	Ev	78.0
16	Am	70.0
17	Ha	82.0
18	Kha	85.0
19	Azk	86.0
20	Ely	78.0
21	Rka	84.0
22	Usw	92.0
23	Ssk	75.0
		ΣY = 1820

The post-test was administered on March, 12th 2016. The table shows that from 33 students dividing of score in pre-test. The result of the mean of pre-test score is:

$$Y = \frac{\Sigma Y}{N}$$

$$Y = \frac{1820}{23}$$

$$Y = 79.130$$

In this study, the result of pre test and post test is different. The mean is different between pre test and post test (65.869and 79.130), the average of post test is higher than pre test (79.130 > 65.869).

To make the data set meaningful, the researcher organized the frequency and the percentage of score in pre-test by using IBM SPSS Statistic 16.0. Table 4.3 and Figure 4.2 represent the statistical result:

Table 4.5 Frequency of Score in Post-test

Posttest

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	70	2	8.7	8.7	8.7
	74	1	4.3	4.3	13.0
	75	3	13.0	13.0	26.1
	77	2	8.7	8.7	34.8
	78	3	13.0	13.0	47.8
	80	1	4.3	4.3	52.2
	82	3	13.0	13.0	65.2
	84	2	8.7	8.7	73.9
	85	1	4.3	4.3	78.3
	86	3	13.0	13.0	91.3
	90	1	4.3	4.3	95.7
	92	1	4.3	4.3	100.0
	Total	23	100.0	100.0	

After organizing the frequency and the percentage of score from pre-test and post-test, the range, the minimum and maximum, the sum, the mean, the standard deviations, the variances of the speaking pre-test and post-test scores of the sample were conducted respectively by using IBM SPSS Statistics 16.0. Table 4.4 represents the result:

Table 4.6 Descriptive Statistics for Pre-test and Post-test

Statistics

		pretest	posttest
N	Valid	23	23
	Missing	0	0
Mean		65.8696	80.2609
Median		64.0000	80.0000
Mode		64.00	75.00[a]
Std. Deviation		7.75948	5.87922

2. Data Analyzing

Data analysis is done to know the different score before treatment and after treatment by searching the gain "D" (post test − pre test) and the total gain score (ΣD). Here also was searched the number of subject (N), the total of pre test (ΣX) and post test score (ΣY). The result of significance between the pre test and post test as follow:

Table 4.7 Significant different score before and after being taught using

Anagram technique

No.	Name	Pre-test (x)	Post-test (y)	Gain "D" (y-x)	D (y-x)^2
1	And	59.0	70.0	11	121
2	Ana	62.0	77.0	15	225
3	Un	58.0	80.0	22	484
4	Kr	80.0	90.0	10	100
5	Lu	75.0	82.0	7	49

6	Fe	55.0	78.0	23	529
7	Ci	62.0	86.0	24	576
8	Ma	60.0	86.0	26	676
9	Ut	55.0	74.0	19	361
10	Ah	68.0	75.0	7	49
11	De	72.0	82.0	10	100
12	Ir	59.0	77.0	18	324
13	Kh	69.0	75.0	6	36
14	Se	64.0	84.0	20	400
15	Ev	62.0	78.0	14	196
16	Am	59.0	70.0	11	121
17	Ha	64.0	82.0	18	324
18	Kha	75.0	85.0	10	100
19	Azk	71.0	86.0	15	225
20	Ely	64.0	78.0	14	196
21	Rka	78.0	84.0	6	36
22	Usw	80.0	92.0	12	144
23	Ssk	64.0	75.0	9	81
		$\Sigma X = 1515$	$\Sigma Y = 1820$	$\Sigma D = 327$	$\Sigma D^2 = 5453$

Based on the table above it is know the different students' scores in pre-test and post-test by searching the gain "D" (posttest-pretest) to know how far the different score students' improvement in pre-test and post-test. The data on the table 4.4 above will be computed used T-test formula. There is explains below:

a) **Identify Mean**

$$MD = \frac{\Sigma D}{N}$$

$$MD = \frac{327}{23}$$

$$= 14.217$$

b) Identify T-score

$$t = \frac{MD}{\sqrt{\dfrac{\sum D^2 - \dfrac{(\Sigma D)2}{N}}{N\,(N-1)}}}$$

$$= \frac{14.217}{\sqrt{\dfrac{5453 - \dfrac{(327)2}{23}}{23\,(23-1)}}}$$

$$= \frac{14.217}{\sqrt{\dfrac{5453 - \dfrac{106929}{23}}{506}}}$$

$$= \frac{14.217}{\sqrt{\dfrac{5453 - 4649.086}{506}}}$$

$$= \frac{14.217}{\sqrt{\dfrac{803.914}{506}}}$$

$$= \frac{14.217}{\sqrt{1.588}}$$

$$= \frac{14.217}{1.260}$$

$$= 11.283$$

c) Degree of Freedom

$$Df = N - 1$$

$$= 23 - 1$$

$$= 22$$

Based on the result above, the result is same when the researcher used SPSS
16.0 as shown below:

4.8 Table of Paired Sample Statistic

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pretest	65.8696	23	7.75948	1.61796
	Posttest	80.2609	23	5.87922	1.22590

4.9 Table of Paired Sample Correlation

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	pretest & posttest	23	.645	.001

Based on the table 4.6, output Paired Samples Correlations shows the large
correlation between samples, where can be seen numeral both correlation is (0.645)
and numeral of significance (0.001). Table 4.7 as follow;

4.10 Table of Paired Sample Test

Paired Samples Test

		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)
					95% Confidence Interval of the Difference				
			Paired Differences						
Pair 1	pretest - posttest	-1.43913E1	5.99044	1.24909	-16.98177	-11.80084	-11.521	22	.000

B. Hypothesis Testing

As mentioned previously in chapter I, the research hypothesis were as follows:

1. If the significant level is bigger than ttable (0.05%), the alternative hypothesis (Ha) is accepted and the null hypothesis (Ho) is rejected. It means that there is different score to the students before being taught by using Anagram technique and after being taught by using Anagram technique. The different shows that is any significant.

2. If the significant level is more than 0.05, the null hypothesis (Ho) is accepted and the alternative hypothesis (Ha) is rejected. It means that there is no different score of the students before being taught by using Anagram technique and after taught by using Anagram technique. That, there is no significant different. To know whether the significant level is bigger or

smaller than T-table the researcher analyzes the data by using SPSS statistics 16.0.

Based on statistical calculation using SPSS 16.0, it could be seen that the value of t_{count} was 11.283, where as t_{table} with significant level 5% and degree of freedom (df) 22 is 2.819. From the computing, t_{count} is bigger than t_{table} the alternative hypothesis (Ha) is accepted and the null hypothesis is rejected, it means that there is any significant different vocabulary achievement score of second grade of MTs Wahid Hasyim Setinggil-Wonodadi between before and after being taught by using Anagram technique.

C. Discussion

From the data analysis, the objective of this study was to know if there was an effect of using Anagram technique in teaching vocabulary to increase student's vocabulary mastery in VIII B grades of MTs Wahid Hasyim Setinggil-Wonodadi in academic year 2015/2016.

Based on the researcher method, in teaching learning process was divided into three steps. Firstly, the step was giving pretest for the students, its mean that to know the students' vocabulary mastery before being taught by Anagram technique. Secondly, the step was giving treatment to the student's, the treatment here was teaching vocabulary using Anagram technique. Thirdly, the step was

giving post test, in the post test the students were given a test to know their vocabulary mastery after they were got a treatment by using Anagram technique.

Based on the result above, the students' vocabulary mastery before being taught use Anagram technique is getting enough score. It can be seen from the mean of total score of the students is only (65.869).

After being taught by applying anagram technique students' ability is better than before. It is shown from the mean score of students' achievement in vocabulary is (79.130) it was good.

Then, the result of the statistical computing using T-test shows that there is any significant difference between pretest and posttest achievement. The result T-test is 11.283, if the T-test is compared to T-table with the degree of freedom 22 as stated hypothesis testing; the T-test 11.283 is higher than the T-table 2.819.

Therefore, based on the hypothesis testing, Ha is accepted and the Ho is rejected, the theory is verified. It means that the technique is effective to teach vocabulary.

From explanation above, using Anagram technique helps students in the acquisition and learning of new words as well as increase students familiarity with them in terms of meaning. It strengthened by Manalu statement (2015:41) word game helps and encourages their interest in learning vocabulary because it is amusing, interesting, and challenging the students. So, Anagram technique the part

of word game is alternative for the students in learning English especially in vocabulary. This reason is based on the result of test after getting treatment.

As already described in the previous chapter like based on Moursund (2007:6) the activity using the variety of techniques in presenting word play (Scramble, crosswords, Anagram, guessing game, etc) makes the students are easy to understand the material. They also created a relaxed, fun filled and anxiety-free atmosphere that facilitated and enhanced learning. This technique also provides students with enjoyment, pleasure, enthusiasm and variation which are significant enough to affect the student's achievement positively.

Finally, it was confirmed the implementation of Anagram technique in teaching and learning process gives a positive effect on the students' achievement, because they can study vocabulary easily. It can be done because by fun learning, information can be understood and maintained well. The description above implies that the technique can offer fun situation for the learner, so that they can learn better. Consequently, they can increase them vocabulary through the implementation of the technique.