CHAPTER IV

RESEARCH FINDINGS AND DISCUSSION

This chapter describes about research findings and discussion that includes about the description of data, normality and homogeneity testing, data analysis and hypothesis testing, and discussion.

A. Description of Data

The description of data presented the research data from the students' vocabulary mastery before and after being taught by Bingo game. In this study, the writer wanted to know the effectiveness of using Bingo Game to improve students' vocabulary mastery. The effectiveness showed from the significant different score of students' vocabulary mastery before and after using Bingo Game. The presentation of the data answered based on the formulated of research problems in chapter 1.

The researcher used tests as the instrument, they were pre-test and post-test. There were 25 items vocabulary test in the form of multiple choices and matching test. The test was administered to B class of second grade students at MTs Darul Falah Bendiljati Kulon in academic year 2017/2018 that consist of 35 students.

First step was conducting pre-test in order to measure the students' vocabulary mastery before implementing Bingo Game. Next, the researcher implemented Bingo Game to the student. Firstly, the researcher gave materials to the students. After that, the researcher gave Bingo game for the students to enhance their vocabulary mastery. During the treatment, the

students looked enthusiast and enjoy the game. Then, the last step was conducting post-test which was aimed to measure the students' vocabulary mastery after being applied using Bingo Game.

From the pre-test and post-test, the researcher got scores from the students. The score of pre-test and post-test presented in appendix 7. The students' score then computed by using SPSS 16.00 versions. Then, the presentation of data was as follows:

1. Students' vocabulary mastery before being taught by using Bingo Game

The pre-test was followed by 35 students. The researcher allocated 45 minutes for conducting pre-test. It was done before treatment process using Bingo Game. This test was intended to know the basic competence of the students' vocabulary mastery before giving the treatment. Below was the result of the computation using SPSS 16.00 version.

Table 4.1 Statistics of Pre-test Score

Statistics

Pretest Score

N	Valid	35
	Missing	0
Mean		68.00
Median		68.00
Mode		76

Based on the table 4.1, it can be seen that the students consist of 35 students. It showed that mean score was 68.00, indicated that the average

of 35 students' score was 68.00. The median score was 68.00. Mode is value which has the highest frequency. It meant that the most frequent students' score was 76.

Table 4.2 Frequency of Pre-test Score

Pre-test Score Frequency

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	56	2	5.7	5.7	5.7
	60	6	17.1	17.1	22.9
	64	8	22.9	22.9	45.7
	68	2	5.7	5.7	51.4
	72	8	22.9	22.9	74.3
	76	9	25.7	25.7	100.0
	Total	35	100.0	100.0	

From the table 4.2, showed that from 35 students the frequency of pre-test score after being distributed there were 2 students (5.7%) got 56, 6 students (17.1%) got 60, 8 students (22.9%) got 64, 2 students (5.7%) got 68, 8 students (22.9%) got 72, and 9 students (25.7) got 76.

2. **Students' vocabulary mastery after being taught by using Bingo Game**

The post test was also followed by 35 students. The researcher allocated 45 minutes for conducting post-test. It was done after treatment process using Bingo Game. This test was intended to know the result or the effect of treatment toward students' vocabulary after giving the treatment.

Table 4.3 Statistics of Post-test Score

Statistics

Posttest Score

N	Valid	35
	Missing	0
Mean		85.14
Median		84.00
Mode		84

Based on the table 4.3 can be seen that the sample consist of 35 students. It showed the mean score was 85.14, which meant that the averages of 35 students got 85.14. The median score was 84.00. In this case the mode score was 84.

Table 4.4 Frequency of Post-test Score

Post-test Score Frequency

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	72	2	5.7	5.7	5.7
	76	2	5.7	5.7	11.4
	80	6	17.1	17.1	28.6
	84	9	25.7	25.7	54.3
	88	7	20.0	20.0	74.3
	92	8	22.9	22.9	97.1
	96	1	2.9	2.9	100.0
	Total	35	100.0	100.0	

From the table 4.4, showed that from 35 students the frequency of post-test score after being distributed there were 2 students (5.7%) got 72, 2 students (5.7%) got 76, 6 students (17.1%) got 80, 9 students (25.7%)

got 84, 7 students (20.0%) got 88, 8 students (22.9%) got 92, and 1 student (2.9%) got 96.

3. **The Significant Difference between Pre-test and Post-test**

a) The Descriptive Statistics of Data

To know the significant difference between pre-test and post-test score, the writer used SPSS 16.00 versions to find the descriptive statistics of data. Below was the result of the computation.

Table 4.5 Descriptive Statistics of Data

Descriptive Statistics

|	N	Minimum	Maximum	Mean	Std. Deviation
Pre-test Score	35	56	76	68.00	6.651
Post-test Score	35	72	96	85.14	6.025
Valid N (listwise)	35				

The data above presented whether the minimum score of pre-test was 56 meanwhile the maximum score was 76. Then, the mean of pre-test was 68.00. After being given treatment using Bingo Game, the result showed whether the minimum score of post-test was 72 and the maximum score was 96. The mean of the students' post-test was 85.14. It showed that there was significant difference between pre-test and post-test score. Furthermore, the students had an improvement after the treatment.

b) Chart of the Data

After getting the data above, then the researcher made a chart to compare the mean of pre-test, post-test, and gained score to see the

improvement score which was obtained by the students after implementing Bingo Game. The chart was shown as below:

Table 4.6 Chart of Pre-Test, Post-Test, and Gained Score

Score	Pre-test	Post-test	Gained Score
	68	85,14	17,14
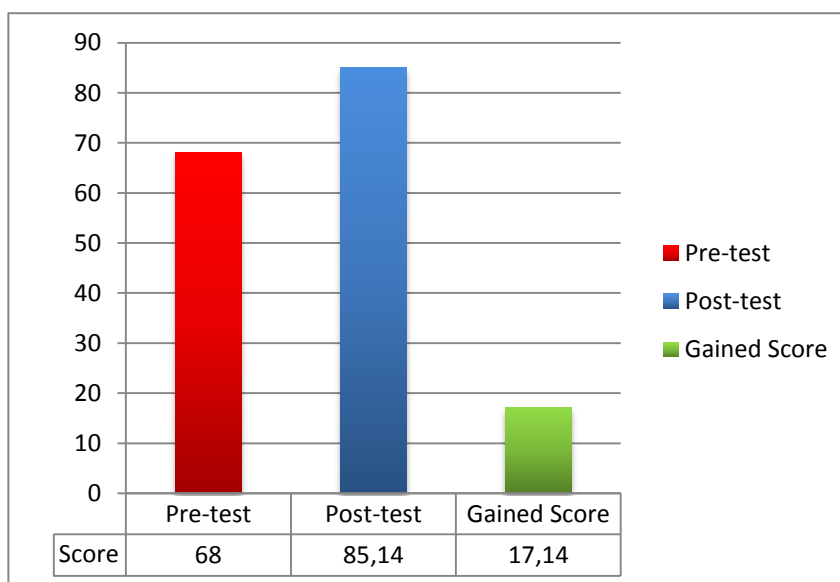
Based on the chart, it can be seen that the mean of pre-test was smaller than the mean of post-test (68 < 85.14), and the gained score from pre-test to post-test was 17.14. It can be concluded that there was significant difference between pre-test and post-test score.

B. **Normality and Homogeneity Testing**

The testing of data here was the researcher tried to find both of normality and homogeneity of the data. Those analyses were used to determine the next step that was testing the hypothesis. The result of measuring both normality and homogeneity were presented below.

1. Normality

   The normality of both pre-test and post-test data was measured by SPSS 16.00 versions using the formula of One Sample Kolmogorov-Smirnov Test. The result was shown as below:

Table 4.7 The Normality Result of The Data

One-Sample Kolmogorov-Smirnov Test

		Pretest Score	Posttest Score	Unstandardized Residual
N		35	35	35
Normal Parameters[a]	Mean	68.00	85.14	.0000000
	Std. Deviation	6.651	6.025	4.27551083
Most Extreme Differences	Absolute	.212	.139	.125
	Positive	.183	.118	.084
	Negative	-.212	-.139	-.125
Kolmogorov-Smirnov Z		1.254	.825	.741
Asymp. Sig. (2-tailed)		.086	.504	.643

a. Test distribution is Normal.

   Based on the description of SPSS result above, the test distribution was normal. Then, after ensuring whether the data has been normal, the next step was calculating the homogeneity of the data.

2. Homogeneity

   Homogeneity was conducted after ensuring whether the data has been in normal distribution. Calculating the homogeneity of the data was aimed to see whether the data included to homogeneous or heterogeneous data. The writer was helped by SPSS 16.00 versions to calculate the

homogeneity of the data. The formula which used was Homogeneity of Levene Statistic. The result was presented as below.

Table 4.8 Result of Homogeneity Test

Test of Homogeneity of Variances

Levene Statistic	df1	df2	Sig.
1.961	1	68	.166

The description of the homogeneity data above was the significance value showed in number 0.166. This meant whether the data was homogenous because the significance value was higher than α (0.05). The data is called as a homogeneous data when significance of value is higher than 0.05 ($\alpha>0.05$). However, the result above showed that the significance value was 0.166>0.05. Thus, the data included in homogeneous data. Because of the data was homogeneous, then, to test the hypothesis, the researcher used the formula of Paired Samples Test.

C. **Data Analysis and Hypothesis Testing**

The hypothesis of this research examined the effectiveness of before and after using Bingo Game technique in vocabulary mastery. The hypothesis which was examined in this research was as follows.

H_0 : There is no significant difference of students' score before and after being taught using Bingo Game.

H_a : There is significant difference of students' score before and after being taught using Bingo Game.

Then, the computation was used to know the effectiveness of Bingo game in vocabulary mastery. The writer used SPSS 16.0 using formula of Paired Samples Test. The result was shown as below:

Table 4.9 Paired Samples Statistics

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pretest Score	68.00	35	6.651	1.124
	Posttest Score	85.14	35	6.025	1.018

Based on Table 4.9, the output of paired samples statistics as descriptive statistic showed that the mean score of pre-test was 68.00 and the mean score of post-test was 85.14. The number of sample both pre-test and post-test was 35. The standard deviation of pre-test was 6.651 and the standard deviation of post-test was 6.025. The standard error mean of pre-test was 1.124 and the standard error mean of post-test was 1.018. It can be concluded that the mean or average score of the students in pre-test and post-test was different, the mean score of pre-test was less than the mean of post-test (68.00 < 85.14). Thus, there was increasing score from pre-test to post-test meant that there was significant different score after the students taught by using Bingo Game in increasing vocabulary mastery.

Table 4.10 Paired Samples Correlations

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Pretest Score & Posttest Score	35	.705	.000

Based on the table above, the output of Paired Samples Correlations showed the correlation between samples, where can be seen the number of sample was 35, the correlation was 0.705, and the significance value was 0.000. Below was the formulation to interpret the significance value.

a. If sig > 0.05, there is no influence of giving treatment toward pre-test and post-test score.

b. If sig < 0.05, there is influence of giving treatment toward pre-test and post-test score.

Based on the computation output, the significance value was 0.000. It meant that the level of significance was smaller than 0.05 (0.000 < 0.05). Thus, it can be concluded that there was influence of giving treatment toward pre-test and post-test score.

Table 4.11 Paired Samples Test

Paired Samples Test

		Paired Differences							Sig. (2-tailed)
				Std. Error Mean	95% Confidence Interval of the Difference				
		Mean	Std. Deviation		Lower	Upper	t	df	
Pair 1	Pretest Score – Posttest Score	-17.143	4.906	.829	-18.828	-15.458	-20.673	34	.000

From the table 4.11, it showed that the difference of the mean score between pre-test and post-test was 17.143. The standard deviation was 4.906. The standard error mean was 0.829. The lower difference was 18.828 and the upper difference was 15.458. The result of t was 20.673, the df was 34, and the significance was 0.000.

The explanation of data was done by comparing the result of p-value (sig.). The explanation can be seen below:

- The result of p-value (Sig.)

  a) If sig > 0.05 the null hypothesis was accepted.

  b) If sig < 0.00 the null hypothesis was rejected.

The score of sig in this research was 0.000, it meant that the level of sig. was smaller than 0.05 (0.000<0.05). It indicated that the null hypothesis was rejected. In other words, the hypothesis saying that there is no significant difference of students' score before and after implementing Bingo Game was rejected. It automatically accepted the alternative hypothesis saying that there is any significant difference of students' score before and after implementing Bingo Game. It can be concluded using Bingo game technique in teaching vocabulary mastery of the second grade at MTs Darul Falah Bendiljati Kulon was effective.

D. Discussion

Teaching and learning process in this research was divided into three steps. First step was the researcher administered pre-test by giving vocabulary

test. It was used to know the students' earlier vocabulary mastery before they get treatment. The second was given treatment to the students. The treatment here was teaching vocabulary by Bingo game. After students got treatment, they were more active and enthusiastic to learn vocabulary. The last step was giving post-test to the students after they got treatment.

From the research finding, the output data of Paired Samples Test showed mean of pre-test was 68.00 and post-test 85.14. Mean is to measure average of pre-test and post-test score. It was found that the students' vocabulary achievement after being taught by Bingo Game had better than the students vocabulary achievement before taught by Bingo Game. Furthermore, the result of Paired Samples Test showed that the significance value (2-tailed) was 0.000. It meant that the significance level was less than 0.05 (0.000<0.05) which meant the alternative hypothesis (H_a) was accepted, while the null hypothesis (H_0) was rejected. Therefore, it can be concluded that there was significance difference score on students' vocabulary mastery of second grade students at MTs Darul Falah Bendiljati in academic year 2017/2018 before and after being taught using Bingo Game technique.

Based on the explanation above, it can be concluded that bingo game was effective to improve students' vocabulary mastery especially for the second grade students of MTs Darul Falah Bendiljati Kulon. This finding was in line with the previous study which has been done by Munawaroh (2016) at MI Podorejo Sumbergempol that showed there is significance different score after the students being taught using bingo game. In addition, Febriyansyah

(2015) at SMAN 4 Purworejo showed that vocabulary mastery of most students improved after Bingo Game was used in the teaching and learning process.

According to Finch (2014) Bingo game can promote students' confidence, motivation and responsibility for learning. This condition can made the students interest in the learning. Another effect to the students after taught by using Bingo Game can be seen on their attitudes when they engaged in vocabulary learning. It was known from the implementation of Bingo Game to the students in the class. The students seem active and interested to participate in vocabulary activity. They were also easier to remember the new words that they learn. The finding is strengthened with statement from Finch and Hyun (2007) that state Bingo Game able to help the students remember some vocabularies which are difficult to be memorized and influences students to be more creative and active. Richardson *et al*. (2012: 206) also mention that playing vocabulary bingo also lets teachers work with words in a relaxed atmosphere. Further, Kavaliauskene (2000) explains that bingo game provides a unique opportunity for students to self-asses their progress in learning professional vocabulary and for a teacher to assess students' progress informally without causing stress and anxiety. This indicated that Bingo game can be an alternative strategy to help the teacher to improve the students' vocabulary mastery in relaxed atmosphere in the class.

Finch and Hyun (2007) state bingo game naturally a group activity. In the class, students played Bingo game and discuss with their group to finish

the game. It made them more responsible and improved their ability to cooperate with each other. As state by Finch and Hyun (2007) that Bingo game improves the ability to cooperate with each other. In addition, Coco *et al*. (2001) state bingo game can enable all students to participate equally. Hence, it can be concluded that bingo game help the students to participate and cooperate with their friend in vocabulary learning.

After the researcher did the research in teaching vocabulary mastery to the second grade students at MTs Darul Falah Bendiljati Kulon, the implementation of Bingo game not only motivate the students in learning vocabulary but also help the students' improve their vocabulary mastery. It proved that Bingo game effective in vocabulary learning because it can help the students learn new words in joyful atmosphere.

Considering from the explanation above, it implies that the use of Bingo game was capable to promote the improvement of students' vocabulary mastery in which it can be seen from the progress of the students' vocabulary scores after given a treatment using Bingo game. It was expected that the teachers were recommended to utilize Bingo Game on the teaching of vocabulary in order to improve students' vocabulary mastery.

Students were motivated and relaxed in learning vocabulary when they were taught using Bingo game. Therefore, it implies that the use of Bingo game can keep students' interest in learning new words.

In summary, the use of Bingo game during the research can improve the students' vocabulary achievement. Therefore, the application of Bingo

game needs to be applied continuously in teaching vocabulary. It is because the use of bingo game can be effective media to help the students improve their vocabulary and create an enthusiastic learning process so that the standard of competence of learning process can be achieved.