CHAPTER IV

RESEARCH FINDINGS AND DISCUSSIONS

This chapter presented the research findings and discussions. This research was conducted to answer a research problem. The research problem is the snakes and ladders game have or not have an affect on students' mastery vocabulary mastery of eight grade students. As the answer for this research, this chapter was divided into two main parts. The first is the findings, which present the result found, and the discussion, which contain an explanation of the result found.

4.1 The Data

The data were taken from the student's vocabulary pre-test and post test. The result of the test is the data which will be used to answer the research problem. The data that will be used in this study are as follows.

4.1.1 Pre-Test and Post Test of Experimental Group

The following are the results of pre-test and post test data collection from the experimental group.

Table 4.1 Result of Pre-Test and Post-Test of Experimental Group

Num	Initial	Pre-Test Result	Post Test Result
1	APA	65	75
2	AFN	60	70
3	AFM	50	75
4	ASH	65	80

Advance of Table 4.1

Num	Initial	Pre-Test Result	Post Test Result
5	ATC	65	75
6	AA	75	80
7	BS	85	90
8	CWS	55	75
9	DP	75	85
10	DSL	65	70
11	DL	55	65
12	EDP	70	75
13	EA	85	95
14	KCA	75	85
15	KJ	90	95
16	KL	45	70
17	MIQ	50	70
18	MIA	65	75
19	MRA	55	70
20	MRP	65	80
21	MA	90	95
22	NNW	90	95
23	NA	75	80
24	PW	85	90
25	RHK	70	80
26	RR	75	80
27	RG	65	80
28	R	65	85
29	SF	85	90
30	SA	85	90
31	SH	85	95
32	THE	85	90
33	YP	85	90
34	YA	80	90
35	ZS	60	70
Mean		**71,29**	**81,57**

From the table above, the researcher found that the experimental group students had an average pre-test score of 71,29 and an average post-test score of 81,57.

4.1.2 Pre-Test and Post Test of Control Group

The following are the results of pre-test and post test data collection from the control group.

Table 4.2 Result of Pre-Test and Post-Test of Control Group

Num	Initial	Pre-Test Result	Post Test Result
1	AF	70	75
2	AF	60	35
3	AR	55	50
4	AAD	30	50
5	AAA	25	45
6	AR	85	70
7	CBBB	90	90
8	CA	70	75
9	DS	65	65
10	EDP	55	60
11	FKA	35	85
12	HS	45	50
13	I	75	95
14	MLPT	90	40
15	MA	85	80
16	MH	70	35
17	MRS	30	85
18	MUS	50	65
19	NDC	90	90
20	NSA	55	80
21	NAB	80	95
22	NHN	60	90
23	PAD	90	90
24	RA	90	85
25	RA	30	50
26	RF	90	85
27	RK	50	35
28	RA	90	90
29	SH	90	90
30	TPA	85	90
31	TM	70	85
32	TP	80	90
33	VP	90	95
34	YA	90	90

Advance of Table 4.2

Num	Initial	Pre-Test Result	Post Test Result
35	RA	60	85
Rata-rata		**67,86**	**72,86**

From the table above, the researcher found that the control group students had an average pre-test score of 67,86 and an average post-test score of 72,86.

4.2 The Data Analysis

The following is the data processing in this study.

4.2.1 Validity Test

Valid shows the degree of accuracy between the data that actually occurs on the object and the data that the researcher can collect. The following are the results of the pre-test validity test.

Table 4.3 Validity Test of Pre-Test Data

Correlations				
		Pre-Test Experimental Class	**Pre-Test Control Class**	**Total Nilai Pre-Test**
Pre-Test Experimental Class	Pearson Correlation	1	.517**	.796**
	Sig. (2-tailed)		0,001	0,000
	N	35	35	35
Pre-Test Control Class	Pearson Correlation	.517**	1	.929**
	Sig. (2-tailed)	0,001		0,000
	N	35	35	35
Total Nilai Pre-Test	Pearson Correlation	.796**	.929**	1
	Sig. (2-tailed)	0,000	0,000	
	N	35	35	35
**. Correlation is significant at the 0.01 level (2-tailed).				

From the table above, the researcher found that all of the pre-test data are valid. The r_{xy} value is 0,796 for experimental class and 0,929 for control class which are more than the r table and the significance value is less than 0,05. The r table value for 35 respondent is 0,334 which can be seen in the appendix.

The following are the results of the post-test validity test.

Table 4.4 Validity Test of Post-Test Data

Correlations				
		Post-Test Experimental Class	**Post-Test Control Class**	**Total Nilai Post-Test**
Post-Test Experimental Class	Pearson Correlation	1	.508**	.745**
	Sig. (2-tailed)		0,002	0,000
	N	35	35	35
Post-Test Control Class	Pearson Correlation	.508**	1	.953**
	Sig. (2-tailed)	0,002		0,000
	N	35	35	35
Total Nilai Post-Test	Pearson Correlation	.745**	.953**	1
	Sig. (2-tailed)	0,000	0,000	
	N	35	35	35
**. Correlation is significant at the 0.01 level (2-tailed).				

From the table above, the researcher found that all of the pre-test data are valid. The r_{xy} value is 0,745 for experimental class and 0,953 for control class which is more than the r table and the significance value is less than 0,05. The r table value for 35 respondent is 0,334 which can be seen in the appendix.

4.2.2 Reliability Test

If alpha >0.90, reliability is perfect. If alpha is between 0.70 - 0.90, the reliability is high. If alphais 0.50 - 0.70, the reliability is moderate. If alpha <0.50

then reliability is low. If alpha is low, it is possible that one or more items are unreliable. The following are the results of the reliability test.

Table 4.5 Reliability Test

Reliability Statistics	
Cronbach's Alpha	**N of Items**
0,791	4

From the table above, the researcher found the Cronbach's alpha value is 0,791, because of the value is more than 0,60 so it means the data is reliable and in the high category.

4.2.3 Mean of the Data

The pre-test was given to both experimental and control group before the researcher applied the treatment. Below are the results of the pre-test mean value in both experimental and control group.

Table 4.6 Mean Data of Pre-Test

Descriptive Statistics					
	N	**Minimum**	**Maximum**	**Mean**	**Std. Deviation**
Pre-Test Experimental Class (VIII-1)	35	45	90	71,29	12,910
Pre-Test Control Class (VIII-2)	35	25	90	67,86	21,154
Valid N (listwise)	35				

From the table above, it can be seen that the data from those two classes were the same, which were 35. In the above table shows that the mean score of

VIII-1 class was higher than the mean of VIII-2 class, in which it was 71,29 and 67,86. Thus, it can be concluded that the pre-test score in VIII-1 was higher than the pre-test score of VIII-2.

Below are the results of the post test mean value in both experimental and control group.

Table 4.7 Mean Data of Post Test

Descriptive Statistics					
	N	**Minimum**	**Maximum**	**Mean**	**Std. Deviation**
Post-Test Experimental Class (VIII-1)	35	65	95	81,57	9,056
Post-Test Control Class (VIII-2)	35	35	95	72,86	19,937
Valid N (listwise)	35				

From the table above, it can be seen that the data from those two classes were the same, which were 35. In the above table shows that the mean score of VIII-1 class was higher than the mean of VIII-2 class, in which it was 81,57 and 72,86. Thus, it can be concluded that the post test score in VIII-1 was higher than the post test score of VIII-2.

4.2.4 Normality Test

The normality test in this study used the Kolmogorov-Smirnov test. Data is said to be normally distributed if the significance value of ρ-value of the Kolmogorov-Smirnov test > 0.05 or insignificant (Fitriana et al., 2018). Below are the results of the pre-test.

Table 4.8 Kolmogorov-Smirnov Normality Test

Tests of Normality				
Class		**Kolmogorov-Smirnov[a]**		
		Statistic	**df**	**Sig.**
Result of the Test	Pre-Test Experimental Class	0,170	35	0,012
	Post Test Experimental Class	0,167	35	0,015
	Pre-Test Control Class	0,163	35	0,020
	Post Test Control Class	0,214	35	0,000
a. Lilliefors Significance Correction				

From the table above, the researcher found that the significance values are less than 0,05. For that based on the Central Limit Theorem which states that for large samples especially for more than 30 ($n \geq 30$), then the distribution of the sample is considered normal (Kwak et al., 2017). So, it can be concluded that although the results of the test of the classical assumption, i.e. the normality test, show that some of the data are distributed abnormally, but because the sample in this study is more than 30 ($n \geq 30$), according to the Central Limit Theorem then the data is considered normal.

4.2.5 Homogeneity Test

In testing the homogeneity, the hypothesis used was the variant which comes from two classes that were the same (homogeneity) and the alternative hypothesis was the variants which come from two classes that were not the same. This data can be concluded homogeny if the score of Sig. was more than 0,05 (Fitriana et al., 2018).

Table 4.9 Homogeneity Test

Test of Homogeneity of Variance					
		Levene Statistic	**df1**	**df2**	**Sig.**
Result of the Test	Based on Mean	12,090	3	136	0,000
	Based on Median	7,982	3	136	0,000
	Based on Median and with adjusted df	7,982	3	94,865	0,000
	Based on trimmed mean	11,099	3	136	0,000

Based on table above it can be seen that the value of sig. was 0,000 based on mean. This score was less than 0,05. Thus, it can be concluded that the variant data was not homogeneous. Although the data not homogeneous the t-test still can be continued

4.2.6 Hypothesis (T-Test)

Testing the hypothesis in this study using paired sample T-test using SPSS 25. This test tested whether the snake and ladders game influenced students' vocabulary mastery. This test was performed to see how much influence the snake game of stairs had on the student's mastery of vocabulary. The hypotheses are as below.

H_0 : There was no influence in students' vocabulary mastery using the snake ladders game

H_a : Tas a influence in students' vocabulary mastery using the snake ladders game

The results of the paired sample T-test test can be seen in the following table.

Table 4.10 Mean Paired Sample

Paired Samples Statistics					
		Mean	**N**	**Std. Deviation**	**Std. Error Mean**
Pair 1	Pre-Test Experimental Class	71,29	35	12,910	2,182
	Post-Test Experimental Class	81,57	35	9,056	1,531
Pair 2	Pre-Test Control Class	67,86	35	21,154	3,576
	Post-Test Control Class	72,86	35	19,937	3,370

Since the average test output is pre-test 71,29 < post test 81,57 for the experimental class and pre- test 67,86 < post test 72,86 for control class, then it means that there is a descriptive difference in the mean test outcome between the pre-test and the post test results. Next to prove whether the difference is really real or not, it will be interpreted through the results of the paired sample test.

Table 4.11 Paired Sample T-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	Pre-Test VIII-1 - Post-Test VIII-2	-10,286	5,934	1,003	-12,324	-8,247	-10,255	34	0,000
Pair 2	Pre-Test VIII-2 - Post-Test VIII-2	-5,000	20,073	3,393	-11,895	1,895	-1,474	34	0,150

Based on table above it can be seen that, the sig value (2 tailed) is equal to 0,000 for experimental class and 0,150 for control class < 0,05, then H_0 is rejected

and H_1 is accepted. So, it can be concluded that teaching vocabulary through snake and ladder board game could improve students' vocabulary mastery.

4.3 The Research Finding

Based on the data , the researcher found that:

1. The mean score between VIII-1 which was experimental class and VIII-2 which was control class, VIII-1 obtain the mean score higher than VIII-2 with score 71,29 for pre-test and 81,57 for post test while the control class obtain 67,86 for pre-test and 72,86 for post-test.
2. The data of this research are valid. It can be proved by the result of the validity test with score 0,796 for pre-test and 0,745 for post-test of experimental class and then fo the control class obtain validity score 0,929 for pre-test and 0,953 for post test.
3. The data are reliable. It can be proved by the result of the reliability test with Cronbach's alpha score 0,791. The score is more than 0,6, so it means the data are reliable.
4. In the normality test, the significance score are 0,012 for pre-test and 0,015 for post test of experimental class while the control class got 0,020 for pre-test and 0,000 for post-test. Although the score was less than 0,05, the data was normal. For that based on the Central Limit Theorem which states that for large samples especially for more than 30 ($n \geq 30$), then the distribution of the sample is considered normal (Kwak et al., 2017).

5. The homogeneity test shows score 0,000 for all category class, it means the data was not homogeneus.
6. Hypothesis Test got significance score 0,000 for experimental class and 0,150 for control class. Because of the score was less than 0,05, it means that the H_1 hypothesis is accepted.

4.4 Discussion

Based on the previous analysis above, the researcher discovered that the application of the snake and ladders game as a method for teaching vocabulary showed positive results in enhancing students' vocabulary mastery within the second grade of junior high school. groups.

The average score of the pre-test for the experimental group was 71,29, whereas the control group had an average score of 67,86. In contrast, the post-test scores of the experimental group exhibited an increase to 81,57, whereas the control group demonstrated a rise to 72,86. In this particular instance, it is evident that the experimental group, identified as VIII-1, achieved a higher score compared to the control group subsequent to the implementation of the snake and ladders game during their instructional session. The application of the snake and ladders game resulted in a notable improvement in the vocabulary proficiency of second-grade junior high school students. It indicates that once the snake and ladders game was introduced, there was a notable shift in the second grade of junior high school students' vocabulary mastery.

The findings of this research were also in line with the explanation of Astri (2016), snake and ladders game can be beneficial for language learning in which they are normally designed in accordance with real life activities. This game offers the students with an opportunity to exercise real and meaningful language context while interacting in the game with others involved. For instance: the students were asked to answer the question card which were they gained from the board of snake and ladder game, then they have to answer the question inside the question card which consists of Indonesian vocabulary and they have to answer it by mentioning what was the English version of that vocabulary. In this case, the researcher takes "things around school" as the theme in order to give them the real things which exist around them to be taught, then after answering the question, the students should make a sentence related to the vocabulary they had been translated. In this case the students learn to put the vocabulary in the precise sentence in order to make a meaningful sentence related to the vocabulary itself.

Thus, in this game the students have an opportunity to explore their knowledge to the real life and also express their knowledge which were they gained from the teacher in the previous meeting to answer the question card. In this game the students also could interact with others if they found the difficulty to answer the question. Another supporting research was conducted by Rohayati et al. (2019), to minimize the difficulty it is essential that the learners be familiar with the game in their own language. That is why in this research the researcher teaches snake and ladder board game with "things around school" as the theme in order to make the students exploring things around them with their own language.

In accordance with the above explanations, it can be concluded that games were highly motivate the students to learn the subject because the games itself were amusing, interesting and also give more opportunity to the students to express and explore their feelings with their own language. As noted by Halimah (2012), games are often much opportunity for the learner to practice and repeat the sentence patterns and vocabulary. This means that teaching by using games could help the teachers to transfer the knowledge to the students easier and create an active environment through the game. In this case, snake and ladders game was an example of game which can be used to teach English especially vocabulary because this game was served in colorful pictures in which it will attract the students' interest. Accordingly, related to the result of this experimental research, the researcher concludes that snake and ladders game can improve students' vocabulary mastery in the second year students of junior high school.