CHAPTER IV

RESEARCH FINDINGS AND DISCUSSIONS

This chapter focuses on presenting the result of data analysis. Three main topics will be discussed in this part covering description of data, hypothesis testing and discussions.

A. The Description of Data

In this section, the writer presents the students' vocabulary mastery before and after being taught by using word square game. As mentioned before, the researcher uses test as the instrument in collecting data. The test was given to the first A class as a single group. The test was in the fill in the blank, matching the picture and random word. The researcher presented and analyzed the data through two kinds of test, they were pretest and posttest. The pretest was given before teaching the class by using word square game. The researcher as teacher taught the students in two weeks.

In teaching and learning process for the first meeting in 15 February 2016 the teacher gave pre test for vocabulary testing. For the pre test, the teachers gave 40 questions and have done in 80 minutes. The kinds of the questions are 15 fill in the blank, 10 matches to the picture, 15 random words. For the scoring in task 1, the teacher gives three points in each number. In task 2, the teacher gives one points in each number and in task 3, the teacher gives three points in each number.

So, if the all student's answer corrects, the students will get the score 100. The result of pretest shows that their vocabulary is poor. They are difficult and confused to find and arrange the word whether horizontally, vertically, or diagonally correctly.

After the researcher getting the result of pretest, the researcher gives treatment to the students by using word square game to improve their vocabulary. For treatment, the students look enjoy and enthusiastic to play game. When treatment has finished, the researcher gives test again to know students' ability after being taught by using word square game. This test is called posttest. The result of posttest showed that students' vocabulary mastery improved significantly. The collected data were described in the form of table that includes the pretest and posttest score in a single group.

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

Table 4.1 The criteria score of the students by using word square game

No.	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

1. Description of Proficiency of Students Before being taught by using Word square game.

In this section, the researcher presents the students' vocabulary mastery before being taught by using word square game. In this presentation, the researcher and analyzed the collected data through pretest which are administered to 26 students. The descriptions were presented in the following table:

Table 4.2 The students' score before being taught by using word square game (Pretest).

No	Name	Pretest
1.	AAR	60
2.	AKA	54
3.	AS	65
4.	AP	73
5.	ADS	70
6.	AS	61
7.	ATW	58
8.	DRS	76
9.	DAS	79
10.	DMF	77
11.	ESP	72
12.	EJ	60
13.	HS	54
14.	MS	64
15.	MIF	75
16.	NK	67
17.	RMN	60
18.	SLS	70
19.	SP	68
20.	SAA	65
21.	SW	67
22.	SF	59
23.	WBP	55
24.	YS	70
25.	YP	56
26.	YPU	85

Pretest was administered on 15 February 2016 at 12.10-13.30 a.m. The table 4.2 shows that from 26 students there are 16 students got score under 70 (passing score) and 10 students got score more than 70. It can be concluded that 16 students were not pass the pretest.

Table 4.3 Descriptive statistic of pretest

Statistics

s VAR0001

N Valid	26
Missing	0
Mean	66.1538
Median	66.0000
Mode	60.00[a]
Std. Deviation	8.32198
Variance	69.255
Range	31.00
Sum	1720.00

a. Multiple modes exist. The smallest value is shown

Based on the table 4.3 above, there are 26 students. it shown that mean score 66.1538, it means that the average of 26 students are got 66 scores. Based on criteria success of students' score 66 are Enough score. The median score is 66.000 and the mode is 60.00. The mode is simply that value which had the highest frequency. It means that the most frequent score is 60 that indicated many students got enough score. Then, the standard deviation is 8.32198.

Table 4.4 Frequency of Pretest

VAR00001

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	54	2	7.7	7.7	7.7
	55	1	3.8	3.8	11.5
	56	1	3.8	3.8	15.4
	58	1	3.8	3.8	19.2
	59	1	3.8	3.8	23.1
	60	3	11.5	11.5	34.6
	61	1	3.8	3.8	38.5
	64	1	3.8	3.8	42.3
	65	2	7.7	7.7	50.0
	67	2	7.7	7.7	57.7
	68	1	3.8	3.8	61.5
	70	3	11.5	11.5	73.1
	72	1	3.8	3.8	76.9
	73	1	3.8	3.8	80.8
	75	1	3.8	3.8	84.6
	76	1	3.8	3.8	88.5
	77	1	3.8	3.8	92.3
	79	1	3.8	3.8	96.2
	85	1	3.8	3.8	100.0
	Total	26	100.0	100.0	

Based on the test above on the table 4.4, the researcher can see that two students got score 54, it means that the mastery of students in vocabulary of SMPN 2 Sumbergempol is poor. The students got score 60 are three students, it means that the students is belongs to enough. Then one of the students got score

77, it means that the students have good mastery in vocabulary. The last the students got 85 score is only one, that score is very good criteria in vocabulary.

2. Description of Proficiency of Students After being taught by using word square game (Posttest).

In this section, the researcher presented the students' vocabulary mastery after being taught by using word square game. The descriptions were presented in the following table:

Table 4.5 The students' score after being taught by using word square game.

No	Name	Posttest
1.	AAR	85
2.	AKA	90
3.	AS	95
4.	AP	88
5.	ADS	76
6.	AS	97
7.	ATW	67
8.	DRS	95
9.	DAS	84
10.	DMF	82
11.	ESP	88
12.	EJ	64
13.	HS	60
14.	MS	90
15.	MIF	88
16.	NK	68
17.	RMN	69
18.	SLS	85
19.	SP	93
20.	SAA	92
21.	SW	94
22.	SF	98
23.	WBP	92
24.	YS	88
25.	YP	100

26.	YPU	89
		$\sum y = 2214$

Posttest was administered on 24 February 2016 at 13.30-14.50 a.m. The table 4.5 showed that most of the students passed the posttest and only 5 students were not passing for their scores were under 70.

Table 4.6 Descriptive statistic of posttest

Statistics

VAR00002

Valid	26
Missing	0
Mean	85.2692
Median	88.0000
Mode	88.00
Std. Deviation	1.11483E1
Variance	124.285
Range	40.00
Sum	2217.00

Based on the table 4.6 above, there are 26 students. it shown that mean score 85.2692, it means that the average of 26 students are got 85 scores. Based on criteria success of students' score 85 are very good score. The median score is 88.0000 and the mode is 88.00. The mode is simply that value which had the highest frequency. It means that the most frequent score is 88 that indicated many students got very good score. Then, the standard deviation is 1.11483.

Table 4.7 Frequency of Pretest

VAR00002

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	60	1	3.8	3.8	3.8
	64	1	3.8	3.8	7.7
	67	1	3.8	3.8	11.5
	68	1	3.8	3.8	15.4
	69	1	3.8	3.8	19.2
	76	1	3.8	3.8	23.1
	82	1	3.8	3.8	26.9
	84	1	3.8	3.8	30.8
	85	2	7.7	7.7	38.5
	88	4	15.4	15.4	53.8
	89	1	3.8	3.8	57.7
	90	2	7.7	7.7	65.4
	92	2	7.7	7.7	73.1
	93	1	3.8	3.8	76.9
	94	1	3.8	3.8	80.8
	95	2	7.7	7.7	88.5
	97	1	3.8	3.8	92.3
	98	1	3.8	3.8	96.2
	100	1	3.8	3.8	100.0
	Total	26	100.0	100.0	

Based on the test above on the table 4.7, the researcher can see that one student got score 60, it means that the mastery of students in vocabulary of SMPN 2 Sumbergempol is good. The students got score 76 are one student, it means that the students is belongs to good. Then four of the students got score 88, it means that the students have very good

mastery in vocabulary. The last the students got 95 score is two students, that score is very good criteria in vocabulary.

B. Data Analysis

Data analysis is done to know the different before and after test by researching the gain "d" (score after test-score before test) and then total of the gain score ($\sum$d).

Table 4.8 The pretest and the posttest scores analyzed to (d) and d $(Y-X)^2$

No.	Name	Pretest (x)	Posttest (y)	Gain (d)(y-x)	d $(y-x)^2$
1.	AAR	60	85	25	625
2.	AKA	54	90	36	1296
3.	AS	65	95	30	900
4.	AP	73	88	15	225
5.	ADS	70	73	3	9
6.	AS	61	97	36	1296
7.	ATW	58	67	9	81
8.	DRS	76	95	19	361
9.	DAS	79	84	5	25
10.	DMF	77	82	5	25
11.	ESP	72	88	16	256
12.	EJ	60	64	4	16
13.	HS	54	60	6	36
14.	MS	64	90	26	676
15.	MIF	75	88	8	64
16.	NK	67	68	1	1
17.	RMN	60	69	9	81
18.	SLS	70	85	15	225
19.	SP	68	93	25	625
20.	SAA	65	92	27	729
21.	SW	67	94	27	729
22.	SF	59	98	39	1521
23.	WBP	55	92	37	1369
24.	YS	70	88	18	324
25.	YP	56	100	44	1936

26.	YPU	85	89	4	16
		$\sum x = 1.720$	$\sum y = 2214$	$\sum D = 489$	$\sum D^2 = 13447$

The score above will be analyzed by using SPSS program. It is used to know mean of pretest and posttest. The result as follow:

Table 4.9 Paired Sample Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	pretest	66.1538	26	8.32198	1.63207
	posttest	85.2692	26	11.14830	2.18636

Based on the table 4.9 above, Output paired sample statistics shows mean of pre test is 66.1538. The numbers of the test given are 40 questions for 26 students. The pretest is done before treatment process (teaching vocabulary by using word square game). This test is given to know the basic competence for all students and to know their earlier knowledge before they get treatment.

The mean score of posttest is 85.2692. The numbers of the test given are 40 questions for 26 students. The post test is done after giving treatment process (teaching vocabulary by using word square game). It is done to know the final score and to know the students' difference competence before and after they get treatment.

Based on above result, we can conclude that there are mean score differences between pretest and posttest. The mean score of the pretest is 66.1538,

while the posttest score is 85.2692. So, there is increase and difference posttest score is higher than pretest score.

Table 4.10 Paired Samples Correlations

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	VAR00001 & VAR00002	26	.164	.424

Based on the table above, the output of paired sample correlation show the large correlation between samples, where can see numeral both correlation are 164 and numeral of significance is 424.

C. Hypothesis Testing

Hypothesis testing was identified by using the significant effect of T-test result after using word square game. Gay (1992:72) stated also the result of research only indicate whether a hypothesis was true for the particular subjects involved in the study.

After doing the experimental, the researcher recorded the scores obtained from the pretest and posttest, conducted some statistical calculations for the data analysis, and made interpretation and conclusions. The result of pretest and posttest will be presented bellow.

Table 4.11 Paired Samples Test

Paired Samples Test

		Paired Differences					T	df	Sig. (2-tailed)
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper			
Pair 1	VAR00 001 - VAR00 002	-1.91154E1	12.77287	2.50497	-24.27446	-13.95631	-7.631	25	.000

Based on the table above, it can be seen that the T-count is 7.631 with the df is 25. The score of vocabulary mastery before being taught by word square game is good, because the mean score of vocabulary is 66.1538 and after the students got a treatment the mean of vocabulary mastery is 85.2692 it improved, the researcher used T-test analysis, the result of T-count is 7.631. The negative which appear in T-count above means the mean before treatment is lower than after treatment. Therefore, word square is an appropriate game to improve vocabulary mastery for the students.

Then the researcher gave interpretation to t0. First, the researcher considered the df, df = N-1, in here df is 25. The researcher consulted the score in t-table. The significant level of 0.424 the score of t-table is 2.060.

by comparing the "t" that the researcher has got calculation t-count is 7.631 and the value of "t" on t-table t0 is 2.060. From the calculation above, t count is bigger than t-table (7.631>2.060).

From the calculation above, t count is bigger than t-table the alternative hypotheses (Ha) is accepted and the null hypotheses is rejected. It means that there is any significant different vocabulary mastery score of first grade of SMPN 2 Sumbergempol between before and after being taught by using word square game.

From the result of computation above, the degree of freedom is 25. The computation above shows that result of T-test is 23.321.837. To compare whether it is significance or not, the researcher uses T-table. In conclusions, T-score is greater than T-table. So, the alternative hypothesis (H_1), saying that there is significant difference between students score before and after being taught by using word square game is accepted and the null hypothesis (H_0) saying that there is no significant difference between students score before and after being taught by using word square game is rejected. Thus, the word square game is effective for teaching vocabulary.

D. Discussions

Based on the finding, it has been mentioned that the using of t-test formula to check the significant different between before and after being taught using word square game in teaching vocabulary. The objective of this study is to know the effectiveness of word square game toward the students' mastery of vocabulary of the first grade at SMP Negeri 2 Sumbergempol in the academic year 2015/2016.

In this research, the correlation between the recent research with previous research is in the recent research is more effective because this research conduct in a long time that is six meeting. The treatment is doing in four meeting. So, there are any significance different score between before and after using word square game.

The mean score of pretest is 66.1538 while posttest is 85.2692. from this calculation, it is found that difference of the mean score between pretest and posttest is -19.1154. So, there is increase and difference score is higher than one.

Therefore, based on the t-test analyze of the research data that significant value < 0.05, so the alternative hypothesis (Ha) is a and the null hypothesis (Ho) is rejected. It means that there is significant different vocabulary score of the first grade at SMP Negeri 2 Sumbergempol between students' achievement before being taught by using word square game and after being taught by using word square game. Word square

game is considered effective to improve students vocabulary. This finding is in line with the result of this study stated that the previous study.

In order to gain the objectives of the study, the writer conducts an experimental study with a pretest and posttest design. Based on the research method in chapter III in this research, teaching and learning process was divided into three steps. First steps is preliminary study where the researcher conducted a preliminary study to know the students' vocabulary ability by using administering pretest by teaching without word square game.

The second step is giving treatment to the same students. The students are given material about hobby. At the first treatment, the researcher tells about hobby. The researcher explain some vocabulary about hobby to the students and then

The researcher gives paper that content about random words and ask them to find and arrange word horizontally, vertically, and diagonally by using word square game. During getting the treatment, the students are enthusiastic to study vocabulary. The students more active, effective and enthusiastic to study vocabulary. The researcher was doing the treatment fourth times. The last step is administering posttest. In the posttest, the students are given a test to know their vocabulary mastery after they are treated by using word square game.

Based on this research finding, the game provides a nonthreatening environment for coping with new learning. Moreover, games help to create a context in which students' attention is focused on the completion of a task without necessarily realizing that language items are being practiced. The one of games is word square game.

So that ways, the implementation of word square game in teaching and learning process gives a positive effect on the students' achievement, because they can study vocabulary easily and relax without hard feeling. The situation that conductive comfort for their sense, it will make them enjoy to learn and getting good result. It can be done because by fun learning, information can be understood and maintained in memory well.