CHAPTER III

PRESENTATION AND ANALYSIS OF THE DATA

The writer divides this chapter into two sub chapters. The first sub chapter is presentation and analysis of quantitative data, the writer describes the data from pre-test and post-test scores of both groups: the experimental group and the controlled group besides the writer also describes the quantitative analysis of pre-test and post-test scores by using t-test. The second sub chapter is presentation and qualitative analysis of the respondents' questionnaires. In this case the writer describes the data presentation of students' questionnaires and analysis of students' questionnaires.

3.1 Presentation and Analysis of Quantitative Data

3.1.1 Data Presentation of Pre-test and Post-test Scores

Before doing a treatment, the writer conducted a pre-test that was given to both groups. The pre-test was answering questions (there are 10 questions).

The data of this analysis are presented into six tables. The first table describes the pre-test scores of both groups. Moreover, in the second table, we can see differences of the post-test scores from the both groups, the experimental group and the controlled group. The third table is the increased scores of experimental group. The fourth table is the increased scores of controlled group. The fifth table is the value of d and d^2 and the sixth table is the presentation of students' questionnaires.

Below is a reference of the pre-test scores of experimental and controlled group. In this case, there are four columns. The number of the respondents is 30 students, they are divided into 2, experimental and controlled groups. The first column is the respondent of the experimental group, whereas the second one is the pre-test score of the experimental group. The third column is the respondent of the controlled group, and the last one is the pre-test score of controlled group. Beneath the column the writer also includes the mean of both groups, here is the table:

Table 1

Pre-Test Score of Experimental and Controlled Group

Experimental Group		Controlled Group	
Respondent	**Score**	**Respondent**	**Score**
1	45	1	65
2	60	2	30
3	50	3	30
4	20	4	20
5	40	5	25
6	30	6	30
7	20	7	30
8	20	8	25
9	25	9	20
10	45	10	10
11	40	11	20
12	45	12	75
13	30	13	65
14	55	14	70
15	60	15	20
Σ	585	Σ	535
Mean	39		35.66

From the table above, we can see that the total pre-test score of the experimental group is 585, while the controlled group is 535. It means that, the pre-test score of the experimental group is higher than the pre-test score of the controlled group. Moreover, the mean of the first group is 39, while the mean of the

second group is 35.66. It means that the mean of experimental group is also higher than the mean of the controlled group.

After both groups were given pre-test, the experimental group and the controlled group were given treatment. Treatment refers to anything done to both groups in order to measure its effects. In conducting the treatment, the writer used some different ways to teach vocabulary to students. For the experimental group, the respondents were given card-game. On the other hand, the controlled group the respondents were not given card-game when they learnt vocabulary.

After giving treatment, the writer gave post-test to both groups. The post-test was given in order to know the progress made by the students after they were given treatment. The post-test was the same as the pre-test. It consist 10 questions.

Table 2 is a reference of the post-test scores of the experimental and controlled groups. In this case there are also four columns that were divided into: the first column is the number of the respondents, the score of experimental groups is in the second column, the third is the respondent of the controlled group, and the fourth is the score of controlled group. The writer also includes the mean for both groups to make the comparison with the first table (pre-test score) beneath the table. The results of the post-test is presented as follows:

Table 2

Post-Test Score of Experimental and Controlled Group

Experimental Group		Controlled Group	
Respondent	Score	Respondent	Score
1	75	1	70
2	80	2	40
3	75	3	50
4	40	4	30
5	70	5	45
6	45	6	35
7	45	7	40
8	40	8	35
9	55	9	25
10	65	10	20
11	55	11	25
12	75	12	90
13	60	13	90
14	85	14	80
15	80	15	25
Σ	945		700
Mean	63		46.67

From the table above, we can see that the post-test score of the experimental group is 945 and the post-test score of the controlled group is 700. From those data, we can say that the post-test of the experimental group is higher than that of the controlled group. Moreover, it can be seen that there is a

significant difference from the mean score of the experimental group and that of the controlled group. The writer calculated that the mean score of the first group is 63 and the mean score of the second group is 46.67.

3.1.2 Quantitative Analysis

In this quantitative analysis, the writer uses t-test analysis. t-test is used to verify whether there is a significant influence of card-game towards children's vocabulary builder or not. Before conducting the analysis, first the writer will state the hypotheses, which are:

Ho : There is no influence of card-game towards children's English vocabulary builder.

Hi : There is influence of card-game towards children's English vocabulary builder.

Ho is referred to as the null hypotheses and the second hypotheses, which is assumed to be true when the null hypotheses is false, is referred to as the alternative hypotheses and is often symbolized by Hi. Hays (1994:269) stated that both the null hypotheses and the alternative hypotheses should be stated before any statistical test is attempted.

To verify the tenability of the hypotheses, the writer calculated the data of the pre-test and post-test of both groups by using the t-test. First, based on the result of the pre-test and post-test of both groups, the writer calculated the increased score obtained from these two groups one of which was taught

vocabulary through card-game and the other was taught vocabulary without using card-game. The result is presented in the following tables (table 3 and 4):

Table 3 is about the increased score of the experimental group that consists of 15 respondents. There are four columns that represent this table: the first is number of respondents, the second is the pre-test score, the third is the post-test score and the last is the increased scores, including the total score among respondents.

Table 3

The Increased Scores of Experimental Group

Respondent	Pre-test	Post-test	Increased score
1	45	75	30
2	60	80	20
3	50	75	25
4	20	40	20
5	40	70	30
6	30	45	15
7	20	45	25
8	20	40	20
9	25	55	30
10	45	65	20
11	40	55	15
12	45	75	30
13	30	60	30
14	55	85	30
15	60	80	20
			Σ 360

Table 4 is about the increased scores of controlled group. This table also consists of four columns, they are: first column is the number of respondents, second column is the pre-test score, third column is the-post-test score and the last column is the increased scores of controlled group.

Table 4

The Increased Scores of Controlled Group

Respondent	Pre-test	Post-test	Increased score
1	65	70	5
2	30	40	10
3	30	50	20
4	20	30	10
5	25	45	20
6	30	35	5
7	30	40	10
8	25	35	10
9	20	25	5
10	10	20	10
11	20	25	5
12	75	90	15
13	65	90	25
14	70	80	10
15	20	25	5
			Σ165

From the two tables above, it can be seen that experimental group who was taught vocabulary by using card-game obtained higher increased scores than those who were taught vocabulary without using card-game. Experimental group

obtained significant progress where the highest increased scores reaches 30 and many of them have increased scores more than 20. Meanwhile, the highest increased score of controlled group only reaches 25 and the lowest one is 5.

To make the result of the research more convincing, the writer uses the power of the t-test analysis that has the following formula:

$$t = \frac{d}{Sd\sqrt{n}}$$

In which:

t = refers to the value of t or t-test score

d = refers to deviation average

Sd = refers to standard deviation or variance

n = refers to the total number of the respondents

Since the deviation average and standard deviation are not known yet, first the writer will calculate the deviation average by using the formula:

$$d = \frac{\Sigma d}{n}$$

In which:

Σd = refers to the total sum of d

n = refers to the total number of the respondents

Second, the writer will find out the value of standard deviation by using the formula:

$$Sd = \sqrt{\frac{\Sigma d^2}{n-1}}$$

Since there is no value of d and Sd, the writer will calculate it. d is obtained from the subtraction of the increased score from experimental group and controlled group. The result can be seen in the following table:

Table 5

The value of d and d^2

Respondent	Experimental Group	Controlled Group	d	d^2
1	30	5	25	625
2	20	10	10	100
3	25	20	5	25
4	25	10	15	225
5	30	20	10	100
6	15	5	10	100
7	25	10	15	225
8	20	10	10	100
9	30	5	25	625
10	20	10	10	100
11	15	5	10	100
12	30	15	15	125
13	30	25	5	25
14	30	10	20	400
15	20	5	15	225
	Σ 165	Σ 365	Σ 200	Σ 3200

After knowing the value of d and d^2, henceforth, the writer calculates the value of d :

$$d = \frac{\Sigma d}{n}$$

$$d = \frac{200}{15}$$

$$d = 13.3$$

After getting the d , the writer will calculate the standard deviation, which has the formula:

$$S_d = \sqrt{\frac{\sum d^2}{n-1}}$$

$$S_d = \sqrt{\frac{3200}{14}}$$

$$S_d = 15.11$$

Thus, after obtaining the d and S_d value, the writer calculates the t-test scores:

$$t = \frac{d}{s_d \sqrt{n}}$$

$$t = \frac{13.3}{15.11/\sqrt{15}}$$

$$t = \frac{13.3}{3.9}$$

$$t = 3.4$$

Above we have already got the t-value. In order to know the accepted hypothesis, the writer compares the t-value with the critical table. To see the value

in t-table, the writer takes the level of significance is 95 % since the writer can not guarantee that this study is 100 % correct. It means that the level of significance that is denoted by the Greek letter d = 100 % - 95 % = 5% or the writer states the significance level is 0.05.

From the critical table the writer gets:

$$t-table = t_{n-1};\frac{\alpha}{2}$$

$$= t_{14};\frac{0.05}{2}$$

$$= t_{14};0.025$$

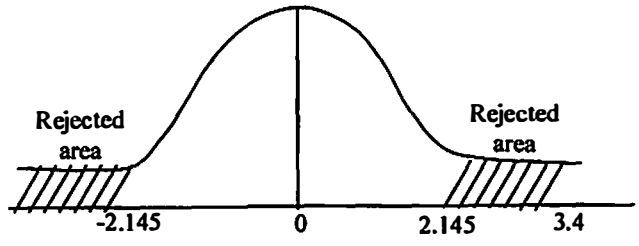
$$= 2.145$$

In obtaining the accepted hypothesis, the writer draws a diagram of sample space. Hays (1994:191) states that sample space is the set of possible values of the sample statistic. It is divided into two parts and they are called the acceptance region and the rejection region. Hereafter, the result of t-test is presented in the following diagram:

Figure I

The diagram of acceptance and rejection area

Diagram



Notes: Ho is rejected here because t-value is in the rejected area

The diagram above shows that the t-value, which is 3.4, does not lie between the negative value (-2.145) and the positive value (2.145). Thus, the t-value is outside the accepted region. It means that statistically null hypothesis (Ho) is rejected and the alternative hypothesis (Hi) is accepted. Thus, this study shows that there is an influence of card-game towards children's vocabulary builder.

The t-test is used to determine whether two means are significantly different at selected probability level. The strategy of the t-test is to compare some difference between the means of pre-test and that of the post-test with the number of the students.

3.2 Presentation and qualitative analysis of the Students' Questionnaires

3.2.1 Data presentation of students' questionnaires

After giving the pre-test and post-test to both groups, the writer distributes questionnaires to experimental group to know how well card-game can motivate this group to learn English vocabulary through card-game. In this matter, we have to see table of the results of questionnaires that represent 15 respondents from the experimental group. Below is the table:

Table 6

Presentation of Students' Questionnaire

Number of question	Respondents		Percentage	
	Agree (person)	Disagree (person)	Agree (percent)	Disagree (percent)
1	13	2	86.67	13.33
2	11	4	73.33	26.67
3	10	5	66.67	33.33
4	15	-	100	-
5	13	2	86.67	13.33
6	14	1	93.33	6.67
7	13	2	86.67	13.33
8	15	0	100	-
9	1	14	6.67	93.33
10	14	1	93.33	6.67

Explanation:

There are five columns explain: the first column is about the number of question (there are 10 questions). The second column is about the result of respondents' response who agree, the third column is the result of respondents who disagree. The fourth and the fifth columns are the percentage of the respondents who agree and those who disagree.

The respondents' response of the questionnaire is presented as follows:

The first statement is about respondents' interest of the English lesson. From the respondents' response it can be seen that 86.67 %'agree' and the rest of 13.33 % respondents 'disagree' with the first statement.

The second statement is about their teacher teaching strategy, and the result shows that 73.33 % respondents 'agree' and the other for about 26.67 % respondents 'disagree' with the second statement.

In the third statement, the writer stated that actually the students have their English book excluding their compulsory book and 66.67 respondents 'agree' and 33.33 'disagree' with the third statement.

The fourth statement is, the writer stated that they like studying English using game, here the all of students or 100 % respondents 'agree' with this statement and no one 'disagree' with this statement. In this part we can conclude that the respondents like to play game.

The fifth statement is, the writer stated that they like studying English using 'card-game'. 86.67 % respondents 'agree' and 13.33 % 'disagree' with this statement.

The sixth statement is that the respondents think it is easier when they have to memorize the vocabulary through 'card-game'. From their responses, 93.33 % respondents 'agree' and 6.67 % 'disagree' with this statement.

The seventh statement is the respondents think it is easier when they have to understand the English word through "card-game". From their responses, 86.67 % respondent 'agree' and the rest 13.33 % 'disagree' with this statement.

The eighth statement is about that the respondents have ever got other game before card-game was given. Their responses show that 100 % respondents 'agreed' and no one choose the option 'disagree'. In the writer's opinion it means that their English teacher have ever taught them vocabulary through games.

The ninth statement is about their boredom when they were taught English by using "card-game". It can be seen that 6.67 % respondents 'agree' and 93.33 % 'disagree', it means that this game can be used as one alternative to teach English vocabulary.

The last statement is, whether 'card-game' attracted the respondents' process of learning. And the result is 93.33 % of them 'agree' and 6.67 % 'disagree' with this statement.

3.2.2 The respondents' Questionnaire Analysis

The reason of giving questionnaires to students is to know the effect of learning English vocabulary through card game on the respondents' achievement. In analyzing the respondents' questionnaires, the writer begins with the first statement. From student responses, it can be concluded that most of the

respondents like English lesson and it seems that they enjoy studying it. This also can be seen when the writer teaches them. In the writer's opinion, it is positive respond because as the International Language, English can easily be taught or introduced to the respondents even there are two out of fifteen respondents who dislike English lesson.

Second analysis is about their teacher teaching strategy. As the teacher for elementary school asked to be more creative to create games as many as possible, since the game itself has a certain purpose to develop their learning ability. For example to increase their vocabulary, as an English teacher should provide interesting materials and methods in order to avoid students' boredom.

The third one is about their English book besides their compulsory book. Here the respondents response show that mostly they have their English books, so it can be concluded that the respondents not only study in class but also they study outside class. Most parents pay a lot of attention to the children's education.

The fourth and fifth are about game and card game given by the writer. In this case most of the respondents like to play the game. They may play a card game in the Indonesian version, in this study the writer tries to offer them in the English version. The respondents seem to enjoy studying it and eventually they can adapt to this game and as a result there was an increased point in the calculation of the post-test scores. This can be seen from the result of the post-test scores between the two groups; experimental and control groups. The experimental group got higher score than the controlled group did.

The sixth and seven are about how to make game as simple as possible. This will lead the respondents easier to memorize and understand the vocabulary taught to them. After carrying out this game they can create more words and try to understand the meanings. It means that by using card game the students may enrich their vocabulary when they were asked to mention them

The eighth statement is about other game given before card-game. The respondents said that their previous English teacher has ever had given them games for instance: word puzzle, puppet show etc. it means that their English teacher quite has responsibility to the development of their children to give other technique to build children's vocabulary builder.

Based on the writer's experience, when she teaches English vocabulary by combining compulsory book and using card game, the respondents respond it well, because they always ask for more time to repeat the game and the writer can not fulfill their requirement because of the limited time given. Finally the writer can conclude that the game given to the respondents really motivate them to learn English vocabulary and they do not feel bored.

CHAPTER IV

CONCLUSION