

## **CHAPTER III**

### **METHOD OF RESEARCH**

#### **A. Research Design**

The type of study is a field research. It means that the study is conducted by researcher to examine whether using of Three Dimentional Aids is effective on students' achievement in vocabulary mastery at the third grade of SDN Sungai Lulut 1 Banjarmasin academic year 2016/2017 or not. Therefore, the researcher applies her research directly in the school.

In this research, the researcher uses quantitative method is basically experimental research, because the data in the form of number and analyzed statistically of study included in the quantitative research. The researcher uses type of Quasi-Experimental research, based on Charles in latif , (2016, p. 96) Quasi-Experimental research is when the researcher can only assign randomly different treatments to two different classes.

Fraenkel and Wallen (2006, p.267) stated that experimental research is the most powerful research methodologies that researcher can use. Of the many types of research that might be used, experimental is the best way to establish cause-and-effect relationships among variables. Experimental research is the research which is the researcher decides the nature of treatment; (that is, what is going to happen to the subject of the study), to whom it is to be applied, and to what extent.

The researcher carried out with two classes are control class and experiment class with pre test and post test as research tools. The pre-test and

post-test to be same for experiment and control class. And the goal is to solve the actual problem that faced recently and collecting data to design, explain, and analyze the effectiveness of teaching and learning english vocabulary by using three dimentional aids of the third grade students of SDN Sungai Lulut 1 Banjarmasin in Academic year 2016/2017.

## **B. Research setting**

The researcher takes place in SDN Sungai Lulut 1 Banjarmasin to apply her research which located on Jl. Veteran Km. 06 Rt. 05 Kelurahan Sungai Lulut Kecamatan Banjarmasin Timur Kota Banjarmasin. According to observation at SDN Sungai Lulut 1 Banjarmasin the total number of teacher is 12 teachers, one of them is English teacher, Mr. Lazuardi S.Pd.

The researcher interested in applying this research at SDN Sungai Lulut 1 Banjarmasin because she wants to know the development of teaching and learning English there, especially at the third grade, in which students have assumption that English is difficult and not interesting.

## **C. Population and Sample of the Research**

### **1. Population**

Population is a set (collection) of all elements possessing one or more attributes of interest ( Arikunto, 1986, p. 102). The population of this research is all of the third grade students at SDN Sungai Lulut 1 Banjarmasin. To know more about them, it can be seen in the following table:

Table 3.1. The students of the third grade at SDN Sungai Lulut 1 Banjarmasin

No.	Class	Total
1.	A	27
2.	B	25

Source : Administration Staff Documentary at SDN Sungai Lulut 1 Banjarmasin

## 2. Sample

Sample is part of the population from information which collected (Arikunto, 1986, p.104). Sudjana (1986, p.163) stated that purposive sampling also known as sampling consideration, this sampling can be done based on individual consideration (teacher) or researcher consideration (researcher). Based on the explanation above, the researcher uses purposive sampling. (Arikunto, 1986, p. 113)

Table 3.2. Sample of the research

No	Classes		Total
	Experiment Class	Control Class	
1	III B		27
2		III A	25
Total students			52

In this research, the researcher chooses the sample of the research based on the result of pre-test that was done to students in class III. After the researcher knew the result of the pre-test and hopefully that the result of the students' ability of the test was almost the same. Then, it was decided which one of the two classes would be the experimental class and one class would be the control class. The experimental class means a class that is taught by using three-dimensional aids media and the control class is the real class. It means, for teaching and learning activities as usual.

## **D. Data Collection Procedures**

### **1. The procedure and technique of data collection**

To collect data in this research, the writer uses some techniques which consist of:

#### **a. Observation**

Observation is technique that is performed by conducting observations accurately and systematically recording. This technique is used to observe first-hand about:

- 1) The process of learning in the classroom
- 2) The students' achievement of vocabulary mastery
- 3) The condition of students in experiment class and control class

#### **b. Test (Written Test)**

Margono said that "thet test is a tool which is given for someone to get answer as fundamental given score" (2007,p.170). In the research, data analyzing using t-test, if the test percentage of t test more high than the test percentage of t table is effective. It means that  $H_0$  (zero hypotheses) is rejected and  $H_a$  (alternative hypotheses) is accepted. Furthermore, if test percentage of t table more high than test percentage of t test is not effective. It means that  $H_0$  (zero hypotheses) is accepted and  $H_a$  (alternative hypothesis) is rejected. Moreover, if the test percentage of t test same with the test percentage of t table is not effective too. It means that  $H_0$  (zero hypotheses) is accepted and  $H_a$  (alternative hypotheses) is rejected too.

## 1) Pre-test

Before the start of teaching and learning vocabulary the for students do pre test. The researcher wants to know their mastery in vocabulary from the result of pre test. In the pre test, the students answer there are 10 multiple choice items, 5 items of jumbled word and 5 matching the picture and word.

## 2) Post test

After the teacher teaching and learning vocabulary the for students do post test. The researcher wants to know their mastery in vocabulary from the result of post test. In the pos test, the students answer there are 10 multiple choice items, 5 items of jumbled word and 5 matching the picture and word.

The students' score will be categorized into five levels based on Anas Sudijono as follows (Sudijono:2011, p.35).

Table 3.3 The categorized of score test (pre-test and post-test)

No	Score	Category
1	80 – 100	Very good
2	66 - < 80	Good
3	56 - < 66	Fair
4	46 - < 56	Low
5	0 – 46	Very low

To know the students learning English vocabulary by three dimation, the researcher uses score of mean gotten by formula bellow:

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

M = Mean Score

$\Sigma X$  = Accumulative Score

N= Number of Respondents

c. Documentary

This technique is aimed at looking for all written reports or documents that perhaps keep any detailed documents, pictures, etc.

To know more about these data, sources of data, and the technique of data collecting, the following matrix will be helpful.

Table 3.4 Data, Source of Data and Technique of Data Collecting

No.	Data	Source of Data	Technique of Data Collecting
1.	The Primary Data		
	1. The Effectiveness of Teaching And Learning English Vocabulary By Using three Dimentional Aids Of The Third Grade Students at SDN 1 Sungai Lulut Banjarmasin Academic Year 2016/2017”	Teaching and learning process in the class and the teachers.	Observation, Test, and Documentary
2.	Secondary Data		
	1. Guiding book	Documents	Documentary
	2. Syllabus	The Teachers and Documents	Documentary
	3. Lesson Plan	The Teachers and Documents	Documentary
	4. Recording of students' achievement	The Teachers and Documents	Observation, and Documentary

**E. Design of Measurement**

Design of measurement is intended to know effectiveness of using three dimentional aids for teaching and learning English vocabulary of the third students at SDN Sungai Lulut 1 Banjarmasin. Researcher used a written test before and after the research, and consisting of two types : completion and

matching the picture. For completion there are 10 items, each questions has score 6 points. Then, for matching the picture there are 10 items, each questions has score 4 points. So if all students can answer all questions correctly the students achieve 100 points as the highest score and 0 as the lowest score. Scores are the presented as their mastery in vocabulary.

## **F. Technique of Data Processing**

### **1. Editing**

This technique is used to the examine all of the collected data to make sure that they are already complete or not. The researcher arranged all of data systematically by following correct role in writing of research.

### **2. Scoring**

The researcher count the scores for the students' based on the correct answer in the sheets of test. The students' scores are arranged on the table based on name of students and are completed with using category of score.

### **3. Tabulation**

Tabulation is to create tables that contain data that has been scoring in accordance with the analysis required. Result data on the table to be easy in interpretation data in this research.

### **4. Data interpretation**

Data has been edited and scored will be interpreted by the researcher. Data result of test is interpreted by using category of score based on Anas

Sudijono. The interpretation of the researcher does not change the authenticity of data that is gotten in field.

### G. Data analysis Procedure

Before all of the collected data have been reported. The researcher analyzes them descriptively and quantitatively. Then, the researcher make the conclusion by using “t” or t-test formula of Anas Sudijono (1995, p. 297-299) because between the students of control class and experiment class at SDN Sungai Lulut 1 Banjarmasin do not have sample because which less than 100 so, the researcher uses test “t” for two small sample. The application way to use students “t” or t-test or (t) code formula as follows: (Murdan, 2012, p.164)

1. Looking for Mean Variable I as follows the formula:

$$M_x \text{ or } M_1 = \frac{\Sigma x}{N_1}$$

$M_1$  : mean of the Experiment class

$\Sigma x$  : Accumulative of the total score of the experiment class

$N_1$  : Number of subject of the experiment class

2. Looking for mean Variable II as follows the formula:

$$M_y = \frac{\Sigma y}{N_1}$$

$M_2$  : Mean of the control class

$\Sigma y$  : accumulative of the total score of the control class

$N_1$  : number of subject of the control class

3. Looking for standard Deviation for variable I as follows the formula:



$$SD_1 = \sqrt{\frac{\Sigma x^2}{(N-1)}}$$

$SD_1$  : Standard Derivation of experiment class

$\Sigma x^2$  : Accumulative of the quadrat of deviation of the experiment

4. Looking for Standard Deviation for Variable II as follows the formula:

$$SD_1 = \sqrt{\frac{\Sigma y^2}{(N-1)}}$$

$SD_1$  : standard Deviation of control class

$\Sigma y^2$  : Accumulative of the quadrat of deviation of the control class

5. Looking for Standard Error of Mean variable I as follows the formula:

$$SE M_x = \frac{SD_1}{\sqrt{N-1}}$$

$SE M_2$  : standard Error of the experiment Class

I : Value of constant

6. Looking for students standard Error of Mean variable II as follows the formula:

$$SE M_y = \frac{SD_1}{\sqrt{N-1}}$$

$SE M_2$  : standard Error of the control Class I : Value of constant

7. Looking for Standard Error for comparative mean variable I and mean variable II as follows the formula:

$$SE_{M_1-M_2} = \sqrt{SEM_1^2 + SEM_2^2}$$

$SE_{M_1-M_2}$  : standard Error for comparative means of experiment class and control class

$SEM_1^2$  : quadrant result of standard error of mean of the experiment class

$SEM_2^2$  : quadrant result of standard error of mean of the control class of.

8. Looking for t, as follows the formula:

$$T \text{ test} = \frac{M_1 - M_2}{SE_{m_1 - m_2}}$$

$T_{\text{test}}$ : value of t observation

9. Giving interpretation for “t” with consulting (“t” table):

- a) Looking for degree of freedom

$$Df/db = (N_1 + N_2 - 2)$$

Df/db : degree of Freedom

$N_1$ : number of subject te students in experiment class

$N_2$  : number of subject the students in control class

2 : value of Degree of Freedom for two variables

- b) Consulting score of “df/db” with “t table”

T table : value of critic “t”

In significant degrees t table 5 %

In significant degrees t table 1 %

- c) Making hypothesis interpretation:

$H_0$  (Zero hypothesis) : there is no significant difference.

$H_a$  (Alternative hypotheses) : there is no significant difference.

If “ $t_{\text{test}}$  is higher than the value of  $t_{\text{table}}$  “so  $H_0$  is rejected,  $H_a$  is accepted.

If “ $t_{\text{test}}$  is lower than the value of  $t_{\text{table}}$  “so  $H_0$  is accepted,  $H_a$  is rejected