

## CHAPTER III

### RESEARCH METHODOLOGY

#### A. The Method of Research

According to Muijs when hearing the term experimental designs, most of us think back to school experiments in science. Experimental research in the social sciences follows the same basic pattern as those (natural) science experiments<sup>1</sup>. Its mean that writer or researcher whose used the experimental research should back to school to examine his method.

The basic of the experimental research is experiment, which can be defined as : a test under controlled condition that is made to demonstrate a known truth or examine validity of a hypothesis<sup>2</sup>.

In this research, the writer used an experimental research. Because the writer looked for the differences of students' vocabulary mastery in using short story method and without using it. experimental research involves two groups: experimental group and control group.

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<sup>1</sup> Daniel Muijs, *doing quantitative research in education* (London, Sage Publications Inc, 2004), 13

<sup>2</sup> Daniel Muijs, *doing quantitative research in education* (London, Sage Publications Inc, 2004), 13

An experimental group received a new treatment while control group received an usual treatment. This study used pre-test and post-test.

## **B. Research Site**

Place is one of important thing in a research, because it is location of research done to get appropriate result. The writer took place of research at 5<sup>th</sup> grade of SD Islam Al-husna rangkasbitung. The research was carried on October 2017 by six times meeting excluding the conduction of pre-test and post-test.

## **C. Population and Sample**

### 1. Population

According to Nunan that population is All cases, situation or individuals who share one ore more characteristics<sup>3</sup>. The population of this research at 5<sup>th</sup> grade of SD Islam Al-husna rangkasbitung which consist of two classes with thirty four in each class.

### 2. Sample

Sample is important because in almost cases, it is not practical to study all the members of population. Nunan state that “Sample is

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<sup>3</sup> David Nunan, *Research Method In Language Learning*, (United States of America : Cambridge University Press) 231

subset of individual or cases from within population.”<sup>4</sup> The researcher uses two class which have 68 students. The first is as Experimental Class and second is as Control Class. The writer chose class VA as experimental class that is consist 34 students and class VB as control class that is consist 34 students.

#### **D. The Research Instrument**

Reserch instrument is for fasilitation that used by researcher to collect the data. Resercher uses test to know the students’ vocabulary mastery. The instrument is a process of selecting or developing device and method appropriate to give evaluation and getting the data. To know the effectiveness of using short story in increasing vocabulary mastery, the writer give the writing test to the students. Because with this test the writer would like to gives the score of vocabulary .

A study using quantitative method usually processed by systematically manipulating its specific variable to test the prediction made by theory informing the study. In this research, the researcher gives two kind of test, there are as follows:

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<sup>4</sup> David Nunan, *Research Method In Language Learning*, (United States of America : Cambridge University Press) 232.

Pre-test: the test that is given to both of control class before giving treatment non communication as a technique and experiment class before given treatment with as a short story technique.

Post-test: the test that is given to both of control class after given the treatment non short story as technique and experiment class..

### **E. The Technique Data Collecting**

The researcher uses test as the research instrument But, in collecting data, the researcher does:

#### a. Test

Test is consist of some question that related to the short stoy, to get the data improvisations of the students, also diagnostic test can be used expose learner difficulties, gaps in their knowledge and skill deficiencies. In this research, the writer will take pre-test and post-test.

They are as follow

#### 1) Pre-test

Before the teacher teach new vocabularies by using short story Strategy the teacher give the test to the students. Pre-test is given to the experimental and control class in the same way.

## 2) Post-test

Post-test is given to the experimental class and control class. It is given in order to know increasing of students' vocabulary after they are taught using Short story Strategy (experimental class) and without using short story (control class).

## **F. The Technique Data Analyzing**

The experimental class will be given a treatment using short story in increasing vocabulary mastery by using short story to increasing their vocabulary mastery will be given a treatment with strategy that usually is used by the teacher in the class. After students are given the treatment, there is a post-test present to measure the effectiveness of using short story in teaching vocabulary that has already given.

To analyze the data, the writer applies the following techniques:

1. The result of the post-test in experiment class is named variable (X1)
2. The result of the post-test in control class is named variable (X2)

The steps for statistic analyze are:

1. Determining mean of variable X1 with formula :

$$M_1 = \frac{\sum X1}{N_1}$$

2. Determining mean of variable X2 with formula:

$$M_2 = \frac{\sum X2}{N_2}$$

3. Determining derivation score variable X<sub>1</sub> with formula:

$$X_1 = X1 - M_1$$

4. Determining derivation score variable X<sub>2</sub> with formula:

$$X_2 = X2 - M_2$$

After getting the data from pre-test and post-test, the writer analyze it by using statistic calculation of t-test formula with the degree of significance 5% and 1% the formula as follow:

$$t = \frac{M_1 - M_2}{\sqrt{\left\{ \frac{\sum X_1^2 + \sum X_2^2}{N_1 + N_2 - 2} \right\} \left\{ \frac{N_1 + N_2}{N_1 \cdot N_2} \right\}}}$$

$M_1$  = the average score of experiment class (Mean X1)

$M_2$  = the average score of control class (Mean X2)

$\sum X_1^2$  = Sum of square deviation of experiment class

$\sum X_2^2$  = Sum of square deviation of control class

$N_1$  = Numbers of students of experiment class

$N_2$  = Numbers of students of control class

2 = constant number

df = degree of freedom

df =  $N_1 + N_2 - 2$ <sup>5</sup>

5. Doing interpretation and calculation by comparing the result of calculation t-test with t-table.

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<sup>5</sup> J.P.Guilford,et.al. *Fundamental Statistic in Psychology and Education: International Student Edition* (California: McGraw-Hill,1981), 157.