CHAPTER III

RESEARCH METHODOLOGY

In this chapter, the writer presents research design, place and time of study, population and sample, variable and data sources**,** research instrument, validity and reliability testing, data collecting method, data analysis and hypothesis testing.

A. Research design

This study used pre-experimental research design or usually known as quasi experimental. There were two designs included in Pre-Experimental. They were One-group pretest-posttest design and Static-group. The researcher used one-group pretest-posttest design. The one-group pretest-posttest design usually involves three steps: (1) administering a pretest measuring the dependent variable, (2) applying the experimental treatment *x* to the subjects, and (3) administering a posttest, again measuring the dependent variable. Differences attributed to application of the experimental treatment are then evaluated by comparing the pretest and post-test scores. (Donald 2010: 327)

There was only one class in this research. They had two tests: before being taught random pictures technique and after being taught random pictures technique. Then both of score was compared to know the significant difference.

B. Place and Time of Study

1. Place

Taken from Oxford Pocket Dictionary Place is a particular area of position, and a particular bulding. In this study, the researcher choosed fourteen from Fifth Grades of SDN 1 Gempolan- Pakel as the place of study.

2. Time

Taken from Oxford Pocket Dictionary time is what is measured in minutes, hours, days, etc. In this study, this research was done in April 6 up to April 9, 2013. By applying this technique the students' knowledge increased than before and the researcher also had experience to conduct useful experimental research.

C. Population and Sample

1. Population

Sugiono (2010: 117) states "Population is the object or subjects that have some qualities and characteristics that are chosen to be learned and to be concluded by the researcher". Population is the full set of data from which a subset (sample) is taken. Based on that statement above, the population of this research is fourteen of fifth grade the students of SDN 1 Gempolan.

2. Sample

According to Sugiono (2010: 118) sample is a part of total and characteristic that is possessed by population. Sampling is the process of selecting a number of individuals for a study in such a way that the individuals represent

the larger group from which they were selected. The purpose of sampling is to gain information about a population; rarely is a study conducted that includes the total population of interest as subjects. So that sampling is the technique to take a sample. In this research, purposive sampling was chosen as a technique of choosing sample, because the purposive sampling is the best single way to obtain a representative sample. Besides, the researcher also admits that all subjects were homogeny in their skills especially in their vocabulary.

Sugiono (2010: 121) stated purposive sampling is the process selecting a sample that are considered typical of qualities. It means that every individual has the same probability of being selected and selection of one individual in no way affect selection of another individual. Therefore, all members of the population have an equal and independent chance of being included in the selection of sample.

In this study, the writer chooses the fourteen of fifth grade students' of SDN 1 Gempolan.

D. Variable and Data Sources

1. Variable

A variable is everything that will become that object of research or the influencing. Factors will be studied. Variable is everything to which the researcher expects to find the answer and that become point of research. Based on the title of the thesis, it has two variables;

a) Independent Variable (X)

According to Arikunto (2006: 119), independent variable is the variable which influences dependent variable, in the other word independent variable is causes variable.

This variable is often called as stimulus, predictor, and antecedent. Independent variable is a variable which influences and give special effects in dependent variable. Independent variable cannot stand by itself without dependent variable. Independent variable in this study is the use of random pictures technique.

b) Dependent variable

According to Arikunto (2012: 119), dependent variable is the variable which is influenced by independent variable. In the other word dependent variable is effect variable.

It is often called as output variable, criteria and consequent. Dependent variable is a variable that emerge in function relationship influenced by independent variable. Dependent variable in this research is the students' vocabulary mastery which is seen from their score.

E. Research Instrument

1. Test

According to Arikunto (2010: 193) Test is a sequence of questions or practice which used to measure skill, intelligence knowledge, ability or potency of someone or a group. The type of test is a simple vocabulary they learnt or the

material they got in the class. The random pictures consist of many simple vocabularies. The writer used pre- experimental design. There were pre test and post test here.

The instrument used by the researcher as follows:

a) Pre-Test

Pre-Test refers to a measure or test given to the subject prior to the experimental treatment. According to Wiersama (1991: 106), Pre test is gives to the students before they get a treatment. In this research, pretest was given to all fifth year students of SDN 1 Gempolan. This was given to know the basic competence of all students and to know their earlier knowledge before they got treatment by using random picture technique in vocabulary learning.

b) Treatment

The treatment here means instruction media refers to random pictures technique and related materials that served instructional function for education treating. The researcher conducted treatment in the classroom. The treatment used here was using random picture technique.

c) Post Test

Posttest is a measure taken after the experimental treatment has been applied. Wiersama (1991: 106) Says that this is to get the data, a post test is given to the post test group, because the design is one group pretest and posttest. It is gives in order to know the scores of the students after they were taught by using random picture technique. The respondents were asked to do twenty questions

about vocabulary. Time allocation of test was 90 minutes. The kinds of test was ten multiple choices and ten fill in the blank with match the pictures.

The test produced numerical score that can be used to identify or evaluate test taker. Then the writer compared both of the score.

F. Validity and Reliability Testing

The result instrument must be having reliability and validity

1. Validity

According to Isnawati (2011: 27), there are four types of validity; they are face validity, content validity, construct validity and Criterion-Related validity.

a) Face validity

The try out was valid in the term of face because with supervisal inspection of the test format. This test was an English test for the fifth grade in SDN 1 Gempolan.

b) Content validity

Content validity is a kind of validity which depends on a careful analysis of the language being tested and of the particular test. A test is done to have content validity if its contents a represented sample of the language skill, structure, etc. The researcher checked the validity of the content validity from content and question structures of the test and the researcher emphasized the content validity in this research.

c) Construct validity

According to Brown (as cited in Isnawati 2011: 29) mentioned that construct is any theory, hypothesis or model that attempts to explain observed phenomena in our universe or perception.. In this research, testing vocabulary was use objective test. The form test can be seen at appendix.

d) Criterion-Related validity

Another approach to test validity is to see how far results on the test agree with those provided by some independent and highly dependable test. This independent test is thus the criterion measure against which the test is validated. Hughes (as cited in Isnawati 2011: 28)

2. Reliability

Reliability is the characteristic of very good test for it to be valid. A test must be reliable as a measuring instrument. Isnawati (2011: 18) says “a reliable test is consistent and dependable”. The researcher gave test for 14 students to know the reliability of test.

G. Data Collecting Method

The data are based on the result of test on vocabulary. In collecting the data there are some steps as follows:

Firstly: the researcher comes to the classroom to introduce herself and tell that she will teach English subject for some meetings. It can be done in 10 minutes. Then the researcher teaches the vocabulary based on the material that

day as usual method which used by their English teacher. The researcher writes the vocabulary and the meaning in the blackboard. Then the students must repeat what the teacher said while memorize the vocabulary itself, the meaning and its written. This activity conducts for 50 minutes. Next the researcher asked the students to do assignment (pre test). The students must translate the vocabulary. If the question is in the form English, the students must find the correct answer and they must choose the word in English if the teacher writes the English word. They must finish it in 60 minutes.

Secondly: an experimental typical involves one group by using pre-test post-test design. The researcher gives test before give treatment and post test.

Thirdly: the researcher give treatment by using random pictures technique to teach vocabulary and the material is from the textbook used by the fifth grade students.

Fourthly: the researcher gives post-test to the students. The test is similar vocabularies with pre test.

The last: after the class has been exposed to the treatment for some period of time, the researcher make a selection, classification, analyzing the data and then determines whether there is any significant difference between before and after using random pictures tecnique.

H. Data Analysis

Quantitative data analyze is also called as statistical analysis. It means that the result of the data server up in numerical form. Here the researcher used t-test formula to analyze the data to know the students' test result which were conducted before and after using random pictures technique.

The researcher used T- test according to Ary et al (2006: 195) with the following formulation

$$t = \frac{MD}{\sqrt{\frac{\sum D^2 - \frac{(\sum D)^2}{N}}{N(N-1)}}}$$

Notes:

t : t- score

MD : average difference

$\sum D^2$: Different scores squared, the summed

$(\sum D)^2$: Different scores summed then squared

N : number of samples

I. Hypothesis Testing

The t-test of this study is given under the 5 % level of significance. If the result of computed t-test is less or same as the value of t- table, Ho (null

hypothesis) is accepted. The result of the research is read as “random pictures technique does not have effect on the fifth grade students’ vocabulary mastery at SDN 1 Gempolan.

In contrast, if the result of t-test is more than the value of t table, Ho (null hypothesis) is rejected. Consequently, the result of this study is “random pictures technique gives effect on the fifth grade students’ vocabulary mastery at SDN 1 Gempolan.”