**CHAPTER III**

**RESEARCH METHOD**

This chapter is intended to describe the research method used in the study which covers: research design, population sample and sampling, variable and hypothesis, data and data source, the method and instrument of collecting data, technique of data analysis.

1. **Research Design**

Research may be defined as the application of the scientific approach to the study of a problem. It is a way to acquire dependable and useful information. “Its purpose is to discover answers to meaningful questions through the application of scientific procedures” (Ary et al, 1972:22).

This study uses experimental study with quantitative approach. Ary (1985:26) explains that:

Experiment study is scientific investigation in which an investigator manipulates and controls one or more independent variables and observes the dependent variable or variable for variation concomitant to the manipulation of independent variables.

According to the explanation above, experimental design refers to the conceptual framework within which the experiment is conducted. An experiment design has two functions:

1. It established the condition for the comparison required by the hypothesis of the experiment.
2. It enables the experimenter through statistical analysis of the data to make a meaningful interpretation of the result of the study.

Quantitative research is all about quantifying relationship between variable. On the other hand, Arikunto (2006:394) says that “quantitative is a research that uses statistical technique to understand and explain phenomena”. The aim is to determine the relationship between one thing (an independent variable) and another (a dependent or outcome variable) in a population. The activity is measuring variable on a sample of subject. So, in this thesis, the writer focuses on the design of quantitative research.

In this study, the researcher used experimental design with a single subject. Single subject experiment design was the experimenter used the same subject as control group and experimental group. Experimental design was used by comparing between the experimental group and the control group. The class before taught English vocabulary by using TPR was indicated as a control group. And the class after being taught English vocabulary by using TPR was indicated as experimental group. Both experimental group and control group in this study were taken from the same students.

The procedures of experiment in this study consisted of pre-test – treatment and post test. The pre-test ad post-test are given to take the score of the students achievement before and after being taught by using TPR method. Then both the scores were computed by using t- test to find out if there is significant influence of teaching English vocabulary by using TPR method.

 In this study an experimental study design was used to know whether there is significant difference of scores between teaching English vocabulary using TPR and teaching English vocabulary without using TPR of the fourth year students of MI Karanggandu.

1. **Population, Sample and Sampling**
2. Population

“A population consists of an entire set of objects, observation, or scores that have something in common. It is the entire group the researcher is interested, which he or she wishes to describe or draw conclusion about” (Porte, 2002:241). On other hand, Arikunto (2006:130) says that “population is the entire research subject”. According to the explanation above, population is the whole subject used by researcher.

1. Sample and Sampling

“Sample is a group of units selected from large group (population) to represent it, because the population is too large to study in its entry” (Porte, 2002: 243). And the sampling is the process of obtaining a sample. In this study the sample was the fourth grader of MI Karanggandu that consists of 33 students, it can be seen in appendix 1. The researcher selected this class because according to English teacher of MI Karanggandu, this class was one of class that had highest motivation to study English.

1. **Variable and Hypothesis**
2. Variable

Variable is the object of the research of the problem which is emphasized in research (Arikunto, 1992:91). In the research, there are two variables; independent variable and dependent variable. An independent variable is one that can be used to predict or explain another variable (usually referred to as a dependent variable). And the meaning of dependent variable is a variable in a study whose values are “dependent on” other variables for their outcomes. “The distinction between dependent and independent variable is typically made on theoretical grounds to test a particular model of cause and effect or specific hypothesis” (Porte, 2002:234). Based on the title of this research, the independent variable was the experiment of using TPR at the fourth year students of MI Karanggadu, while dependent variable was students’ vocabulary mastery.

 In this research, the researcher wanted to know whether the TPR method is effective or not on students’ achievement in mastering vocabulary at the fourth year students of MI Karanggandu.

1. Hypothesis

This research was using hypothesis. “Hypothesis is a statement about relationship between two or more variables that are being studied” (Porte, 2002: 236). They are two kinds of hypotheses. So, the research was using Null hypothesis (Ho) and Ha (alternative Hypothesis) in this study.

1. Null Hypothesis (Ho): Teaching using TPR method to improve students’ achievement in mastering English vocabulary in fourth year students’ of MI Karanggandu is ineffective.
2. Alternative Hypothesis (Ha): Teaching using TPR method to improve students’ achievement in mastering English vocabulary in fourth year students’ of MI Karanggandu is effective.
3. **Data and Data Source**

Information collected in a research study is referred to as data (Porte, 2002: 234). As stated SK menteri P dan K no.0259/U/1997 July 11 1997 data are all the fact and number which can be a matter to arrange information, and information is the result of data processing which is used to a necessity. Data can also be found in many other forms, including transcript of interview, videotape, etc. The resources of data are very significant in the research. The research will not be able to get information without the resources of data. Arikunto explains that “data source is subject where the data is obtainable”. Data are classified into two aspects, there are:

1. Primary Data

A primary data resource is data collected directly by the researcher from the first subject. As the primary data in this research were students’ scores. The scores gotten from the results of the test teaching vocabulary in which the test was given twice, pre-test and post-test.

1. Secondary Data

Secondary data is data taken from another source or data which are collected by researcher indirectly. It is also data which can support and complete the primary data and still have connections. Secondary data in this research are the names of students, the process of teaching English language, etc. These data are taken from documentation and interview with head master, English teacher and students.

Data sources is the subject in data can be gotten. Data sources can be classified into three items. They are: person, place and paper. In this research the data was obtained from people and paper.

1. Person

Person is a man who gives the data or information orally. It can be done by interview by giving questionnaire to the subject. In this research the person who gave information to the writer were English teacher and the fifth year students of MI Karanggandu Watulimo.

1. Paper

Paper as data source refers to written document such as the list of students’ names, frequency and material of teaching English.

1. **The Method and Instrument of Collecting Data**

Method of collecting data is a way to get the data and the instrument is the tool that is used by researcher to get the data. The process of collecting data always occurs in research of study consequently. It needs one or more kinds of method that are chosen and are used. The use of data collecting method should be appropriate with the characteristic of the research. Based on that statement, the method of collecting data that can be used are: interview, documentation and administering test.

1. Interview

Interview is called oral question. Bakry (1995:45) said that “interview is dialog which is done by interviews and interviewer to get the information”. In this study, the researcher interviews the English teacher who teaches fourth year students of MI Karanggandu for getting the data. The purposes of interview were:

1. To get data that could support this research, for instance to know the preparation and technique used by the teacher before using TPR as method in teaching vocabulary on the fourth year students of MI Karanggandu
2. To obtain information about the students’ argument after they were taught by using TPR as a method in teaching English vocabulary.
3. Documentation

Documentation is official paper giving information. The researcher used documentation to get the data about, list of the students’ name, frequency and material of teaching, etc.

1. Administering test

Test is a set of stimuli presented to an individual in order to elicit responses on the basic of which a numerical score can be assigned (Ary, 1972:189). On another hand, “test is method of measuring a person’s ability, knowledge or performance in a given domain”. (Brown, 2004:3). In this study, to obtain the require scores of the students’ achievement in mastering vocabulary, the researchers used two kinds of test. They were pre-test and post-test.

1. Pre-test

Pre-test was taken before doing treatment process. This test was done to measure the students’ ability in the first time. The researcher took the value to get the first information. The group got one pre- test. Pre-test was given to the students at the first meeting on 13 April 2011. The form of pre-test was multiple choices and matching test. The test items were 10 questions for multiple choices and 10 items for matching test. In the multiple choice test, every item has four choices, there was A, B, C and D. And the time allocation was about 60 minute. The pre-test design can be seen in appendix 3.

1. Post – test

Post-test was done after treatment process. The group got one post- test. Post-test was given to the students at the third meeting on 4 Mei 2011. The form of post-test was multiple choices and matching test. The test items were 10 questions for multiple choices and 10 items for matching test. In the multiple choice test, every item has four choices, they were A, B, C and D. The time allocation was about 60 minute. The pre-test design can be seen in appendix 4.

Designing test between pre-test and post- test are same, the test consist of 10 questions for multiple choices and 10 items for matching test, but the contains of the test are difference.

**F. Technique of Data Analysis**

The two variables investigated in this research are TPR and vocabulary mastery. To know whether there is any different mastery on vocabulary of the students before and after being taught by using TPR method, the writer analyses the collected data by quantitative data.

Tanzeh (2009:104) said that quantitative data analysis is also called statistical analysis. It means that the result of the data served up in numerical form. The data analysis in this research use T-test. “T-test is one of the statistical test which is used to know there are any significant differences or not from the variables” (Hartono, 2009:147).

According Ary et al (1985:162) the formulation of the test is:

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

Notes:

 t = Score of computation

 Md = Means of difference between pre – test and post- test

 $∑D^{2}$ = The sum of the squared difference score

 N = Subject of sample

 d.b = Decided by N-1

Alternative Hypothesis (Ha) that is state that there is significant effect of using TPR method on students’ mastery is accepted.

Null Hypothesis (Ha) that is state that there is no significant effect of using TPR method on students’ mastery is rejected.

To find out the percentage of data, the researcher use percentage formula as follow:

P = $\frac{F}{N}$ x 100%

Notes:

 P = Percentage

 F = Frequency of the counted value

 N = Number of subject.