**CHAPTER III**

**RESEARCH METHOD**

 This chapter presents the research method. It focuses the method used in conducting this study. The decision covers research design, population, sample, and sampling, variable data, data collecting method and instruments and technique of data analysis.

1. **Research Design**

Research is process that is the step combination that is done systematically and logically to get the solution of the problems or to get the answer from the certain questions (Ary et al, 1985:22).

This study was conducted in an Experimental design using quantitative. Experimental is a scientific investigation in which an investigator manipulates and controls one or more independent variables and observes the dependent variables or variable for variation concomitant to the manipulation of independent variables (Ary et al, 1985:26). This study used pre - experimental design. In this study the experimental design used One-Group Pretest-Posttest. The One group design usually involves three steps:

1. Administering a pretest measuring to dependent variable.
2. Applying the experimental treatment to the subject.
3. Administering a posttest again measuring the dependent variable.

A diagram of One-Group Pretest-Posttest design :

Y1 X Y2

Pre-test Treatment Post-test

 (Independent variable) (Dependent variable)

This study was intended to investigate the effectiveness of Using Silent Way Method on Vocabulary Achievement of The Seventh Grade Students of MTs Assyafi’iyah Gondang Tulungagung in the academic year 2011-2012. The aim of this study is to find out differences between students’ vocabulary achievement before and after being taught by using silent way method.

In this study, the procedures of One-Group Pretest-Posttest design are:

1. Administering a pre-test measuring vocabulary achievement of seventh grade students at MTs Assyafi’iyah Gondang Tulungagung.
2. Applying the experimental treatment *X* to the subjects (seventh grade students at MTs Assyafi’iyah Gondang Tulungagung).
3. Administering a post-test measuring vocabulary achievement of seventh grade students at MTs Assyafi’iyah Gondang Tulungagung.

Differences attributed to application of the experimental treatment were determined by comparing the pre-test and post-test scores. The researcher wanted to know the effectiveness of using Silent Way Method in teaching vocabulary to the students’ vocabulary achievement by experimental research. The impact is assessed by providing a specific treatment. The effectiveness will be known after knowing the significant differences between the students who are taught before using Silent Way Method and those who are taught after using Silent Way Method.

1. **Population, sample and sampling**
2. Population

Population consists of an entire set objects, observation, of scores that have something in common. It is the entire group the resaercher is inteested, which he or she wishes to describe or draw conclusion about (Porte, 2002:241). Population is used more generally, to refer to any collection of entities, of whatever kind, that is the object of investigation (Butler, 1985:1). According to the explanation above, population is the whole object used by the researcher.

The population of this study was class VII at MTs Assyafi’iyah Gondang Tulungagung, in which the total of class VII are five classes and the total of them are 147 students and this research just conducted in one class. In this research, the researchers use one class because the researcher only wants to know the students’ vocabulary achievement.

1. Sample

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). Sample of this research is the students of the class VII-A MTs Assyafi'iyah Gondang Tulungagung, in which the total of them are 31 Students and this research was just conducted in one class.

1. Sampling

Sampling is technique taking sample who not give opportunity for every element or population member to be chosen as sample. This technique sample of this research use purposive sampling. Purposive Sampling is a technique to determine sample with a particular consideration. This research chooses to research of class VII-A because this class is one of class is good class than other class, but they need any knowledge about English vocabulary.

1. **Variable**

A variable is a concept- a noun that stands for variation within a class of objects. Variables can be classified in several ways. The most important classification is on the bass of their use within the research under consideration, when they are classified as independent variables or dependent variables (Ary, 1985:30).

1. Independent variable: is variable that consequence of or upon antecedent variables. One independent variable must be the treatment variable. One or more groups receive the experimental manipulation or treatment. In this study the vocabulary by using silent way method is Independent variable.
2. Dependent variable: is the response or the criterion variable that is presumed to be caused by or influenced by the independent treatment conditions and any other independent variables. In this study the dependent variable is students’ vocabulary achievement.
3. **Data and Data Source**
4. Data

The data are very significant in the research. The research will not to get information without the data. In this study, the researcher used quantitative data. This data was used to know the student’s achievement in vocabulary before and after being taught by using Silent Way Method. In this study the data were students’ scores of the seventh grade students at MTs Assyafi’iyah Gondang Tulungagung from vocabulary test (pre-test and post-test).

1. Data source

Data source is subject in which data is gotten. In this cases researcher effort to get data from the subject. In this research the subjects were the students of seventh grade at MTs Assyafi’iyah Gondang Tulungagung.

1. **Data collecting method and the Instrument**

Data collecting method and instrument were needed to obtain the data in the research. The aim of the data collecting in conducting a scientific research was to get the material needed. The method for collecting data was administering pre–test and post–test. The instrument used in this study is vocabulary test.

In this research the researcher used two kinds of test. They were pre-test and post test. Pre-test was taken before doing an experimental study or before teaching by using Silent way method. The pre-test have done on April 5th , 2012. These kinds of test was 20 multiple choices. The second was Post test, it was taken after doing an experimental study or after teaching by using Silent Way Method. The post-test have done on April 14th ,  2012. These kinds of test was multiple choices.

 In getting the data, in class VII-A becomes an experiment group. The researcher as teacher in this study teaches the students in two weeks. In teaching learning process for the first meeting, the teacher gives pre-test in vocabulary. In the second meeting, the teacher teaches vocabulary in reading (procedure text) by using silent way method. In the last meeting, the teacher gives post-test in vocabulary to the students.

 Researcher is always dependent upon measurement. There are two important characteristics that every measuring instrument should go through a process of validity and reliability check.

* 1. Validity

 Validity is the most complex criterion of an effective test and the most important principle of language testing. It is the extent to which inferences made from assessment results are appropriate, meaningful, and useful in terms of the purpose of the assessment (Gronlund in Brown, 2004:22). A test should test what the writer wants to test.

 These are four types of validity: 1) Content validity, 2) Criterion – related validity, 3) Construct validity, and 4) Face validity. In this research, the researcher checked content and construct validities.

 Content validity is a kind of validity which depends on careful analysis of the language being tested and of particular test. The try out test of this study had content validity because the items were taken from sources for the seventh grade students (A class) in MTs Assyafi’iyah Gondang – Tulungagung.

 Construct validity can be demonstrated that it measures just the ability which is supposed to measure. Brown (2004:25) mentioned that a construct is any theory, hypothesis, or model that attempts to explain observed phenomena in our universe of perception. According to Isnawati (2010: 53), the specification of vocabulary test should be based on all items presented to the students in vocabulary teaching. When placement test is applied, the vocabulary being tested should refer to one of common published word lists. Based on the theory above, in the test, the researcher asked the students to answer the questions in multiple choice where those questions based on all items presented to the students in vocabulary teaching. It was to measure the students’ vocabulary achievement and this fulfill the construct of vocabulary test and therefore valid in term of construct validity.

 Besides, the researcher tried to check the empirical validity by using SPSS after trying out the instrument. In this study, the researcher used SPSS 16.0 for windows to knew the validity of test instruments. It can use corrected item – total correlation formulation. The criteria of validity of the instrument can be divided into 5 classes as follows:

1. If the *item-total correlation* score0,00 – 0,20: less.
2. If the *item-total correlation* score0,21 – 0,40: rather.
3. If the *item-total correlation* score 0,41 – 0,60: enough.
4. If the *item-total correlation* score0,61 – 0,80: valid.
5. If the *item-total correlation* score 0,81 – 1,00: very valid.

From the calculation, it was found that most items have validity. There are seven items which didn’t have validity. So, the researcher revised those items.

* 1. Reliability

 Reliability is a necessary characteristic of any good test. The researcher tried out the test fo 10 students to know the reliability of test.

 In this study, the researcher also used SPSS 16.0 for windows to know the reliability of test instruments. It can use alpha cronbach formulation. The criteria of reliability instrument can be divided into 5 classes as follows:

1. If the *alpha cronbach* score0,00 – 0,20: less.
2. If the *alpha cronbach*  score0,21 – 0,40: rather.
3. If the *alpha cronbach* score 0,41 – 0,60: enough.
4. If the *alpha cronbach* score0,61 – 0,80: reliable.
5. If the *alpha cronbach* score 0,81 – 1,00: very reliable.

From the calculation, it was found that the reliability score for this test was **0.737** and was included into **reliable** level.

1. **Technique of Data Analysis**

In this research, the writer used a quantitative data analysis technique. The quantitative data of this research was analyzed by using statistical method. The quantitative data of this research in analyzing was using statistical computation. This technique was used to find the significant difference on the students’ achievement after being taught by using Silent Way Teaching Method.

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



Notes :

t = score of computation

 MD = average difference between pre – test and post – test

 ∑D2 = different scores squared, then summed

 (∑D)2 = difference scores summed then squared

 N = Subject of sample

 d.b = Decided by N-1