CHAPTER III

RESEARCH METHOD

This chapter presents the research method. It focuses on research design, population and sampling, research instrument, validity and reliability testing, research procedure, data collecting method, and data analysis.

A. Research Design

Research design is all process that be needed in conducting the research. It is a way to acquire dependable and useful information. This research belonged to experimental research design. This study was classified as pre-experimental research design because it has little or no control of extraneous variable. According to Latief (2014:96) this design involves only one group as its subject and it involves three steps that are pretest, treatments, and posttest. Firstly, the group is given pretest before the experimental treatment applied. After the treatment is finished, the post test is administered. The design of this research can be seen in the table below:

Table 3.1 Diagram of One-Group pretest-posttest

Y1	X	Y2
Pretest	Treatment	Posttest

The procedures of pre-experimental research were:

1. Administering a pretest with a purpose of measuring speaking proficiency of second grade students at MTS N Ngantru before being taught by using Number Head Together Technique

2. Applying the experimental teaching speaking by using Number Head Together as a technique to the subjects of the research.

3. Administering a posttest with a purpose of measuring speaking proficiency of second grade students at MTS N Ngantru after being taught by using Number Head Together technique.

The effectiveness of the technique is known after knowing the difference score between the students who were taught before and after applying Number Head Together. The difference score was identified from the statistical result of comparing the scores of pretest and posttest.

B. Population and Sample

A population consists of an entire set of object, observation, or scores that have something in common. For a research that needs a large population for the data source, the first way is to define the target population. Target population in educational research is defined as all the members of hypothetical or real set of people, objects or events to which educational researchers want to generalize the result of the research (Borg *et al* 1989:216). The target populations of this research were all second grade students of MTs N Ngantru that consisted of ten classes.

Then, sampling was used to select sample or the individual who will participate in the research. According to Charles, C.M (1995:96) sample is a small group of people that is selected to represent the much larger entire population from which it is drawn. A sample is selected because the population is too large to be studied. Therefore, the sample should be representative of the general population.

In choosing sample, the researcher used a certain sampling technique. Sampling is a way to get a group of people or subjects as representative of the large population. In this study the researcher used purposive sampling in choosing sample. The students of VIII D class consisted of 42 students were chosen as the sample of the research. The researchers chose this class because they had average proficiency in studying English. Naturally, from their capability, they were normal meaning that they were potential to develop after being given a treatment.

C. Data Collecting Method

The data collecting methods is needed to get the research data. The data collecting method used in this research was administering test. Test was an important instrument in this research. Instrument is the device the researcher uses to collect data (Frankel, 2005: 112). According to Subagiyo (2007:53) there are two kinds of instruments that are test instrument and non-test instrument. Test instrument is used to measure students' achievement and non-test instrument is used to measure attitude.

In addition, according to Ary *et al,* (2013:266), test is tool or procedures used to know or measured something in condition, ways and the rules are determined. In this research, the researcher used oral speaking test to know the students speaking score. Here the researcher asked students to describe familiar objects around them related to descriptive material. The researcher chose this kind of test because it is the most suitable test to obtain students' speaking score related to descriptive topic that was discussed in the treatment. The tests were constructed by the researcher himself by using some sources. The researcher used two kinds of test those are pretest and posttest. To obtain the students' scores of pretest and posttest, the researcher used scoring rubric that can be seen in appendix 3. The test used in this study was developed as it was presented in table 3.2 below

Table 3.2 The Development of Speaking Test

Syllabus	Indicator	Speaking task	Technique	Test Items
Standard Competence: Mengungkapkan makna dalam teks lisan fungsional dan monolog pendek sangat sederhana berbentuk descriptive.	Mendeskripsik an suatu objek dengan menggunakan bahasa yang baik dan benar.	Prompt: Choose one topic that you are interested in, then describing it orally. Topic: Class, Yard, Mosque	Speaking test (mendiskrip sikan objek)	pretest
Basic Competence: Mengungkapkan makna dalam monolog pendek sangat sederhana dengan menggunakan	Mendeskripsik an suatu objek dengan menggunakan	Prompt: Choose one topic that you are interested in, then describing it	Speaking test	posttest

ragam bahasa lisan secara akurat, lancar dan berterima untuk berinteraksi dengan lingkungan terdekat dan teks berbentuk descriptive.	bahasa yang baik dan benar.	orally. Topic: Canteen, yard, class	(mendiskrip sikan objek)	

Since the main data of this study were students' score, the researcher conducted tryout of the test. The purposes of the tryout were to know the quality of instruction of the test, whether it was clear or not and to achieve the reliable scores. The sample of tryout was the students in different class namely eight E class. They were chosen because they have almost same level as the experimental group. The scores and reliability computation of tryout before doing pretest and posttest can be seen in appendix 4.

D. Validity and Reliability Testing

There are two important characteristic that every measuring instrument should possess: validity and reliability.

1. Validity

Validity is the correctness of the assessment (Latief, 204:223). The validity of a test concerns whether it is measuring what we think and say it is measuring (Allison, 2002:85). There are four types of validity that can be discussed in relation to research; four types of validity, content validity, criterion related validity, construct validity, and face validity. In this study, the researcher use content and construct validity to know the validity of test.

a. Content validity

Content validity is a kind of validity which depends on careful analysis of the language being tested and of particular test. In the content validity, the coverage of task becomes the evidence. A test will have content validity if it represents sample of language skills. The researcher adjusted the speaking test with the learning syllabus that contains of standard competence and basic competence in KTSP 2006. The content validity can be shown as follows.

b. Construct Validity

The construct validity of test is test which is capable of measuring certain specific characteristic in accordance with a theory of language behavior and learning. Construct validity is one kind of validity that is measures the ability which is supposed to measure. For speaking test, it should have such of knowledge of sub-abilities of speaking such as pronunciation, fluency. The sub-abilities only can be measured if the form of test in the form of oral test.

2. Reliability

Reliability is necessary characteristic of any good test for it to be valid at all. Reliability means the stability of test scores; a test cannot measure anything well unless it measures consistently (Harris, 1969:14). In addition, reliability measures accuracy, consistency, and dependability of fairness of scores resulting from administration of particular examination. The result of a language skill assessment has high reliability if the result precisely represents the true level of the skill being assessed.

In this test the researchers used inter-rater reliability in which the researcher involved two raters in scoring the students' speaking ability (both in pretest and posttest). Then the researcher analyzed the correlation of two scores (the score of rater 1 in pretest and posttest) by using person correlation which is called product moment Pearson. The correlation coefficient is needed to be as high as possible. According to Muijs (2000:145) as for the strength of the relationship, the closer to +/-1 is the stronger, while the closer to 0 is the weaker. Some rules of it are:

<+/- 0.1 weak
<+/-0.3 modest
<+/-0.5 moderate
<+/-0.8 strong
>= +/- 0.8 very strong

Above 0.7 is usually considered to offer reasonable reliability for research purposes. Finally, to analyze the correlation, the researcher used SPSS 6.0 for windows.

E. Data Analysis

The two variables investigated in this research were Number Heads Together Technique and students score. In this research, the researcher used a quantitative data analysis technique to know the students achievement before and after being taught by Numbered Heads Together (NHT) technique. The quantitative data is analyzed by using statistical method. Here, the researcher conducted test to the students before and after being taught by applying NHT

technique. The data of pretest was compared with the data in posttest to know whether there was significant different of the students' speaking score. Therefore, the researcher used paired sample T test at SPSS 6.0 for windows to determine whether the technique was effective or not.