CHAPTER III

RESEARCH METHOD

3.1 Research Design

This research is use quantitative research method. According (Crowl, 1996:10) “quantitative research methods are used examine questions that can best be answered by collecting and statistically analyzing data are in numerical form.” The goal of this research is to find out the influence of something give to the subject of the research to know influence this technique.

In this research, the writer use pre-experimental design in one group pre-test design as his research design because in this research only the comparator group did not exist. It mean that, the researcher compare between score pretest and posttest the resulted by student in MTs Muhammadiyah 9 weru. The condition of classes in this school is only one class every grade, so need strategies to increase the learning process. The goal is get increases score after the researcher given treatment in that school and, hope the factor increasing score from treatment, but can be possible and impossible. Because increase score can influence from another factors, not only factor from this treatment.

In Siti Hodijah’s thesis explain the design method, she used pre-experimental design as design. She also uses one group pre-test design as her research method. She compare between score in pretest and posttest. The students

understand the text better because using pre-questioning technique in teaching reading.

.The data of this research is analyzed to examine the hypothesis by using t-test formula. The Research Design can be illustrated as follows:

Table 1: One-Group Pretest-Posttest Design

Group	Pre-test	Treatment	Post test
EG	O_1	X	O_2

Where: EG : Experimental group

O_1 : Observation 1- Pre test

O_2 : Observation 2-Post test

X : Treatment

3.2 Research Population and Sample

3.2.1 Population

In this research, the writer has a population in her research; populations are groups consisting of all people to whom a researcher wishes to apply the findings of a study (Crowl 1996:15). The population is Mts Muhammadiyah 9 Weru Paciran.

3.2.2 Sample

The sample in this research described by Crowl (1996:15) that samples are subset of people used to represent population. The sample of this research is

twenty three students of eighth grade at Mts Muhammadiyah 9 Weru Paciran from one class given pre-test and post-test.

3.3 Research Instrument

To find out the research of the investigation, the writer uses a standardized test which means "the test has been designed so that the procedures for administering the test, the materials used in the test, and the way in which the test is scored are constant" (Crowl, 1996:114). In this research the writer will use test as instrument. The test that is given to the students is multiple-choice.

Writer uses test to collect the data. The test divided two steps, they are pre-test and post-test. The writer carries out pre-test before treatment and post- test after treatment. Those activities are done to get students score in skimming technique before and after treatment. In this research the writer uses two kinds of test. They are *pre-test and post-test*.

Pretest is done by the experimental group. It is conducted for knowing the previous ability of experimental group in their reading comprehension. They are asked to read the text and answer the questions followed. The items of pre-test are 20 items of multiple choices. They have limited time to conduct it. Book and dictionary are not allowed but they can ask to invigilator in class room. The questions of the pre-test are related to their English material in fist semester.

Posttest is also done by the experimental group. The procedure of the posttest has the same procedure with the pretest. But this posttest is administered

after giving the all treatment. It is to measure the result of the treatment. It is success or not. The items and topic of pretest are same with the items and topic given to the experimental group in pretest.

The reading comprehensions on test given to the students were 20 items. They tested in pre test and post test, the text was adapted with syllabus of fist semester: where descriptive and recount text includes; Find the explicit information of the text. Identify the generic structure of the text. Identify the general idea of the text. Find the implicit information of the text. Find the meaning of the certain word from the text. The distribution of question and distribution of text are in appendix 9.

3.4 Data Collection

Data collection is the data which taken from sample. In here is discusses about the procedure of how the researcher collect data.

3.4.1. Procedure of Collecting Data

Before do the tests, the researcher asks permission to the principal at the school and explains the purpose of this study. After getting his approval, the tests are given to students. But before do the pre-test, the researcher tries out the test to find out the validity and reliability of those items. The researcher tried it out to the eighth grade in Mts. Muhammadiyah 27 Tlogosadang. The teacher is same in Mts. Muhammadiyah 9 weru. It means that he teaches in two schools and makes easy permission.

1) Try Out

Try out was done by the researcher before conducting pre-test and post-test. The purpose of try out is to know whether the reliability and validity are good or not. Try out was done to the other students that are not included in this research.

2) Schedule

To make systematic research, the researcher conduct the schedule in order to the reader knows the steps of this research. The schedule and implementation schedule can see in appendix 3. The treatment is done after pre-test, the materials is in syllabus (see appendix 1) and lesson plan (see appendix 2)

3.4.2 Validity of the Test

Arikunto (2002:145), said "Sebuah instrumen dikatakan valid apabila mampu mengukur apa yang diinginkan". Furthermore, Sudjana and Ibrahim (1989:117) have opinion that: "Validitas berkenaan dengan ketepatan alat ukur, sehingga betul-betul mengukur apa yang seharusnya diukur".

According to Ary (1985) validity refers to the extent to which an instrument measures what it is intended to measure. In this study, validity was measured by using content validity. Ary (1985), also states that content validity referred to the extent to which the instruments represents the content of interested. Before conducting posttest and pretest as the instruments of this study, the test should be tried out in terms of its validity and reliability. A test has content validity when it measures the specific purpose according to the lesson. The lesson

is derived from the curriculum and the test is created according the curriculum that decided by government.

In academic year 2013-2014, Mts. Muhammadiyah 9 Weru Paciran used Kurikulum Tingkat Satuan Pendidikan (KTSP) standard of content 2006. The test should be matched by using KTSP 2006.

This test is multiple choice, the students only choose one as the best answer. The tests are consisting of twenty questions. The researcher uses SPSS 16.00 to knowing the criteria of validity items to compute the test statistic. The validity is examined by analyzing item is good or not.

Heaton's formula is used by researcher to test the validity:

$$F.V = \frac{R}{N}$$

Where:

$F.V$ = the index of items difficulty

R = the students who answer correctly

N = the numbers of students taking the test

The criteria according to Heaton (1988) used to interpret the result:

0,00 - 0,30 = Difficult (D)

0,31 - 0,70 = Moderate (M)

0,71 - 1,000 = Easy (E)

Based on the result of validity, the researcher determines the validity of item into two steps. First, the researcher sees in *cronbach's alpha* value. If the item value is higher than *cronbach's alpha* value, it must be deleted the item. Second, the researcher sees *Corrected Item-Total Correlation*. The item which

have the value under 0,31 is low reliability, but if the value of *cronbach's alpha* more than *Corrected Item-Total Correlation*, the item is valid.

3.4.3 Reliability of the Test

Heaton (1988) states that reliability is a necessary characteristic of any good tests, for it be valid at all, a test must first be reliable as a measuring instrument. The reliability of the test can be estimated by using Heaton's formula.

$$r_{11} = \left[\frac{N}{N-1}\right]\left[1 - \frac{m(N-m)}{Nx2}\right]$$

Where:

N = the number of items in the test

m = the mean score on the test for all the testers

x = the standard deviation of all the testers

Criterion:

$0.0 \leq$ rkk< 0.20 is the lowest reliability

$0.20 \leq$ rkk< 0.40 is the low reliability

$0.40 \leq$ rkk< 0.60 is the quite reliability

$0.60 \leq$ rkk< 0.80 is the high reliability

$0.80 \leq$ rkk< 1.00 is the highest reliability

After find out the validity and reliability, the researcher conducts his research. For the first the researcher gives pre-test to find out the initial different on the experimental group. After giving pre-test, the researcher gives the treatment for experimental group. It is conducted four times and post-test will be

administered after the researcher conducts the treatment and gives some exercises the experimental group in a period of time. It is to find out whether the learners make progress in their reading comprehension or not.

After get the data researcher is analyzes the score of pretest and posttest by use SPSS 16.0. Finally, the researcher will write down the results of statistical calculation, interpretations, and conclusions of study.

3.5 Data Analysis

To get the data, researcher analyzes answer the research questions that stated.

3.5 .1 Hypothesis Testing

The purpose of hypothesis testing is to determine the possibility that a population parameter, such as the mean, is likely to be true. It describes the four steps of hypothesis testing, those are: First step is state the hypotheses. Second step is set the criteria for a decision. Third step is computing the test statistic. Fourth step make a decision.

First is state the hypotheses. In hypothesis testing, the researcher starts by assuming that the hypothesis testing is true. This is stated in the null hypothesis. So in this study, the researcher states the null hypothesis is there is significant influence on the reading comprehension achievement of the Eighth Grade Students at Mts Muhammadiyah 9 Weru Paciran

Second step is set the criteria for a decision. To set the criteria, the researcher states the level of significance for a test. In hypothesis testing, the

researcher collects data to know the null hypothesis. To make a decision, the researcher compares the p-value to the criterion. When the p-value is less than 5% ($p<.05$), the null hypothesis can be rejected. But, when the p-value is greater than 5% ($p>.05$), the null hypothesis cannot be rejected. The decision to reject or retain the null hypothesis is called significance.

Third Step is computes the test statistic. In this step uses a test statistics to determine the null hypothesis. Specifically, the researcher uses SPSS 16.00 to compute the test. In this study, the researcher uses t-test to analyze the data by comparing pre-test and post-test. So, the researcher uses paired t-test to analyze the data.

Fourth step is making a decision. In this step uses the value of the test statistic to make a decision about the null hypothesis. To make a decision, the researcher compares the p-value to the criterion. When the p-value is less than 5% ($p<.05$), the null hypothesis can be rejected. But, when the p-value is greater than 5% ($p>.05$), the null hypothesis cannot be rejected.

The data analysis that is used by the researcher in this study is t-test. T-test is used to analyze the data and to compare the mean difference of the pre-test and post-test. Besides that, the researcher wants to know the significant influence of pre-questioning on reading comprehension achievement of the Eighth Grade Students at Mts Muhammadiyah 9 Weru Paciran.