

## CHAPTER III

### RESEARCH METHOD

This chapter presents Research Design, Dependent and Independent Variable, Population and Sample, Research Treatment ,Data collection methods and Data Analysis.

#### 3.1 Research Design

Based on the background and the problem in chapter one, this research belongs to experimental research because the researcher wants to know the effect of using small group discussion. According to Ary,et.al.,(2002:276) says an experiment is a scientific investigation in which the researcher manipulates one or more independent variables, controls any other relevant variables, and observes the effect of the manipulations on the dependent variable(s).

This study uses pre experimental method in the form of Experimental design to in collect the data with a not control class because only one class with 10 students. Equally, ideal numbers of students in one classroom for teaching learning of the senior high school about 20-32 students but in the class there are 10 students, it is less than 32 students so the researcher took all of students in the class. In order get the maximal result.

Based on the reason, the researcher uses one group design by giving pre-test and post-test to the group, and giving treatment before post-test.

According to Ary, et al., (2010;303) pre-experimental designs because they provide little or no control of extraneous variables are follows:

Group	Pretest	Treatment	Posttest
Experimental	Y <sub>1</sub>	X	Y <sub>2</sub>

(Table 3.1 The design of pre-experimental one group )

### 3.2 Dependent and Independent Variable

A variable is what is measured or manipulated in an experiment. In this research, there are two variables, they are dependent variable and independent variable.

Independent variable is manipulated (changed) by the experimenter. It is also called by treatment condition or factors in an experiment (Ary, et.al,2010:261). A dependent variable is the variable being tested and measured in a scientific experiment. The dependent variable is 'dependent' on the independent variable. As the experimenter changes the independent variable, the effect on the dependent variable is observed and recorded.

The independent variable of this research is small group discussion because small group discussion is the treatment and can be changed or manipulated which cause change in other variables. The students reading is called dependent because it is a factor was observed and measured to find the impact of the independent variable.

### **3.3 Population and sample**

Population is a generalization of the region consist of: the object / subject who has certain qualities and characteristics set by the researcher to study then pulled his conclusion (Sugiyono, 2013:117). In the research , the population and the sample of the study are the XI-IPA or eleventh grade students of SMA Muhammadiyah 6 Gresik. This class consists of 10 students. They are 5 male and 5 female. The researcher used all the population without the taking the sample because the population is less the ideal number of students in one classroom of the senior high school. The researcher chose the eleventh grade students because this class is known how to discuss English very good.

### **3.4 Research treatment**

In the study, researcher made some stages in teaching reading. They are:

1. Greeting the students and give motivation to study well, spirit and enjoy learning English.
2. The researcher introduce about small group discussion as media learning English.
3. There are two group in class, one group five students.
4. After that, the researcher gives question for the reading with the other students as the discussion.

5. Then researcher gives example how to read very well.
6. After the students reading and other students correct the reading students. And finally, the teacher gives some questions.

### 3.5 Instrument of The Study

#### Test

In this research, the researcher used an achievement test which done in pretest and posttest to know the students ability in reading . Pretest is done before the respondents are given the material in reading comprehension by using small group discussion. It is aimed at knowing the effect of teaching reading comprehension by using small group discussion, especially at the eleventh grade students of SMA Muhammadiyah 6 Gresik 2015-2016 academic year. Posttest is such pretest but is done after the material is given.

The instrument of the test in this study is essay.

In this research, the researcher divided in two section (pre-test and post-test). Then to know the result of students score of the test accounted by the formula as follow :

$$\text{According to Marual (2014:71) } RC = \frac{\text{total correct answer}}{\text{Total number of question}} \times 100$$

The research instruments used by the research in collecting data are

#### 1. Pre-Test

The research did the pre-test when the teacher for the first time entered the class. It is aimed to know the students ability in material of reading which

given by the research. This test was conducted on 26<sup>th</sup> of April 2016. The total questions of pre-test are 10 questions in the form of essay.

## 2. Post-test

Post-test was done in order to know the changeable on students reading comprehension material learning process with small group discussion. This test was conducted 10<sup>th</sup> of May, 2016. The total questions of pre-test are 10 questions in the form of essay.

The contain pre-test and post-test of question is essay. The pre-test and post-test the questions about narrative text. There were 10 questions about tittle the story, conclusion the story with two texts different pre-test and post-test in the questions. Based on the test, it the items of pre-test was different post-test. The students may do better on post-test if the items are the same, because they have learned subject matter from pre-test. The researcher gave different content in every question.

Treatment is a method that given the students before doing post-test, the researcher used small group discussion method. The treatment was conducted 27<sup>th</sup> of April 2016, second meeting was done 3<sup>rd</sup> of May 2016, and last meeting 4<sup>th</sup> of May , 2016.

### **3.6 Data collection method**

Data collection is one of the most important stages in conducting a research. In this research, the data collection which used by the researcher are test (pre-test and post- test). The researcher used test to know the effectiveness of teaching reading using small group discussion and also to

know the capability of the students before and after giving the treatment in the classroom.

The researcher collected data in five meetings. In the first meeting, researcher identified himself and also students introduce himself to the researcher. And explains about the purpose of the research in the eleventh grade class and gives pre-test for the students to know how far their reading English. In this case, the researcher gives some questions by using essay 10 questions. The students should be answers correctly that is to do one by one of the best answers.

The second, the researcher gives treatment by using small group discussion. The second meeting the researcher gives method about hortatory exposition text with small group discussion with 5 students in groups and one student reading and other friend correctly the reading it student until finish the text.

The third meeting the researcher gives method about narrative text text with small group discussion with 5 students in groups and one student reading and other friend correctly the reading it student until finish the text.

The fourth the researcher gives method about spoof text with small group discussion with 5 students in groups and one student reading and other friend correctly the reading it student until finish the text. The last meeting the research gives post-test. The post-test is done by using small group discussion, it was suitable the treatment. The questions of post-test are

different pre-test that is 10 questions. In this case, the students should be answers correctly that is to do one by one of the best answers.

### 3.7 Data analysis

The data of research is primary data is obtained from students reading comprehension test. After the data have been collected, the next turn that should be done by research is analyzing the data. In this research, the analysis of test is based on the result of pre-test and post-test.

To know the result of test, it is analyzed statistical by using T-test for dependent sample to find the significance of mean different of the pre-test and post-test, (Ary,et.al,2010:177).

- a. To find the standard deviation of the difference scores, the formula is as follow :

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

- b. And to determine the statistical significance of the observed ratio. A more commonly used formula for the dependent *t*-test is :

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

Notes :

$t$  = *t-ratio*

$\overline{D}$  = average differences

$\sum D^2$  = different scores squared then summed

$(\sum D)^2$  = different scores summed then summed

$N$  = numbers of pair