

## **CHAPTER III**

### **RESEARCH METHODOLOGY**

This chapter presents the research design, population and sample, instruments, data collection and data analysis. Each of them will be discussed separately in the following sections.

#### **3.1 Research Design**

The writer carries out this research to know whether the use of pictures in teaching English Positive Degree has positive effect on the students' positive degree mastery or not. The design of the research is quantitative experimental design. The researcher gives treatment for twelve meetings to the fifth grade students of **MI Modern Sunan Giri Gresik**.

First of all, the researcher determines whether there is significant differences of the students' whose English teacher uses pictures in teaching English positive degree and the students whose teacher does not use picture.

As stated by **Gribbons, Barry & Herman, Joan (1997)**, among the different types of experimental design, there are two general categories: True experimental design and Quasi-experimental design. To confirm whether the difference of the means between the two treatments are significant or not, the researcher chooses and uses a quasi-experimental design research. As we know

that category of design is most frequently used when it is not feasible for the researcher to use random assignment.

The characteristics of quasi-experimental design are: 1) it has more than one variable, 2) it has control-group, 3) and also independent variable can be manipulated. From some characteristics above this research design matches to be used to solve the problem. To support the result of this research and measure it, the researcher also collects the data, analyzes and draws the conclusion about them.

### **3.2 Population and Sample**

The population of the research is the fifth grade students of **MI Modern Sunan Giri Gresik**. The school has two classes of the fifth grades' students at elementary school of 2006/2007, namely, Va, and Vb. Each of the class consists of 23 students.

To find out the effect of pictures in increasing the students' mastery in English Positive Degree of the fifth grades' students, the writer takes the sample in randomized way. Therefore, this technique gives the same opportunity for each member of population to be a member of the sample.

According to **Soepeno (1997)**, the purpose of the use of random sampling technique are: 1) to avoid the researcher's subjectivity in choosing the sample of the population, 2) random sampling technique allows the data collection, which can be generalized to the large population with the minimized failures, 3) in random sampling technique, which has the homogeny characteristic, the researcher should not

exam the homogeneity between the sample in one population. In this case the writer had drawn all members of the class. The researcher used the procedure by making a list of names of the students. The students of Va are classified into the experiment group and the students of Vb are classified into the control group. Both of the experiment and control groups had been given different treatments.

### **3.3 Instruments**

The data of this research is taken by using a test. The test is in the form of written test, because it will help the researcher to prepare and mark the students' worksheets. Moreover, The test items are taken from an English book, **English Make it Joyful**.

#### **3.3.1 Test**

There is only one forms of tests used in this study; objective tests (**Purwanto: 1991**). The objective test consists of 30 questions multiple choices. The total number of test items are 30 questions (See: Appendix 4)

#### **3.3.2 Try-out test**

Giving a test to measure the learning outcomes is not easy. The teacher must able to construct a qualified test to know the strengths and weaknesses of the students (**Arikunto: 1993**). Moreover, **Arikunto** states that there are five criteria to know the quality of the test, namely: Reliability, Validity, Objectivity, Practicality and Economy. Beside, **Safari (1993)** adds that there are three

important features to analyze the test, those are: Reliability, Item difficulty, and discriminating power.

In this research, the researcher did not use all criteria given by the experts to analyze the quality of the test; he only measured the Item of difficulty, the discrimination of test, Reliability and the Validity of the test items. Then, the researcher held a try out test twice: the first time is try out for the pre-test which was done before the real application of the test, i.e. on the 8<sup>th</sup> of August, 2007 . 23 students follow this test. And the second test is try out test for the post-test which was done on the September 19<sup>th</sup> · 2007. 20 students follow it. The items were the different from the real ones but the total number were the same (50 questions). The try-out test was administrated to the fifth grade students of another School (**MINU Trate Gresik**).. The administration of the try-out test needed some help from the teacher. This way was very important in order to guarantee students' truthfulness while doing the test, which could influence the result of the test evaluation. The steps of analyzing the result of the try-out test are as follows:

### **3.3.2.1 Reliability of the test**

Reliability is one of the important criteria which makes a test considered qualified. A test is reliable if it can be trusted, consistent or stable. In other words, in preparing a test, those things have to be taken into consideration. It is supported by **Gronlund (1982)** who states that reliability refers to the consistency of test scores. Steps to determining the reliability of the tests:

- a. Making tabulation of testees' scores

b. Measuring the mean of the testees' scores

c. Measuring the standard of Deviation by the formula below(Arikunto: 1993)

$$s. d = \sqrt{\frac{\sum d^2}{N}}$$

s. d = standard of deviation  
d = the deviation of each score from the mean  
N = the number of testees

The researcher uses formula proposed by **Heaton (1975: 157)** because it is simpler to use than other methods of estimating reliability and it avoids troublesome correlation and involves only the mean and the standard deviation of the test scores. Also, this formula consumes little time in having the reliability estimation procedures. The formula, KR-21 is:

$$r_{11} = \left( \frac{k}{k-1} \right) \left( 1 - \frac{M(k-M)}{kV_t} \right)$$

$r_{11}$  = instrument reliability  
k = the number of items test  
M = Mean Score  
V<sub>t</sub> = total variant

As stated above that to know the reliability, the first time the researcher tried to find out the mean score and standard deviation of the try out test (pre-test) (see **table 4.1 and 4.2 –appendix**). From the calculation, the researcher found mean's score (66,4) and the standard deviation (5,17) then, the researcher calculated them into formula KR-21 and the researcher found the reliability of the try out test (pre-test) is 0,83 (see **table 4.3 –appendix**). Beside the researcher also tried to find out the mean score and standard deviation of the try out test (post-test) (see **table 4.6 and 4.7 –appendix**). From the calculation, the researcher found mean's score (70) and the standard deviation (5,55) then, the researcher calculated them into formula KR-21 and the researcher found the reliability of the

try out test (pre-test) is 0,93 (**see table 4.8 – appendix**) So, from the result we know that the test is reliable to be tested, because it is near to the standard score (1,00)

### **3.3.2.2 The item of difficulty**

Here, the item of difficulty is used to know whether the students can accept the test or not, whether the test are too easy, accepted or too difficult for them. And for the try out (pre-test), from the item of difficulty, the researcher found there are 33 questions that are accepted by the students and 17 questions need revision (**see table 4.4 – appendix**). However, here the researcher used 30 questions to be tested. On the other hand for the try out (post-test), the researcher found that there are 34 questions that are accepted by the students and 16 questions need revision. And here the researcher used 30 questions to be tested too (**see table 4.9 – appendix**)

### **3.3.2.3 The discrimination of test**

The discrimination of test here purposes to know the quality of the test whether the tests are good, fair, poor or negative. And for the try out (pre-test), from the discrimination of the test, the researcher found there are 17 questions are good, 16 questions are fair, 17 are poor (**see table 4.5 – appendix**). From here, the researcher took 30 questions to be tested.

On the other hand, for the try out (post-test), from the discrimination of the test, the researcher found there are 21 questions are good, 15 questions are

fair, 12 are poor and 2 questions are negative. From here, the researcher took 30 questions to be tested (see table 4.10 – appendix)

#### **3.3.2.4 Validity of the test**

Heaton (1979: 153) says about the validity of the test that is extent to which it measures what it is supposed to measure and nothing else. The test can be said valid if it is able to measure what it is suppose to be measure. The test can be said valid in logic if the content validity of the test was fulfilled. T. Raka (1971) says “*sebuah test di katakan memiliki validitas isi apabila mengukur tujuan khusus tertentu yang sejajar dengan materi atau isi pelajaran yang di berikan*”. So that why, in making the test, the researcher tries to match each of the items test with the curriculum that was used by **MI Modern Sunan Giri Gresik**. The purpose is in order to make the test that is appropriate with the lesson that the students accepted in the moment when the research was done. So, considering the statement above it can be concluded that the both of tests (pre-test and post-test) are valid, because the contents of the test are from the material that are taught by the teacher in **MI Modern Sunan Giri Gresik**. Moreover, the researcher tries to match each of the items test with the curriculum that was used by **MI Modern Sunan Giri Gresik**.

### **3.4 Data Collection**

In order to collect the data, the researcher applies several steps which are considered as follows: First, the researcher gave the pre-test to the students of both Experimental and Control Group. Second, after giving the pre-test, the researcher gives the treatment to the Experimental Group only. It was done for about six meetings (August 6<sup>th</sup> – September 10<sup>th</sup> 2007). Then, the researcher gave the post test to both Experimental and Control Group. The last, the researcher collected the data to be analyzed.

### **3.5. Data Analysis**

In this research, the researcher gathers the data by giving the tests to the students especially in the fifth grade at **MI Modern Sunan Giri Gresik**. After gathering the data, the researcher analyzes the data by using T-test Formula (**Furqon, Ph.D. : 1999**). After that, it will be known whether picture is effective or not in teaching English Positive Degree, from the result of T-test. If the result of T-test (T hitung) is more than the figure shown on the T-table alternative Hypothesis is accepted. So, it means that there is significant effect of using pictures in teaching English positive degree at the fifth Grade of Elementary School.