CHAPTER III

RESEARCH METHOD

In this chapter, the writer presents the research method that is used in this study. It consists of research design of the study, subject of the study, instrument of study, try-out test, data collection, and data analysis.

3.1   Design of the Study

Research design is an important thing to conduct the research. It can help the writer to find out the problem and show how the study would be solved. State in Ary Donald (2002:426), the research design is the researcher's plan of how to proceed to gain an understanding of some group or some phenomenon in its natural setting.

The purpose of this study was to identify and classify the types of the structures of complementation errors and also to find the frequency of occurrence of each type of the structures of complementation errors made by the 8th grade of Mts Masyhudiyah Giri Gresik. Because the aim of this study was to classify the types of errors in using structures of complementation, count them, and construct statistical models in an attempt to explain the frequency of the occurrence of each type of errors, therefore the writer used the quantitative approach. According to Aliaga and Gunderson (2002, in Daniel Muijs, 2004:1) describing what we mean quantitative, quantitative research is explaining phenomena by collecting

numerical data that are analyzed using mathematically based methods (in particular statistic).

This study is considered as quantitative approach carried out through test. In this thesis the writer will apply a quantitative design.

3.2   Subject of the Study

All 8th grade of Mts Masyhudiyah Giri Gresik was choosen as the subject of this study because the writer wanted to know the students' errors in using structure of complementation and frequency of the occurrence of each type of the errors made by the students.

In 8th grade of Mts Masyhudiyah Giri Gresik there are 2 classes, there are class A and B. when the writer observed he asked to the head master about the class and the head master said that the class was not divided into the smartest or the bad student. In each class there were forty students.

3.3   Instrument of the Study

The instrument used by the writer was test. The form of the test was multiple-choice (the student will ask to choose a correct answer with one answer). The total of item will be fifty items and the student will give fifty minutes to finish the test. The writer used fifty items because f the limits of the time in the English lesson, in one day there was one hour of English lesson. The test was administrated to forty students of the 8th grade of Mts Masyhudiyah Giri Gresik.

3.3.1   Try-out Test

Try out test was conducted by the writer on Saturday, 13th, august 2011

and it was administered to forty students of the 8th grade of Mts Masyhudiyah Giri

Gresik. The total numbers of items in the try out test were sixty items and the

students did the test in sixty minutes. It consisted of sixty items of multiple-

choice. The instructions were given clearly in English and Indonesian language in

order that the students understood how to do the test. The result of the try-out, the

reliability, validity, the level of difficulty and the discrimination indices of the test

were estimated.

The students' answers were collected and analyzed to determine their

effectiveness in terms of item difficulty, item discrimination. The item difficulty

was used to show the percentage of the subject who answer each item correctly,

the item discrimination was used to reveal how good each item of discriminates

the good subjects from the poor one.

3.3.2   Difficulty and Discrimination Indices

According to Heaton (1975: 176), in determining the items' difficulty, the

following formula was used:

$$FV = \frac{Correct\ U + Correct\ L}{2n}$$

FV   = the index of difficulty

U   = the number of correct answer of upper group (e.g. the top 27.5 percent)

            on the particular items.

L   = the number of correct answer of lower group (e.g. the bottom 27.5

        percent) on the particular items.

N   = the number of students in one group

The interpretation of the FV indices was based on the difficulty levels which range from .10 to .90. The suitable index of difficulty for the accepted items was to the one which facilitating values between .10 and .90, it was considered to be too easy. In this study, only those items which possessed difficulty indices between .10 and .90 were collected. It means:

Less than 0.20   : too difficulty

0.20 - 0.80   : accepted

More than 0.80   : too easy

Besides, the discrimination index of a test was one of the important features of a test. Item discrimination index of each item was also analyzed to get information to which extent the item discriminates between those students who perform well and those who perform poorly on the whole test (Heaton, 1975: 174). In this study, the formula used to analyze the item discrimination index was the one suggested by Heaton:

$$D \quad = \quad \frac{\text{Correct U} + \text{Correct L}}{N}$$

D = Discrimination index

U = Upper half (27.5 percent of upper group answering correctly)

L = Lower half (27.5 percent of lower group answering correctly)

N = Number of candidates in one group

According to Heaton (1975: 175), the degree of discrimination power can range from -1 (= an item which is entirely that wrong way) up to + 1 (= an item which discriminates perfectly): where 0 shows that it is an item which does not discriminate in any way at all, according to Djiwandono (1996: 144), the level of discrimination index of item as follow:

0.50	-	more	= good
0.20	-	0.50	= fair
Less than 0.20	-	0.20	= poor
0			= no discrimination
Negative			= negative

The result of the analysis will be showed the items of the try-out test, which do not fulfill the criteria of acceptability in terms of item difficulty and the item of discrimination were discard. The difficulty and discrimination indices of try out test can be seen in appendix 4.

3.3.3 The Reliability of Test

Reliability is necessary characteristic of any good test. The formula of the reliability of a test that will be used the writer is Kuder Rechardson method – using T=1, F=0 (Djiwandono: 152 and Heaton: 164).

$$Rii = \frac{N}{N-1}\left(1 - \frac{(M\,(N-M))}{Nx2}\right)$$

N= the number of the item

M= the mean score

X= the standard deviation

Rii=reliability

The reliability coefficient of a test range is from zero to one in terms of value. A reliability of 1.00 would indicate that a test is perfectly reliable, while quotient of zero would indicate a complete absence of reliability.

To know the mean of the test, the writer calculated it by using the formula below:

$$Mean = \frac{\sum fx}{N}$$

X   = score

N   = the number of test

M   = mean

F   = frequency

The writer also will use the formula below to know the standard deviation of the try out test.

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

s.d   = standard deviation

d   = mean deviation

N   = the number of the test

The reliability of the try out test can be seen in appendix

3.3.4   The Validity of Test

The validity of a test is the extent to which it measures what it is supposed to measure and nothing else. The test must aim to provide a true measure. The result of validity should contain the degree to which a test measure what it is intended to measure (Heaton, 1975:153)

This study will aim to analyze the language acquisition difficulty through errors made by the students in constructing structures of complementation. Each item of the test will be designed to represent each type of structures of complementation. There will be sixty items of multiple-choice. Each type of structures of complementation was represented by three and four items. Therefore, the test would be representative of the objective of the study. In other words, the test was valid.

3.4   Data Collection

The data was collected by administering the test in using structure of complementation to the 8th grade of Mts Masyhudiyah Giri Gresik after giving the try out test. The test was conducted on Monday in 21th, august 2011. The writer collected the data with the help of English teacher of Mts Masyhudiyah Giri Gresik who is teaching the 8th grade.

3.5   Data Analysis

The data from the results of the students' work on the test were analyzed in quantitatively. The analysis was done by the following procedure above.

3.5.1   Quantitative Analysis

The writer used two steps; first, identifying the errors and second classifying the error into structure of complementation in the qualitative analysis.

3.5.1.1 Identifying Errors

Errors made by the students were identified in this step. In this study, errors are defined as any deviation in using structures of complementation found in the students' work. When the students' answers were not agreement with what were expected from the answer key, they were identified as errors. All of the errors were added to know the total number of errors made by the students.

3.5.1.2 Classifying Errors

Errors were classified into their types after identifying them. The classifications errors are based on each types of English structure of complementation.

This step was used in order to find out the frequency of the occurrence of the structures of complementation errors. The occurrence of the errors were counted and tabulated. The numbers of errors were presented in the form of percentage. The quantitative data were expected to show the students difficulties in using structures of complementation. The higher percentage of the errors is the more difficult structures of complementation for the students.

To figure out the frequency of the occurrence of each error types, the writer used the following formula:

$$\frac{\text{Number of each errors of each type}}{\text{The total number of errors}} \times 100\%$$