

## **CHAPTER III**

### **RESEARCH METHOD**

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

#### **3.1 Design of the Study**

The purpose of this study was to identify and classify the types of the collocations errors and also to find the frequency of the occurrence of each type of the collocations errors made by the second semester students of the English Education Department of University of Muhammadiyah Gresik.

Because the aim of this study was to classify the types of errors in using collocations, 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 a combination of qualitative and quantitative research. According to Creswell (1994: 189), one of the design models of the qualitative and quantitative studies is the mixed-methodology design, in which the research combines qualitative and quantitative approaches throughout the study, such as in introduction, the purpose statement, the research questions, and the method.

In this study, both qualitative and quantitative paradigms were used in all phases of the study. To identify and classify the types of the collocations errors, the writer used qualitative procedures, whereas, to find out the frequency of occurrence of each type of the collocations errors, the writer used quantitative procedures.

### **3.2 Subject of the Study**

The subjects in this study were the second semester students of the English Education Department of University of Muhammadiyah Gresik. The writer chose the second semester students of the English Education Department of University of Muhammadiyah Gresik because the writer wanted to know the students' errors in using collocations and also the frequency of the occurrence of each type of the errors made by them.

### **3.3 Instrument of the Study**

The instrument used by the writer was the test in the form of sentences in which the students were asked to fill out the blanks with one answer or we know as a multiple-choice test. The total numbers of items were 30 items and the students did the test in 30 minutes. It consisted of 16 items of grammatical collocation and 14 items of lexical collocation.

### 3.4 Try-out Test

Try-out test was conducted in 23<sup>th</sup>, April 2008, followed by 26 students from the class A of the second semester students of the English Education Department of University of Muhammadiyah Gresik. Try-out test consisted of 30 items of grammatical collocations and 20 items of lexical collocations. The time allotted for the try out test was 40 minutes. The test instructions were given clearly, so that the students understood how to do the test. From the results 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 and item discrimination. The item difficulty showed percentage of the subjects who answered each item correctly, while the item discrimination revealed how good each item discriminates the good subjects from the poor ones.

#### 3.4.1 Difficulty and Discrimination Indices

According to Heaton (1975: 176), in determining the items' difficulty, the following formula is used:

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

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 is based on the difficulty levels which range from .10 to .90. The suitable index of difficulty for the accepted items is to the one which facilitated values between .10 to .90. If the index of difficulty is below .10, it is considered too difficult, while if it is more than .90, it is considered to be too easy. In this study, only those items which possessed difficulty indices between .10 and .90 are collected.

Besides, the discrimination index of a test is one of the important features of a test. Item discrimination index of each item is 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:

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

- 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: 180), the degree of discrimination power can range from -1 (= an item which is entirely the 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. In this study, the discrimination index was classified as illustrated below:

- 0 - .20 = Weak
- .20 - .40 = Satisfactory
- .40 - .70 = Strong
- More than .70 = Very strong

Thus, the result of the analysis which showed the items of the try-out test, which did not fulfill the criteria of acceptability in terms of item difficulty and the item of discrimination were discarded. (see appendix D and G)

### 3.4.2 The Reliability of Test

Reliability is a necessary characteristic of any good test. Test reliability refers to the degree to which a test is consistent and stable in measuring what it is intended to measure. The formula of reliability of test

that the writer used is Kuder Recharadson Method - using  $T = 1$ ,  $F = 0$   
(Djiwandono: 152 and Heaton: 164).

$$r_{ii} = \frac{N}{N-1} \left( 1 - \frac{(m(N-m))}{Nt^2} \right)$$

$N$  = the number of the item

$m$  = the mean score

$x$  = the standard deviation

$r_{ii}$  = reliability

In terms of value, the reliability coefficient of a test range is from zero to one. A reliability of 1.00 would indicate that a test is perfectly reliable, while quotient of zero would indicate a complete absence of reliability. The result of the computation of the reliability of the test showed that the reliability coefficient of the test was 0.94 for the grammatical collocation and 0.9 for the lexical collocation. (see appendix E and H)

To know the reliability of the test the writer calculated the reliability of test using the formula below:

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

x = score

N = the number of testee

M = mean

F = frequency

### 3.4.3 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 (Heaton, 1975:159). The test must aim to provide a true measure. Test validity is also the extent to which inferences, conclusions, and decisions made on the basis of test scores are appropriate and meaningful. The kind of validity depends on careful analysis of the language being tested and of the particular course objective (Heaton, 1975: 160). The results of validity should contain the degree to which a test measures what it is intended to measure.

This study was aimed to analyze the language acquisition difficulty through errors made by the students in constructing grammatical collocations and lexical collocations. In respect to the validity of the test, each item of the test was designed to represent each type of grammatical collocations and lexical collocations. There were 30 items represented 16 grammatical collocations and 14 lexical collocations. Each type of grammatical collocations and lexical collocations represented by two items. Therefore, the test was representative of the objective of the study. In other words, the test was valid.

### **3.5 Data Collection**

The data was collected by administering the test about grammatical collocation and lexical collocation to the second semester students of the English Education Department at University of Muhammadiyah Gresik at 10<sup>th</sup> June 2008 after giving the try-out test. The writer collected the data with the help of one of the lectures of the English Education Department at University of Muhammadiyah Gresik who was teaching the second semester students with the consideration that the students did the test seriously to avoid biased results.

### **3.6 Data Analysis**

The data which obtained from the results of the students' work on the given test was analyzed both qualitatively and quantitatively. The analysis was done with the following procedures.

#### **3.6.1 Qualitative Analysis**

In the qualitative analysis, the writer used 2 steps; identifying the errors and classifying the errors into grammatical collocations: they are; noun + preposition, noun + to + infinitive, noun + that-clause, preposition + noun, adjective + preposition, adjective + to + infinitive, adjective + that-clause, and verb patterns and lexical collocations, such as; verb (usually transitive) + noun/pronoun (or prepositional phrase), verb (meaning eradication and/or nullification) + a noun, adjective + noun, noun + verb, noun + noun, adverb + adjective, and verb + adverb.



### 3.6.1.1 Identifying errors

In this study, errors were defined as any deviation in using grammatical collocations and lexical collocations found in the students' works. When the students' answers were not in agreement with what were expected from the answer key, they were identified as errors. All of the errors were then added up to know the total number of errors made by students (see appendix K and L).

### 3.6.1.2 Classifying errors

After identifying the errors, they were classified into their types. The classifications of errors were based on each type of grammatical collocation: (noun + preposition, noun + to + infinitive, noun + that-clause, preposition + noun, adjective + preposition, adjective + to + infinitive, adjective + that-clause, and verb patterns), and lexical collocations: (verb (usually transitive) + noun/pronoun (or prepositional phrase), verb (meaning eradication and/or nullification) + a noun, adjective + noun, noun + verb, noun + noun, adverb + adjective, and verb + adverb).

### 3.6.2 Quantitative analysis

Quantitative analysis was used in order to find out the frequency of the occurrence of the collocation errors. The occurrence of the errors previously identified were counted and tabulated. The numbers of errors were then presented in the form of percentage; the quantitative data were expected to show the students difficulties in using collocations. The higher

percentage of the errors was the more difficult collocations for the students.

In order to figure out the frequency of the occurrence of each error types the following formula was used:

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

The results of the frequency of the occurrence of each types of collocation see table 4.5, 4.6 and 4.7 in chapter four.