

CHAPTER III

RESEARCH METHODOLOGY

Research method is general strategy for gathering and analysing data to answer the research problem of a study (Ary, Jacobs, and Razavieh, 1990). This argument is in line with Boden, Kenway, Epstein (2005) that research method is the way to collect, locate or create material to be analysed.

3.1 Research Design

Regarding to the research purpose of this study which has stated before; to find the correlation between grammatical accuracy and speaking fluency, the research design of this study is descriptive because it tries to tell what actually exists in the phenomenon which has found. As Ary, Jacobs, Razavieh (1990) explained that the main purpose for descriptive research is to tell something that exists in current phenomenon with regard to variable and condition.

In addition, the current study belongs to descriptive quantitative research because this study tries to explain phenomenon by numerical data with mathematical methods. As Muijs (2004: 1) explained that quantitative is about collecting numerical data to explain phenomena.

Furthermore, it is a descriptive quantitative study which is included in correlational study. Correlational study concerns determining relationship among some variables (Ary, Jacobs, Razavieh, 1990). It needs

correlation analysis to find the relationship of the variables. Correlation analysis is a statistic technique which aims to find relationship with correlation degree between two variables (Zawawi, 2012: 46).

So, we can say that it is correlational study because it aims to find the relationship between the two variables. There are two variables in this study; they are grammatical accuracy and speaking fluency. As mentioned above, the objective of this study is to know the correlation between grammatical accuracy and speaking fluency.

So, the researcher wants to examine the correlation of the variables, whether or not if learners of 4th semester at English Language Education Department at University of Muhammadiyah Gresik have good ability in grammatical accuracy they have good speaking fluency.

3.2 Population and Sample

3.2.1 Population

Population is the group of people we want to generalise the finding (Muijs, 2004: 15). Based on that definition, the population is the 4th semester learners at English Language Education Department at University of Muhammadiyah Gresik. There are three classes for 4th semester learners at English Language Education Department at University of Muhammadiyah Gresik. They are A, B and evening classes. The total of the learners who joined in Advance Grammar and Speaking 3 classes are 60 learners. So, the population is 60 learners.

3.2.2 Sample

According to Ary, Jacobs, Razavieh (1990: 169), sample is the small group that is observed. Sample can be a representative for population to be the source of data. As Ary, Jacobs, Razavieh, (1990) stated “The larger sample is much more likely to be representative of the population”. It is clear that the larger sample is the better to reach generalisation. This means that sampling the whole of the population will support the generalisation. Sampling the whole of the population is known as census (Muijs, 2004: 38). It can be done if the population size is quite small (Muijs, 2004). Since the population of this study is small enough, the researcher uses census.

Ary, Jacobs, Razavieh (1990: 178) explained that the smaller level of standard error (1%, 5% or 10 %) the larger sample should be taken close to the amount of population. Sugiyono in Sarwono (2006) demonstrated formula of determining sample:

$$n = \frac{N}{N(d)^2 + 1}$$

Where:

n = Sample

N = Population

d = Level of error tolerance

After applying this formula, the amount of the sample which should be taken at 5% level of error tolerance in this study is 52. It is almost close to the amount of the population itself. As Nasution (2006: 101) explained that the higher amount of sample the higher strength of generalization can be obtained. This is supported by Widi (2010) that the larger sample the larger certainty and accuracy can be obtained.

Meanwhile, there are some uncompleted scores of speaking fluency which cause the researcher only able to examine 48 learners. It is very close to the number of sample that should be taken based on the formula above. So, the total of the sample is 48 learners of the 4th semester of 2012/2013 academic year of English Language Education Department at University of Muhammadiyah Gresik.

3.3 Data Collection

3.3.1 Instrument

Based on the research design above, in collecting data, the researcher uses the instrument which is suitable for supporting the analysis of the data in order to reach the research objective.

Sukmadinata (2007: 221) explained that one of techniques in collecting data is from documentary study; it is to collect and analyse written, pictorial, or electronic documents. So, the documents which are used as instrument are:

1. Score of grammatical accuracy from Advance Grammar course of 4th semester learners at English Language Education Department at University of Muhammadiyah Gresik. This score is gained from Advance Grammar course. The scores which are used as the data of this study are gained from three different lecturers because each class of A, B, and evening class have different lecturers. The scores are taken from exercises, midterm test, final test, and final score. In construct validity, this score is appropriate with the course outline of Advance English Grammar which contains some topics in Advance English Grammar lectures. In term of content validity, this instrument is appropriate with the SAP of Advance English Grammar. This score will be used to examine its correlation with speaking fluency score.
2. Score of speaking fluency from Speaking 3 subject of 4th semester learners at English Language Education Department at University of Muhammadiyah Gresik. This score is used to determine learners' speaking fluency. There are some aspects in scoring system of Speaking 3 subject. One of the aspects is speaking fluency. The researcher uses this score of speaking fluency as the data to correlate it with grammatical accuracy. The score is gained from one assessment. It is the score of final test. In term of construct validity, this instrument is also appropriate with the rubric of Speaking 3 course. This score

will be used to examine its correlation with grammatical accuracy score.

3.3.2 The Procedure of Collecting Data

In order to reach the research objective of this research; to know the correlation between grammatical accuracy and speaking fluency of 4th semester learners at English Language Education Department at University of Muhammadiyah Gresik, the researcher attempts to do these procedures for collecting data to support the data analysis, they are:

- The researcher selects the Speaking 3 and Advance grammar subject to be examined because they are the highest skill level taught at University of Muhammadiyah Gresik.
- The researcher will meet Speaking 3 lecturer to ask the score and the rubric speaking 3 of the 4th semester learners at English Language Education Department at University of Muhammadiyah Gresik.
- The researcher will meet Advance Grammar lecturers to ask the score of the 4th semester learners at English Language Education Department at University of Muhammadiyah Gresik.
- The researcher will sort the scores of speaking 3 by taking only the scoring aspect of speaking fluency to be analysed.

- The researcher will gather all of the scores of Advance Grammar from some lecturers.
- The researcher will insert the data into SPSS software then analyse the correlation between grammatical accuracy and speaking fluency of the 4th semester learners at English Language Education Department at University of Muhammadiyah Gresik.

3.4 Data Analysis

After collecting the data from some sources through some procedures mentioned above, the researcher analyses the data by doing some steps to find the answer of the research question. In data analysis, there are two important actions which are usually done for a research process; describing the data and doing inferential statistic analysis (Sukardi, 2007: 86). So, the researcher does both descriptive analysis and inferential statistic analysis.

First, the researcher inputs the data from the score of Grammar and speaking fluency of A, B, and evening classes learners at English Language Education Department at University of Muhammadiyah Gresik into SPSS program for doing statistical analysis. Then, the researcher does the following terms to support data analysis.

3.4.1 Descriptive Statistics

Since the statistical analysis in this study is done both descriptive and inferential statistically, the descriptive analysis is the first analysis in this study. Descriptive analysis is important to give brief resume of the data so it can be understood easily (Sarwono, 2006; Sukardi, 2007). The description of the data can be seen from mean, standard deviation, variance, modus, etc. (Zawawi, 2012). The description of the data statistically can be explored by using Descriptive Statistics in SPSS.

3.4.2 Normality Test

Normality test is one of important requirements in the procedure of this research. It is to check whether or not the data is distributed normal by using Test of Normality. To test the normality, the researcher will insert the data into SPSS and explored its normality by using Shapiro-Wilk and Liliefors (Kolmogorov-Smirnov).

The result of this Test of Normality is very important to determine which inferential analysis statistic that will be used to examine the correlation of the variables. From the result of Normality Test, if the data is distributed normal, the researcher uses parametric statistic analysis to find correlation coefficient, in this case is Pearson Product Moment. Nevertheless, if the data is not from normal distribution, the researcher uses non-parametric

statistic analysis to find correlation coefficient, in this case is Spearman Rank.

3.4.3 Correlation Coefficient

Correlation Coefficient is number which shows the strength of correlation between two variables (Zawawi, 2012). The result of the Correlation Coefficient will determine the strength of the correlation between grammatical accuracy and speaking fluency of 4th semester learners at English Language Education Department at University of Muhammadiyah Gresik.

Coefficient correlation can determine the strength of the relationship, the closer to + / - 1 the stronger and the closer to 0 the weaker (Muijs, 2004: 145). The rules to determine the strength of correlation are:

$<0. + / -1$ weak

$<0. + / -3$ modest

$<0. + / -5$ moderate

$<0. + / -8$ strong

$\geq + / -0.8$ very strong

In this study, the data is from score of English Grammar and Speaking fluency which is included in ratio or interval data. One of assumption for parametric test is the variables expressed in interval or ratio scales (Best, 1981: 268). Because of this condition,

the researcher probably will use Pearson Product Moment to find the correlation coefficient. However, the researcher still checks the Normality Test result to determine whether the researcher uses parametric or non-parametric analysis to find the correlation coefficient between the two variables.

According to Muijs (2004: 143), the formula for Pearson's correlation coefficient is computed as:

$$r = \frac{\sum_{i=1}^n (x_i - \bar{X})(y_i - \bar{Y})}{(n - 1)S_x S_y}$$

Where:

- X_i and Y_i are individual observations
- \bar{X} and \bar{Y} are the means for variables X and Y
- n is the number of cases; and
- S_x and S_y are the standard deviations of the two variables

3.4.4 Hypothesis Testing

After knowing the coefficient correlation between Grammatical Accuracy and Speaking Fluency, the researcher uses hypothesis testing to find statistical significance of the correlation coefficient.

That is why the Null hypothesis is important in this case. Since this is an educational study, the level of significance is on 5%

level (0.05). As Best (1981: 271) explained that in educational circles, the 5% (0.05) alpha level (significance level) is often used as standard for rejection. So, the principle is Null hypothesis (H_0) cannot be rejected if P value (Sig.) is bigger than 5% (0.05). Meanwhile, the Null hypothesis of this study is there is no significant correlation between Grammatical Accuracy and Speaking Fluency.

According to Best (1981), the test of significance of correlation coefficient can be computed with formula:

$$tr = \frac{r\sqrt{N-2}}{\sqrt{1-r^2}}$$

Where:

- tr = the statistical significance of the correlation coefficient
- r = the correlation coefficient
- N = number of paired ranks

In short, there are some procedures in this research. First, the researcher determines the course subject to choose; Advance Grammar and Speaking 3. Second, the researcher will gather the data from Advance Grammar and Speaking 3 Lecturer. Third, the researcher will sort the data into the main focus. Next, the data will be checked whether it belongs to normal distribution data or not. Then, the data will be correlated to know its correlation coefficient.

Finally, the researcher will test the hypothesis whether the null hypothesis is rejected or not.