CHAPTER III

RESEARCH METHODOLOGY

This chapter provides the explanation about the procedures of the research in order to find out the answer to the research question which is stated in previous research. This chapter covers research methods, research participants, research procedures, research instruments, data collections, and techniques for analyzing the data.

3.1 Research Method

In accordance with the aim of the research, the researcher chose correlation method as the research method. This method was relevant to the research because the research attempted to find out the correlation between the score of the listening section of the TOEIC test and the students' speaking abilities. "Correlation method is a quantitative research method which can determine the degree of relationship between two variables" (Coolidge, 2000:110). In addition, Hatch and Farhady (1982:195) states that "correlation method involved collecting data to find whether there is any correlation between two or more variables and how strong the relation is without controlling the participants." On the other hand, Coolidge (2000:110) says that:

> relationships between two variables can vary from strong to weak. When a relationship is strong, this means that knowing a person's score on one variable helps to predict their score on the second variable. If the relationship is a weak one, then knowing a person's score on one variable does not help to predict their score on the second variable.

In the research, there were two variables employed: the students' score of the listening section of the TOEIC test as independent variable (X) and the students' speaking abilities as dependent variable (Y).

The Students' Score of the Listening Section of the TOEIC test   The Students' Speaking score

Figure: 3.1 Illustration of correlation between two variables

Based on the statement above, the research used the Pearson Product Moment Correlation to analyze the data.

3.2 Participants of the Research

The researcher collected the data from participants which have been chosen before. The participants were the third graders of SMKNs in Bandung.

3.2.1 Population

According to Dornyei (2007:96) "population is the group of people whom the research is about." In the research, the population was the third grade students in one of SMKNs in Bandung. There were five departments in that school and each department has two classes. Each class consists of 30 – 40 students.

3.2.2   Sample

"Sample is a group of participants whom the researcher actually examines in an empirical investigation" (Dornyei, 2007:96). There were 30 students who were selected randomly. It is in line with Gay in Uhar (2002) who proposes that "the sample for a correlation research is selected using an acceptable sampling method and 30 subjects were generally considered to be a minimally acceptable sample size."

In the research, cluster random sampling was used as a method for selecting the respondents. "Cluster random sampling is sampling that involve selecting members of the population to be included in the sample on a completely random basis" (Dornyei, 2007:97). This method was chose for minimally acceptable sample size.

3.3 Data Collection

In collecting data, some instruments were used in the research. The data were obtained from several sources in sequence including the TOEIC score document, the speaking test and the questionnaire.

3.3.1   The TOEIC score

TOEIC score document was applied to find out the students' listening score of the TOEIC test. It was acquired from teacher's document. This test was organized in one of SMKNs in Bandung on August 2010. The score of the test has

already been standardized, so it does not need to measure its validity and reliability.

3.3.2 The Speaking Test

Speaking test was administered in order to measure the students' speaking abilities. The test consisted of 20 pictures and the students had to describe the pictures in as many details as they can.

In assessing students' speaking abilities, the research involved two teachers as testers. The research used pseudonyms in describing the English teachers involved in the research. There were four aspects which were included in the research. In every aspect, it has five levels of rating that shows the students' level of speaking abilities. It refers to Harris theory (1969) cited in Ramdhiani (2004:35). The format of scoring system can be seen in Appendix B.2.

3.3.3 The Questionnaire

Frequently, the questionnaire is the best form of survey in an educational enquiry (Cohen and Manion, 1994:94). The questionnaire was distributed in order to find out students' perception toward the effect of TOEIC test on their English ability and the effect of the listening section of the TOEIC test on their speaking abilities. The questionnaire contained ten questions. The questions were distributed in close-ended questions with five alternative answers in scale rating form. The scale was modified by using Likert scale. The close-ended question is "the question consists of a characteristic statement and respondents are asked to

indicate the extent" (Dornyei, 2007:105). The type of items uses Likert Scale model with the score 1 to 5 as presented in the following: 1 = highly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = highly agree.

In order to make students answer the questions easily, questions were written in *Bahasa Indonesia*. By using this questionnaire, the research could gain the data of the effect of listening on the students' speaking abilities. The questionnaire can be seen in Appendix A.2.

3.4 Try-Out of The Instruments

"A good test at least possess two qualities, those are validity and reliability" (Harris in Ramdhiani (2004:34). In order to get the requirement of a good test, the instruments should be tried out before the test was actually administered and the result should be calculated in order to find out its validity and reliability.

3.4.1 Validity

"Validity is defined as the degree, to which a test measures it is supposed to measure" (Hatch & Farhady, 1982:250). In other words, a test can be considered valid if it measures what becomes an objective of the test instruments. Validity can be analyzed by using the Pearson Product Moment Correlation by using SPSS 16 for window. In the research, content validity was applied. Based on Hatch & Farhady (1982:252) "content validity is concerned with how well the test represents the subject matter content or behaviors to be tested."

Hatch and Farhady (1982) say that "the item will be considered valid if its correlation coefficient is equal as or greater than 0.3, but if correlation between the item and the total score is less than 0.3, the item is considered invalid." Then the result should apply the interpretation below:

if $r_{obtained} > r_{table}$ = valid

if $r_{obtained} < r_{table}$ = invalid

3.4.2 Reliability

Testing the instrument reliability is important to find out whether the instrument is reliable. It means that if the instrument is tasted to the same objects in different time, it will yield the same result. In line with this, Hatch & Farhady (1982:244) note that reliability can defined as "the extent to which a test procedure consistent results when administered under a similar condition."

In the research, Split-half formula in SPSS 16.0 was applied to reveal the reliability of instrument. There were some steps for calculating the reliability, those are:

1) Splitting the test into two similar parts (odd and even numbered)

2) Calculating the correlation coefficient by using Pearson Product Moment formula in computer statistical program (SPSS 16).

3) Calculating the reliability used Spearman Brown Formula. The formula is:

$$r_K = \frac{2r_1}{1 + r_1}$$

where: r_K = instrument reliability coefficient

r_1 = instrument reliability

4) Comparing r_K with r product moment

After calculating the reliability, the result should be compared to r_{table} from Product Moment table, which can be seen in Appendices B.5. Then the result should apply the interpretation below:

if $r_{obtained} > r_{table}$ = reliable

if $r_{obtained} < r_{table}$ = unreliable

3.5 Data Analysis

The data were analyzed in several steps. First of all, the analysis was started by collecting the TOEIC score documents from the teacher. Second, scoring the result of speaking test and the questionnaire. Then, the process went on estimating normality distribution of the data. The computation of normality used SPSS 16 with the equation of Kolmogorov – Smirnov. If the distribution was normal, it is possible to apply Pearson Product Moment Correlation. Meanwhile, if the data was not normal, the correlation analyzed the use of the Spearman Rank Order Correlation technique. After obtaining the result of correlation coefficient, the researcher interpreted the strength of the correlation based on the degree of correlation coefficient. After determining the strength of the correlation, the researcher tries to find out the significance of correlation coefficient (r).

The result of r then compared to the critical value of r in distribution table. After determining the correlation, the researcher also tried to determine whether

the null hypothesis was rejected or not. After findings out whether the hypothesis was rejected or not, the next steps was interpreting and discussing the findings which were elaborated in the next chapter.