CHAPTER III

RESEARCH METHOD

This chapter provides the design used in this study, population and sample, data collection technique and the instrument used, and the technique of analyzing data.

A. Research Design

Since the research design determines of making statistical decision, defining it in advance is the most essential part of conducting a research. As the topic indicates the correlation between students' self-efficacy and speaking skill at tenth grade of MA Bilingual Krian, so this study is aimed at finding out the possible relationship between the two variables. In other word, this study is correlational study.

This research used quantitative method with the analysis of product moment. This type of the research is one kind of method to look for correlation and born out hypothesis of two variables if both of them are interval and source of data are same.[1]

According to Karl, it is usually used to correlate two variables or more based on its correlation coefficient value.[2] It is beneficial to find out the

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[1] Sugiyono.*Statistika untuk Penelitian*.pg 133
[2] Anas sudijono.*Pengantar Statistik Pendidikan*.pg 177-178

significance of the correlation between those variables, that is variable X and variable Y.

From the explanation above, we can identify that the first variable is students' self-efficacy level which is taken by distributing questionnaire; it is considered as dependent variable (variable X). The second variable is speaking skill score which is taken by conducting speaking test; it is considered as independent variable (variable Y).

Correlation coefficient (usually represented by r) is index indicating both the direction of the correlation (either positive or negative) and the degree of the relationship between variables. Correlational coefficients can range from -1.00 to +1.00 with positive numbers used to identify a positive relationship and negative numbers being used to identify a negative relationship. The following table can be used to determine the strength of a relationship:[3]

Table 3.1
The Interpretation of Correlation Coefficient and the Relationship Degree

Correlation Coefficient (r)	Interpretation
0,00 ─ 0,20	Very weak
0,21 ─ 0,40	Weak
0,41 ─ 0,70	Moderate
0,71 ─ 0,90	Strong
0,91 ─ 1,00	Very strong

[3] Prof.Drs.Anas Sudijono, *Pengantar Statistik Pendidikan*, p.193

In this study, the researcher could not directly manipulate the independent variable because there was no control group as in experimental research and also no treatment given since the independent variable occur naturally.

B. Population and Sample

This research was conducted at MA Bilingual Krian, Junwangi, No. 43, Krian, Sidoarjo, East Java. Because of the recommendation from the teacher, the population of this study was X grade. The X grade consists of 4 classes and each class consists of around 30 students. So, the total of population was 120 students. To determine the sample with the significance 5%, the researcher used Slovin formula which will describe as follows:

$$n = \frac{N}{1 + N\alpha^2}$$

$$= 120/\ 1+120(0,05)^2 = 92,3076923 = 92$$

Based on the result above, the researcher used cluster sampling technique in which the population consists of groups which is equivalent[4] and the result of the lottery were X IPA 1, X IPA 2 and X IPS 2.

C. Data Collection Instrument

1) Questionnaire

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[4] Sumani. *Metode Penelitian Kuantitatif*.pg 12

Questionnaire was used to investigate first research question that is students' self-efficacy level in speaking. The questionnaire consisted of 20 Likert-scale items and the students were asked to read and decide. Every answer strongly disagree got 2 point, disagree got 3 point, agree got 4 points, and strongly agree got 5 points.[5] Higher score reflects higher self-efficacy level.

2) Speaking Rubric

In testing students' speaking skill the teacher used rubric. This rubric facilitated the teacher to evaluate students' speaking skill.

3) Interview Guide

In interview, the researcher used some questions adapted from Curtin University of Technology which was related to the correlation between self-efficacy and speaking skill. This instrument was used to strengthen the data from survey and speaking test.

D. Data Collection Techniques

For collecting the data, the researcher used some techniques:

1) Survey

Since the researcher wanted to investigate the correlation between student's self-efficacy and their speaking ability, after doing preliminary research the researcher conducted a survey by

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[5] Rahimi&Abedini.2009.*The interface between EFL learners' self-efficacy concerning listening comprehension and listening proficiency.*19

distributing questionnaire adapted from Rahimi & Abedini[6] to know how the students' self-efficacy level in speaking. This technique was used to answer the first research question.

2) Testing

Since the second research question was to know the students' speaking skill, after conducting a survey the researcher also used speaking test. The researcher asked for teacher's help to conduct two speaking test that are individual and group work. In individual work, the students were asked to tell about their personal identity while in group work, they were asked to present about their unforgettable experience.

3) Interview

To strengthen the data, the researcher also had done interview and documentation. There were two points to interview, the students and the teacher. From the students, the researcher wanted to know how the students perception about their ability in speaking. From the teacher, the researcher could get information about the teacher perception of his/her students' speaking ability.

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[6] Rahimi&Abedini.2009.*The interface between EFL learners' self-efficacy concerning listening comprehension and listening proficiency.*pg. 25-26

E. Data Analysis Technique

In this study, the researcher obtained the data through observation and interview. The data were classified from those techniques were described as follows:

1.) Classifying the data

a) Survey

As stated before the researcher used questionnaire which was adapted from Rahimi & Abedini. This questionnaire showed the level of students' self-efficacy based on the sum of their answers which is explained as follows:

5 points = strongly agree

4 points = agree

3 points = disagree

2 point = strongly disagree

The higher score indicated the higher self-efficacy level. The following rate can be used to determine the level of self-efficacy:

81 – 100   : very high

61 – 80   : high

41 – 60   : enough

21 – 40   : low

0 – 20   : very low

b) Testing

Testing was done to look at the capability of students in speaking. The teacher conducted speaking test to the participants both individually and group work. This test used a rubric (see table 4.6) to evaluate the students' speaking skill. This rubric consists of four elements of speaking that are pronunciation, performance, grammar and intonation. The teacher only used these for elements of speaking because she thought for senior high school level, it was enough by using these four elements of speaking. The sum of the elements score was divided by 4 to get the student's grade. For example, Students A had speaking test with the score as follows:

Table 3.2
Evaluation's Concept of Speaking Test Rubric

Pronunciation	Performance	Grammar	Intonation	Total
75	80	70	78	303

Student A's grade = $\frac{\text{Total score}}{4}$

$= \frac{303}{4} = 75{,}75$

This following rate can be used to determine the level of students' speaking ability:

90   : very good

70 – 80   : good

50 – 60   : enough

30 – 40   : poor

c) Interview

In interview, the researcher used some questions adapted from Curtin University of Technology which was related to the correlation between self-efficacy and speaking skill. The researcher used the data to draw how the students' perception about their ability in speaking.

2) Interpreting the Data

In interpreting the data, some statistical procedures were carried out in this study: (a) Descriptive statistics including Cronbach alphas, means and standard deviations (b) Product moment

correlation (c) T-Tests was done to explore the effects of high and low self-efficacy on speaking skill.

a) Descriptive Statistic

Descriptive statistics including Cronbach alphas, means and standard deviations was computed to summarize the students' responses to the self-efficacy questionnaire and speaking skill

b) Product moment correlation (r test)

Data have been collected were interpreted using SPSS product moment correlation. This research used quantitative with the analysis of product moment. This type of the research is one kind of method to look for correlation and born out hypothesis of two variables if both of them are interval and source of data are same, in this case students' self-efficacy as variable X and speaking skill as variable Y.

The formula of correlation product moment is described as follow:

$$r_{xy} = \frac{n \sum x_i y_i - (\sum x_i)(\sum y_i)}{\sqrt{\{n \sum x_i^2 - (\sum x_i)^2\}}\sqrt{\{n \sum y_i^2 - (\sum y_i)^2\}}}$$

Where:

r$_{xy}$: the correlation coefficient

n   : the size of the sample.

X   : the individual's score on the X variable.

Y   : the individual's score on the Y variable.

XY   : the product of each X score times its corresponding Y

score.

X^2 : the individual X score squared.

Y^2 : the individual Y score squared.

c) Determining α

In this study, the researcher used α 5% or 0,05.

d) Testing Hypothesis

e) T-Tests

T-Test was done to explore the effects of high and low

self-efficacy on speaking skill.

$$t = \frac{rxy\sqrt{n-2}}{\sqrt{(1-r^2)}}$$

3) Concluding the Data

After interpreting the data using SPSS, the researcher ccould draw the conclusion of the correlation between students' self-efficacy and speaking skill based on interpretation of correlation coefficient and relationship degree (see Table 3.1).