CHAPTER THREE

RESEARCH METHODOLOGY

In this chapter, the writer describes the procedure of the research in order to find out the answers of the research questions. Huberman & Miles (1994) suggest that a research report should contain the following "minimum set" of information: a) sampling decisions; b) the instrumentation and data collection method; c) a summary of the data; d) information of any software that may have been used; e) an overview of the strategies used for data analysis; and f) data displays that support the main conclusions. For those purposes, the discussion in this chapter will be divided into four main sections, as follows:

3.1 Research Method and Design

The purpose of this study is to find if there is a significant correlation between peer interaction and English learning motivation. Thus, the method applied in this study is descriptive with *ex-post facto* design. This statement is supported by Best and Kahn (1989: 23-24) explained that:

> "descriptive method is concerned with conditions or *relations* that exist, opinions that are held, processes that are going on, effects that are evident or trends that are developing and it is primarily concerned with the current condition".

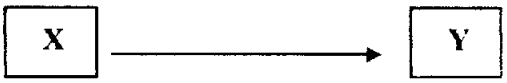
They further elaborated that Descriptive method is the method that describes, records, analyzes and interpretes conditions that exist in certain group. The variables selected and observed are variables that exist or have already occurred, not variables that are deliberately arranged and manipulated like in experimental research.

In addition, Hatch and Farhady (1982: 26) said that:

> "Ex-post facto designs are often used when the researcher does not have control over the selection and manipulation of independent variable. This is why researcher looks at the type and / or the degree of relationship between the variables rather than at a cause-effect relationship".

In this study, peer group interaction is expected to provide data for X variable as independent variable and English learning motivation as dependent variable provide data for Y variable. This study used a simple paradigm of correlation for those two variables.

Paradigm of correlation:



X = Peer Group Interaction

Y = English Learning Motivation

3.2 Procedures for Choosing Population and Sample

Rees (1985) states that a population is the set of measurements about which we want to draw a conclusion.

This research is conducted at SMAK 2 BPK Penabur Bandung with third grade students as the population. This grade is selected based on the assumption that during this period, the students are considered to be wise enough to pick friends who are of good or bad influence to them. Schofield (1972: 7) states that sample is a part of population. It may be different in sizes or types, In other words, sample is a subset of a population.

This study uses cluster sampling. Gay defines:

> "cluster sampling is sampling in which groups, not individuals, are randomly selected. All the members of selected groups have similar characteristics" (Gay, 1990: 110).

The third grade students of SMAK 2 BPK Penabur Bandung consists of 5 classes of natural science (IPA class) and 3 classes of social science (IPS class). Through a shuffle method, the writer picked class XII A IPA as the sample. There are 33 students in this class with 14 boys and 19 girls, but there were only 30 students present at the day of data collection, as shown in the table below:

Table1.
Sample of the research

Class	Boys	Girls	Total
XI A IPA	12	18	30

The samples got explanation of how to fill out the questionnaires, and the questionnaires should be submitted that very day.

3.3 Procedures for Collecting Data

The steps for collecting the data are based on the following procedures:

3.3.1 Conducting Study of Literature

As the preparation stage of this research, the writer carried out a library research and exploring websites to find relevant theories and research previously carried out related to the scope of the study.

3.3.2 Determining and Constructing the Instrument

Since the purpose of this study is to find out if there is a significant correlation between peer interaction and English learning motivation, the instruments used in this study are questionnaires to measure intensity of peer group interaction and level of English learning motivation.

Scale modified for the instrument of this study is Likert Scale. Sugiyono stated: *"Skala Likert digunakan untuk mengukur sikap, pendapat, dan persepsi seseorang atau sekelompok orang tentang fenomena social"*. The scale used in this instrument is:

Table 2
Scale of the Instruments

Options	Statements value
Strongly agree	6
Agree	5
Partly agree	4
Slightly disagree	3
Disagree	2
Strongly disagree	1

3.3.2.1 Peer Group Interaction Instrument

Peer group interaction is X variable of this study. The instrument to measure this variable is in the form of questionnaire. As the indicators, are five elements of co-operative learning, proposed by David W. Johnson, and Roger T. Johnson (1991). The writer chose these five elements of co-operative learning as the indicators based on the concept that peer group interaction can be well observed in a co-operative learning method in which the students will interact one another. The questionnaire consists of 24 items, elaborated from the five indicators of co-operative learning. The scoring system of the questionnaire uses 6-point Likert scale, in which the lowest score represent low level of peer group interaction, and vice versa.

Table 3
Indicators of Peer Group Interaction

No	Indicators	Item Number	Total
1	Positive interdependence	1-5	5
2	Individual accountability	6-10	5
3	Face-to-face promotive interaction	11-15	5
4	Appropriate use of collaborative skills	16-20	5
5	Group processing	21-24	4

3.3.2.2 English Learning Motivation Instrument

The instrument used was a ready-made questionnaire developed by Robert C. Gardner and Wallace Lambert (1972). The instrument has fulfilled the standard of validity and reliability, so the writer doesn't need to try out the instrument. The questionnaire consists of 20 items with specification below:

Table 4
Indicators of English Learning Motivation

No	Indicators	Item Number	Total
1	Attitudes towards Americans	1-2	2
2	Motivational intensity scale	3-5	3
3	Desire to learn English	6-8	3
4	Parental encouragement	9	1
5	Students' English friends	10	1
6	Interest in foreign languages	11-12	2
7	Attitudes towards learning English	13-14	2
8	Desire to live in English-speaking countries	15	1
9	Integrative orientation	16-17	2
10	Instrumental orientation	18-19	2
11	Evaluation of the English course	20	1

3.3.3 Trying Out the Instrument

All of the items of instrument must have first been tried out before they are distributed to the sample. This is intended to gain valid and reliable data. Since English learning motivation questionnaire has been used by Gardner and Lambert in their 12-year research of language learning motivation, there is no need to try out this instrument again. Thus, English learning motivation instrument is a ready made and used instrument.

3.3.3.1 Instrument Validity

Validity is defined as the degree to which a test measures what it is supposed to measure (Mason & Bramble, 1978: 255). Validity refers to the results of the test, not to the test itself.

In this study, the validity test is only applied to peer interaction instrument, as this questionnaire has never been tried out before. To check the item validity, the writer used SPSS (10.0 version). Item analysis, by Pearson Product Moment Correlation formula as follows:

$$r_{xy} = \frac{N(\Sigma XY) - (\Sigma X(\Sigma Y))}{\sqrt{\left[N\Sigma X^2 - (\Sigma X)^2\right]\left[N\Sigma Y^2 - (\Sigma Y)^2\right]}}$$

r_{xy} = correlation coefficient

X = total score of each item

Y = total score of each student

N = number of samples

Consulted to the table of Pearson Product Moment critical value, an item is said to be valid if the r_{xy} value is higher than r critical (0.361), (Sugiyono, 2001: 103)

3.3.3.2 Instrument Reliability

Reliability is defined as the extent to which a test produces consistent, accurate results when administered under similar conditions (Hatch & Lazaraton, 1991: 530). Thus, a good test can measure consistently, though times of administration is different. An instrument is reliable when the answer of the respondents is consistent from time to time.

The reliability of instrument was checked by using pearson Product Moment correlation coefficient formula with split-half method:

$$r_{xy} = \frac{\Sigma xy}{\sqrt{\left(\Sigma x^2\right)\left(\Sigma Y\right)^2}}$$

X = the average score of X $\qquad x = X - \bar{X}$

Y = the average score of Y $\qquad y = Y - \bar{Y}$

(Arikunto, 1998: 162)

Interpreting the result of the calculation according to the following criteria of reliability :

Table 5
Reference for r interpretation

r score	Interpretation
0.800 – 1.00	Very High
0.600 – 0.799	High
0.400 – 0.599	Fair
0.200 – 0.399	Low
0.000 – 0.199	Very low

Arikunto (2002: 171)

3.4 Data Analysis

In data analysis, the writer conducting some steps which will be elaborated further at discussion section in chapter four. The steps are:

3.4.1 displaying the data by using frequency distribution;

3.4.2 calculating descriptive statistics to describe how each student performs on both test. According to Brown (1988: 66-68), there are two aspects involved in descriptive statistics. They are central tendency and dispersion.

- central tendency indicates the typical behaviour of a group in which there are three ways to estimate it: the mean, mode and median
- dispersion presents how the individual scores vary or are spread out around the central tendency. It is commonly estimated by the range and standard deviation.

3.4.3 testing the normality of the distribution using Kolmogorov-Smirnov formula from SPSS 10.0

3.4.4 Testing the Correlation Coefficient of both variables using Pearson Product Moment Correlation from SPSS 10.0, and interpreting the *r* value based on this table:

The interpretation of r value toward
the correlation analysis result

r value	Interpretation
0,001 – 0.200	Very low correlation
0,201 – 0.400	Low correlation
0.401 – 0.600	Strong enough correlation
0.601 – 0.800	Strong correlation
0.801 – 1.000	Very strong correlation

3.4.5 testing the regression linearity to know whether the relationship between the two variables is linear, using this formula:

$$\bar{Y} = a + bx$$

$\bar{Y}$ = estimated Y score b = slope

A = intercept x = X variable score

To find **a** and **b** coefficient, the formula is:

$$a = \frac{(\Sigma Y)(\Sigma X^2) - (\Sigma X)(\Sigma Y)}{(N\Sigma X^2) - (\Sigma X)^2} \qquad b = \frac{(N\Sigma XY) - (\Sigma X)(\Sigma Y)}{(N\Sigma X^2) - (\Sigma X)^2}$$

3.4.6 calculating coefficient of determination to find out how much X variable contributes to Y variable.