

CHAPTER III

RESEARCH METHODOLOGY

This chapter presents the research methodology, which has been briefly introduced in Chapter 1. In detail, this chapter covers research questions, research design, population and sample, research instruments, research procedures and data analysis.

3.1 Research Questions

There are two problems investigated in this study. The problems are formulated in the following questions.

1. What is the correlation between students' language learning strategies and their academic achievement?
2. What kinds of language learning strategies are mostly used by the students?

3.2. Research Design

This research was conducted based on ex-post facto design. Schematically the research design is as follows:

T₁ T₂

In this research there are two scores, language learning strategy or students' SILL scores (T₁) and learning achievement or students' GPAs (T₂) calculated, of which

the purpose is to investigate whether or not the two scores are correlated to one another.

3.3 Population and Sample

3.3.1 Population

The population of this study was the third semester students of the English Department of Jenderal Soedirman University enrolled in academic year 2005/2006 which spread into four classes that consist of 231 students.

For accessibility reason, Jenderal Soedirman University was chosen as the place for conducting the research since its location is near to the writer's home. The third semester students were taken as the population of this study because it was considered that third semester students had realized the importance of using strategies during their learning.

3.3.2 Sample

To determine the sample of this research, a cluster sampling was used. According to Gay (1990: 110) cluster sampling is a sampling in which group, not individuals are selected. The sample of this research was one class (Class A) that consisted of 50 students. It was chosen as the observed class. However, not all students were involved as the sample, only 30 students were taken randomly as the sample of this study. This decision was made based on Ibnu Hadjar (1995) statements that in correlation research, the sample should be 30 students in minimum.

3.4 Research Instruments

There were three kinds of instrument used to obtain data related to the problems investigated in this study namely, SILL (Strategy Inventory for Language Learning), documentary analysis and interview.

3.4.1 SILL (Strategy Inventory for Language Learning)

SILL was a questionnaire used to investigate students' language learning strategies. This study employs The Strategy Inventory for Language Learning (SILL) version 7.0 developed by Oxford especially for speakers of other languages learning English. It consisted of fifty items that covered the six strategies of language learning arranged in the form of Likert Scale Model (always, often, sometimes, seldom and never). The fifty items were divided into six parts of questions. Part A consisted of 9 questions, Part B consisted of 14 questions, Part C consisted of 6 questions, Part D consisted of 9 questions, Part E consisted of 6 questions and Part F consisted of 6 questions. Each part of the SILL represented memory strategy, cognitive strategy, compensation strategy, metacognitive strategy, affective strategy and social strategy respectively. In this study the questionnaire was translated into Indonesian, for the purpose so that the respondents would not find any difficulties in answering the items existed in the questionnaire (see Appendix 1).

3.4.2 Documentary Analysis

The documentary analysis was used to analyze the students' academic achievement that was indicated by their GPA. The students' GPAs document from three semesters from the Administrative Office was analyzed.

3.4.3 Interview

The interview was used to investigate the language learning strategies applied by the students both inside and outside the classroom. It was done voluntarily to the students so as they would give much information about their language learning strategies. In interview sessions, respondents were asked to explain their language learning strategies in learning the target language. They were asked to explain their routine activities in promoting their language skills and ability in the target language. The time and place of interview sessions was determined by the respondents. The interview was done in Indonesian (see Appendix 5).

3.5 Research Procedures

3.5.1 Administering Try-out Test

A try-out test was administered in order to investigate the validity and reliability of the instrument, in this case the SILL, before it was used in the research. The try-out test was conducted to 30 students of class B of Jenderal Soedirman University on November 10th, 2006.

3.5.2 Administering SILL (Strategy Inventory for Language Learning)

SILL was administered in order to investigate the students' language learning strategies that were meant to investigate how often they used the strategies and which type of strategies they used most for learning English. The questionnaires were given after the final exam of the third semester on January

23rd, 2007. The subjects were informed that their participants were entirely voluntary. The subjects did not give their names, only their class and GPA.

3.5.3 Conducting Documentary Analysis

The documentary analysis was used to analyze the students' academic achievements that were revealed in their GPA. The students' GPAs documents from three semesters in the Administrative Office. It was conducted on January 30th, 2007.

3.5.4 Conducting the interview

The purpose of interview was to investigate the language learning strategies applied by the students both inside and outside the classroom. It was conducted to the sample of this study on January 25th, 2007 in Jenderal Soedirman University neighborhood. There were three respondents involved in the interview sessions. The questions in interview referred to language learning strategies used by the students. It was done in Indonesian.

3.6 Data Analysis

3.6.1 Data Analysis on the Try-out Test

The data obtained in the try-out test were analyzed to investigate the validity and the reliability of the test items. The valid and reliable items were further used as the research instruments. According to Hatch and Farhady (1982) there are two crucial characteristics of instruments that are, reliability and validity.

1. Validity

According to Arikunto (2002) the Pearson product moment correlation can be used to analyze the validity of each item. The formula is as follows:

$$r_{xy} = \frac{N \sum XY - (\sum X)(\sum Y)}{\sqrt{\{N \sum X^2 - (\sum X)^2\} \{N \sum Y^2 - (\sum Y)^2\}}}$$

The result of the calculation was compared to the r_{table} . The item is valid if

$r_{xy} > r_{table}$ (Arikunto 2003). Furthermore, the item is valid if the r_{xy} is positive (Mueller 1989). To get a more accurate result, the calculation was done by using SPSS 14 for Windows.

2. Reliability

The internal consistency method (a single administration of a single test) was used to investigate the reliability of the instrument. According to Hatch and Farhady (1982), Kuder-Richardson formula 20 (Cronbach Alpha) can be used to calculate the reliability of the instrument from an examination internal consistency of the test. The formula is:

$$KR - 20 r_K = \frac{K r_{ii}}{1 + (K - 1) r_{ii}}$$

r_K (Cronbach's α coefficient) = reliability of the full test

r_{ii} = the mean item correlation

K = number of items

The result of the calculation is consulted to the Table 3.1 below:

Table 3.1
The reliability level based on the alpha value

No	Alpha	Reliability level
1.	0.00 – 0.20	Very low
2.	>0.20 – 0.40	Low
3.	>0.40 – 0.60	Moderate
4.	>0.60 – 0.80	High
5.	>0.80 – 1,00	Very high

(Triton 2006)

3.6.2 Data Analysis on the Students' Scores on SILL

The data obtained from the SILL were analyzed by using the Likert Scale formula. In analyzing the data, first, the students' answers were counted by changing their answer into the form of score ("always" was scored 5, "often" was scored 4, "sometime" was scored 3, "seldom" was scored 2, "never" was scored 1). The second step was to calculate the students' average score. Both the average scores of each part of the SILL and the overall average. It was because in analyzing the data obtained from the SILL, the average scores were considered as the students' SILL scores whether they were the average scores on each part of the SILL or the overall average of the SILL. The average scores on each part of the SILL showed which groups of strategies the students used the most for learning English, while the overall average showed how often the students used strategies for learning English (Oxford in Brown 2001). The third step was to arrange the students' score based on the types of the strategies. The next step was to calculate the mean of each strategy.

Furthermore, the obtained score were categorized into: score 1.00 – 1.49 was categorized very low, score 1.50 - 2.49 was categorized low, 2.50 – 3.49 was categorized medium, 3.50 – 4.49 was categorized high, 4.50 – 5.00 was categorized very high. The following table describes the range of values of each frequency on using strategies in language learning.

Table 3.2
The frequency of using strategies in language learning

Criteria	Frequency	Score
Very high	Always or almost always	4.50 – 5.00
High	Usually	3.50 – 4.49
Medium	Sometimes	2.50 – 3.49
Low	Rarely	1.50 – 2.49
Very low	Never or almost never	1.00 – 1.49

(Oxford 1990)

3.6.3 Data Analysis on GPA

GPA's were obtained by asking the students to enclose their GPA, from three semesters on the questionnaire (SILL) and the data were compared to students' GPA's document in Administrative Office. These scores were used as the indication of the students' academic achievement.

3.6.4 Correlating the Students' SILL Score and GPA

The Pearson Product Moment Correlation formula was used in correlating the students' SILL scores and GPA's. The students' SILL scores that were used in this computation were the total average score of the SILL. The steps of correlating the students' SILL scores and GPA's were as follows:

- 1) To analyze the normality distribution of the SILL scores and GPAs. The Kolmogorov-Smirnov formula in SPSS 14 for Windows was used to analyze the normality distribution of the scores. The steps were as follows:
- a. stating the hypothesis and setting the alpha level at 0,05 (two tailed test)

H_0 = the SILL scores and GPAs are normally distributed

H_a = the SILL scores and GPAs are not normally distributed
 - b. analyzing the normality distribution using Kolmogorov-Smirnov formula in SPSS 14 for windows
 - c. comparing the Asymp Sig. (probability) with the level of significance for testing the hypothesis. If the Asymp Sig is more than the level of significance (0.05) the null hypothesis is accepted; the scores are normally distributed (Triton 2006: 79).
- 2) To correlate the SILL scores and GPAs using Person Product Moment Correlation formula in SPSS 14 for Windows, the steps were as follows:
- a. stating the hypothesis and setting the alpha level at 0,05 (two tailed test)

H_0 = there is no correlation between the SILL scores and GPA ($r = 0$)

H_a = there is a correlation between the SILL scores and GPA ($r \neq 0$)
 - b. finding the r value and probability
- $$r_{XY} = \frac{N \sum XY - (\sum X)(\sum Y)}{\sqrt{\{N \sum X^2 - (\sum X)^2\} \{N \sum Y^2 - (\sum Y)^2\}}}$$
- c. comparing the probability with the level of significance for testing the hypothesis. If the probability is more than or equal to the level of

significance, the null hypothesis is accepted; the two scores have correlation (Triton 2006)

- d. consulting the r value to the table of r coefficient interpretation to investigate the strength of the correlation.

Table 3.3
r Coefficient Correlation

No	r Coefficient	Correlation
1.	0.00 – 0.199	Very weak
2.	0.20 – 0.399	Weak
3.	0.40 – 0.599	Moderate
4.	0.60 – 0.799	Strong
5.	0.80 – 1,00	Very strong

(Sugiyono 2003)

3.6.5 Comparing the Mean of Each Type of Language Learning Strategies

In analyzing the types of strategies that were mostly used by the students, the means of each strategy were compared. The strategy which had the highest mean was considered as the strategy that was mostly used by the students.

3.6.6 Data Analysis on the Interview

Data collected from interview were explained in detail using a descriptive qualitative analysis method. There were three students or 10 % of the participants who were willing to be interviewed. These respondents consisted of one student with *Cum Laude* GPA, one student with very satisfying GPA, and one student with unsatisfying GPA.

