

CHAPTER III

RESEARCH METHOD

This chapter describes the steps the writer follows in conducting the study. It includes further description of method of the study, population and sample, instrument, data collection and data analysis.

3. 1 Method of Study

As previously mentioned in chapter I, the method used in this study is descriptive with an ex post facto design, as Gay L.R (1987: 189) states that descriptive study involves collecting data in order to test hypothesis or to answer question related to the subject of the study. The descriptive study determines and reports the way things are. Meanwhile, Hatch and Farhady (1982:26) state that ex post facto design is used when the researcher does not have control over the selection and manipulation of the independent variable.

Correlational study focuses on the relationship among variables that exist naturally. It does not involve the manipulation of independent variables. Yet, it involves collecting data in order to determine whether and what degree a relationship exists between two or more variables rather than the cause-effect relationship (Hatch and Farhady, 1982:27).

In line with the title “The correlation between students’ reading frequency and their reading ability”, hence, there are two variables are employed in the study; those

are, students' reading frequency as independent variable (X) and their reading ability as dependent variable (Y).

3.2 Population and Sample

3.2.1 Population

The population of this study was the sixth semester students of English Department of UPI Bandung class of 2005 which spread into four classes that consist of 186 students. They were taken as the population of this study because the writer has access to the students and they are assumed to have more reading activity and therefore have more text types.

3.2.2 Sample

To determine the sample of this study, purposive quota sampling was used. According to Arikunto (1998:127) purposive sampling is a sampling to get sample based on the purpose of the study. In addition, in purposive sampling, sample must possess certain characteristic or nature that is in line with the purpose of the study. In this regard, the subjects of this study (6th semester English department students of UPI) have certain characteristics that are suitable with the purpose of the research so that this sampling technique was used. One characteristic of the subjects is that they have previously learned some reading subjects. Meanwhile, quota sampling is a sampling to get sample based on the determined quota that must be fulfilled. In this study, the sample will be 30 subjects.

3.3 Instrument

There are three kinds of instrument provided by the writer. The first is questionnaire, which is developed to identify student's reading frequency. The questionnaire is written in Bahasa Indonesia for the sake of easy administration to the respondent. The second is reading test, which is an instrument to find out student's reading ability. The type of the test is an objective test, the kind of which is multiple-choice. The writer used this kinds of test because the scoring can be done quickly and involves no judgments as to degrees of correctness (Harris, 1979: 7). The allocated time needed in answering the questionnaire and test was 60 minutes. The third is interview, which is employed to gain a more in depth insight into the study. Interview was used to enable the researcher in gaining in depth information (Alwasilah, 2003). In this study, interview was conducted personally, that is the interviewer asks the questions face to face and via mobile phone with the interviewee. In interview session, the interviewees were asked to explain their reading frequency, their text variation, their motivation, their difficulties in reading and their strategy to deal with their difficulties.

3.3.1 Questionnaire

In the questionnaire, there are 8 items presented to identify students' reading frequency. The type of items uses Likert Scale model with the score 1 to 5. It is in line with what Sugiyono (2007) states that one's or people's perception, attitude and opinion towards social phenomenon, is measured by Likert Scale.

Before administering the questionnaire to the true sample, it is developed based on the procedure as follows:

1. Consulting the questionnaire to an expert in order to get information and advice about it to find out whether the questionnaire can be used or not.
2. Afterward the questionnaire is first tried out to several students to get the data for testing its validity and reliability.
3. Finally, the validity of questionnaire was tested using item analysis that is by correlating each of the score item by using Pearson Product Moment correlation formula and Microsoft Excel 2003 with a formula `=CORREL(array 1, array2)`.

3.3.2 Reading Test

Reading test was administered to find out students' reading ability. The test used 2 texts. The first text was taken from the practice test 4 of Cliffs' TOEFL book. Meanwhile, the second text was taken from the practice test 6 of CliffsAP™ English Literature and Composition book.)

The reading test consists of questions that are selections from the analyzing of the try out test. After that, the result of the students' reading ability is indicated by scores. One point is for one correct answer. To obtain the score of test, the writer employs a very simple formula. The formula is:

$$\frac{CA}{N} \times 100$$

Where: CA = Number of correct answer

N = Number of the test item

3.3.3 Interview

The purpose of interview was to investigate the students' reading frequency, kinds of text, motivation, difficulties in reading and students' strategy to deal with their difficulties. The interviewed was conducted to the sample of this study on July, 4-13 2008 in Indonesia University of Education. There were six respondents involved in the interview sessions. The interview was done in Indonesian (see Appendix 16).

3.3.4 Trying Out the Instrument

A good test at least possesss two qualities, those are validity and reliability. In order to get the requirement of a good test, Harris (1996:103) states that an objective test become standard when it consist of pre-tested materials. In other words, all items must have been first tried out before the test is actually administered.

3.3.4.1 Validity of the Instruments

Validity is defined as the degree, to which a test measures what it is supposed to measure (Mason and Bramble, 1997:255). Validity refers to the result of the test, not to the test itself. To know whether or not the test is valid, Microsoft Excel 2003 with a fomula `CORREL(array 1, array2)` and The Pearson Product Moment correlation formula, which correlates each item in the test with the total scores of items in the test, can be used. The formula of The Pearson Product Moment as follows:

$$r_{xy} = \frac{N \sum xy - (\sum x)(\sum y)}{\sqrt{\{N \sum x^2 - (\sum x)^2\} \{N \sum y^2 - (\sum y)^2\}}}$$

Where: r = correlation coefficient

N = the numbers of pairs of measurement

x = result of students' reading frequency (variable x)

y = result of reading ability (variable y)

Σ = sum

Sugiyono (2007: 179) states that the item will be considered valid if it has $r = 0.3$, but if the correlation between the item and the total score less than 0.3, the item is considered invalid.

Based on the data that have been gathered from 30 respondents, there are 8 correlation coefficients for every variable or item number on the table. The complete result of instrument validity test is depicted in the following table:

Table 3.1

Validity of Questionnaire Instrument

Item	Validity
1	Valid $r = 0,45$
2	Valid $r = 0,78$
3	Valid $r = 0,74$
4	Valid $r = 0,52$
5	Valid $r = 0,71$
6	Valid $r = 0,87$
7	Valid $r = 0,68$
8	Valid $r = 0,71$

Table 3.2

Validity of Reading Instrument

Item	Validity	Item	Validity
1	Valid r = 0,45	12	Valid r = 0,62
2	Valid r = 0,39	13	Invalid r = 0,12
3	Valid r = 0,30	14	Valid r = 0,42
4	Invalid r = 0,06	15	Valid r = 0,39
5	Valid r = 0,33	16	Invalid r = -0,39
6	Valid r = 0,49	17	Valid r = 0,64
7	Invalid r = 0,26	18	Valid r = 0,41
8	Invalid r = -0,06	19	Valid r = 0,34
9	Invalid r = -0,18	20	Invalid r = -0,12
10	Invalid r = -0,34	21	Invalid r = -0,36
11	Valid r = 0,62	22	Valid r = 0,56

3.3.4.2 Reliability of the Instruments

Testing the instrument reliability is important to find out whether the instrument is reliable. It means that if the instrument is tested to the same objects in different time, it will yield the same result. In line with this, Hatch and Farhady (1982) noted that reliability can be defined as the extent to which a test produces consistent result when administered under a similar condition.

The reliability of the instrument for this study will be calculated by using split-half method and elaborated with Spearman Brown formula. The formula is as follows:

$$r_{11} = \frac{2r_{1/21/2}}{(1 + r_{1/21/2})}$$

Where: r_{11} = instrument reliability coefficient

$r_{1/21/2}$ = $\frac{1}{2}$ instrument reliability

Level significant (α) of reliability test is 0,05. Thus, the critical value of the r-product moment is 95%. The test reliability of the questionnaire and reading test applies the interpretation:

$r_{\text{observed}} > r_{\text{table}}$, the item is reliable

$r_{\text{observed}} < r_{\text{table}}$, the item is not reliable

Fom the reliability test, it was found that the questionnaire and instrument and reading test instrument were reliable. The complete result can be seen in the table below:

Table 3.3

Reliability of the instrument

Instrument	Result		Level of Significance	Number of Respondents	Decision
	r observed	r table			
Questionnaire	0,895	0.361	95%	30	Reliable
Reading test	0,639	0.361	95%	30	Reliable

3.3.4.3 Difficulty Index

To find the difficult level of each item (especially the reading test) whether each item is very easy, easy, moderate, difficult or very difficult is simply to compute the percentage of the sample who answered each item correctly. The formula is as follows:

$$DK = \frac{B}{T}$$

(Harris, 1969:105)

Where: DK = Difficulty index

T = sample

B = the total number of the right answer

The classification of the difficulty index can be seen as follows:

Table 3.4

Classification of Difficulties Index

Score of Difficulties Index	Criteria
0.81-1.00	Very easy
0.61-0.80	Easy
0.41-0.60	Moderate
0.21-0.40	Difficult
0.00-0.20	Very difficult

The complete result can be seen in the table below:

Table 3.5

Difficulty Index of Reading Test Instrument

Items	Result	Decision
Item 1	0.53	Moderate
Item 2	0.67	Easy
Item 3	0.63	Moderate
Item 4	0.67	Easy
Item 5	0.73	Easy
Item 6	0.73	Easy
Item 7	0.50	Moderate
Item 8	0.60	Moderate
Item 9	0.63	Easy
Item 10	0.67	Easy
Item 11	0.53	Moderate
Item 12	0.53	Moderate
Item 13	0.53	Moderate
Item 14	0.60	Moderate
Item 15	0.63	Easy
Item 16	0.43	Moderate
Item 17	0.53	Moderate
Item 18	0.47	Moderate
Item 19	0.40	Difficult
Item 20	0.30	Difficult
Item 21	0.33	Difficult
Item 22	0.57	Moderate

3.4 Data Collection

There are two kinds of data collected in this research: data about student's reading frequency and reading ability.

In collecting the data, the writer used the following steps:

1. Getting the instruments.
2. Testing the instruments to the subjects on June, 2 2008, to find the reliability and the validity of the instruments.
3. Giving the instruments to the subjects on June, 17 2008. Questionnaire was administered first then followed by reading test. Both required 60 minutes for administering.
4. Scoring and evaluating the test.
5. Analyzing and interpreting the result of the computation.
6. Conducting the interview on July, 4-13 2008 to the respondents.
7. Analyzing the result of the interview.

3.5 Data Analysis

To analyze the data, the writer employed several steps. First of all, the analysis starts by scoring the result of questionnaire and reading test. Then, the process goes on estimating distribution normality of the data of questionnaire and reading test. The computation of normality uses SPSS 12 (Statistical Package for Special Sciences) with the equations of *Kolmogorov-Smirnov* and *Shapiro-Wilk*. If the distribution normal, it is possible to apply *Pearson Product Moment* as the

correlation analysis. Meanwhile, if it is not normal, the correlation analysis will use the *Spearman rank order correlation* technique.

Next, the process goes on to classify and interpret the students' reading frequency into three categories illustrated in the table 1.1.

After that, the process goes on to classify and interpret the students' reading ability into four categories illustrated in the table 1.2.

Then, the process goes on computing the between two variables. As stated above, if the data is normally distributed, the computation employed will use *Pearson Product Moment*. The formula will look like this:

$$r_{xy} = \frac{N \sum xy - (\sum x)(\sum y)}{\sqrt{\{N \sum x^2 - (\sum x)^2\} \{N \sum y^2 - (\sum y)^2\}}}$$

Where: r = correlation coefficient

N = the numbers of pairs of measurement

x = result of students' reading frequency (variable x)

y = result of reading ability (variable y)

Σ = sum

However, if in fact the data is not normal in distribution, the appropriate statistics to use is *Spearman rank order correlation*, with formula:

$$r_s = 1 - \frac{6 \sum D^2}{n(n^2 - 1)}$$

Where: D = the difference between each pairs of ranks
 D^2 = the square of those differences
 n = the number of pairs of rankings

In the Spearman formula, the data must be converted first into ranked data before being computed. The conversion of the data into rank will use Microsoft Excel program 2003.

Afterward, after the result of computation is obtained, if using *Pearson*, the analysis will be to determine whether there is correlation between two variables or not. If there is a correlation, it is significant or not. The determination whether or not the correlation is significant is by comparing the value r (correlation coefficient) with the level of significance in Pearson Correlation. The level of significance will be .05. In Pearson correlation, N is subtracted by 2 to find out df ($df = N - 2$), which stands for freedom. In other words, when entering the table of level of significance in column of .05, the value of r has to be located in line with df . After that, it can be known whether it is equal or higher than the value of r in column .05. If it is so, it means that the correlation coefficient is statistically significant and the alternative hypothesis can be accepted. In addition, to investigate the strength of the correlation, the r value is also consulted to the table of r coefficient (Sugiyono's interpretation).

On the other hand, if using Spearman correlation, the interpretation of r_s (correlation coefficient) will be based on the table of critical values of Spearman's ranked correlation coefficient (r_s). The determination of significance of r_s is by consulting the r_s gain with the critical value at the level .05. Moreover, the determination of critical value is based on the n (i.e. the total pairs). But, there is no term df in this computation. If the value r_s (correlation coefficient) is equal to or greater than the value of r in column .05, thus the correlation coefficient is statistically significant and the alternative hypothesis can be accepted. In addition, to investigate the strength of the correlation, the r value is also consulted to the table of r coefficient (Sugiyono's interpretation).

After finding out whether there was a significant correlation or not, the next step was interpreting and discussing the findings which are elaborated in the next chapter. The findings will be interpreted in the light of reading theories that have been previously discussed.

