CHAPTER III

RESEARCH METHOD

This chapter presents the method of the research. It covers: research design, population and sample, research instrument, data collection technique and data analysis technique. The research method has an important role in guiding the research because the method can determine the success of research. Beside that the result of the research depend on the method which is used by the researcher.

A. Research Design

The research design of this research is correlation. This is useful to find out the significance correlation between those two variables, variable X and variable Y. Correlation studies are concerned with determining the extent of relationship between variables. They enable one to measure the extent to which variations in one variable are associated with variations in determined through the use of the coefficient of correlation.[1] In this case the researcher wanted to correlate between students' learning styles and their achievement in critical reading class.

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[1] Ary. Donald, *Introduction to Research in Education*, 8th ed. (Canada: Wadworth. Cangage Learning, 2006), 353.

B. Population and Sample

A population can be defined as the total number of possible units or elements that are included in the study.[2] The population of this research is comprised of 4th semester of English Teacher Education Department because students in this level have to take Critical Reading Class as the linier lecture in reading. The total of population is about 119 students. It is taken from four classes of critical reading class.

It would be impossible for the researcher to investigate all population. Arikunto says that if the number of subjects is more than 100 persons, we can take 10%, 20%, 25% or more of them. Meanwhile, if the number of subjects is less than 100 persons, we can take all population.[3] Based on the statements, the researcher decided to obtain students' learning styles and their critical reading achievement by purposive sampling and chose two classes to be voluntary exposed to the critical reading score and their learning styles were analyzed. Those two classes are class A about 34 students and class B about 28 students with the same lecture but different time allocation. The number of sample is adequate to get information. The researcher would take all of the sample size from the two classes of critical reading. Quantitative research generally needs a large sample size. The larger sample was taken, the more accurate the data is also acquired.

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[2] D. E Gray, *Doing Research in The Real World* (London: SAGE Publications Ltd, 2004), 82.

[3] Suharsimi Arikunto, *Prosedur Penelitian Suatu Pendekatan Praktik* (Jakarta: PT Rineka Cipta, 2000), 134.

C. Research Instrument

Research instrument plays the important role in collecting the data. The appropriate instrument of data collecting is very important to gain the objective outcome of this research. The researcher chose an indirect communication technique through questionnaire in order to get the data of students' learning style preferences. Moreover, the researcher also used document study in order to measure the students' achievement in critical reading class.

1. Questionnaire

The type questionnaire that the researcher used is closed-ended question. It limits respondents' answer to the survey. It can help the respondents to answer quickly and also to make the easiest way for researcher to analyze the data. There are some options to answer closed-ended questionnaire such as yes/no, true/false, or multiple choice with an option for "other" to be filled in, or ranking scale such as strongly agree, agree, undecided, disagree, strongly disagree. Closed-ended questionnaire is about learning style questionnaire. It is about learning style questionnaire. It consists of 30 questions about student's learning style. It was written by Andrew D. Cohen, Rebecca L. Oxford, and Julie C. Chi.

2. Document Study

The researcher needed another data to help her run this research. Arikunto says documentary aims to find out data about something in the form of notes, transcript, newspaper, magazine, etc.[4]The data was collected through document study of the students' midterm test score in critical reading class. It was used to validate the sample. The instrument used for inferential critical reading as a mean of measuring the student's critical reading achievement. Seeing from the type of the test, test is given by the lecturer of the course.

D. Data Collection Technique

The first step to collect the data is choosing the participants. The participants of this research is the fourth semester students of critical reading class. The next step is choosing the instruments. The instruments were used in this research are questionnaire and documentation.

The researcher collected the data from the fourth semester students by giving the questionnaire for obtaining the students' learning style. For the collecting the data of critical reading score, the researcher chose documentation as the technique. This technique helped the researcher to study the critical reading score of the students after obtaining the score of students' final exam from the lecturer.

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[4] Suharsimi Arikunto, *Prosedur Penelitian ..... 234.

Answering the first research question, what is the learning style preference of students in critical reading class? The researcher obtained the answer by distributing the questionnaires to the students of two classes were selected of critical reading class. After answering the first question, the researcher collected the data from the students' critical reading score; the researcher obtained it from the lecturer of critical reading class, and then used documentation technique to analyze the critical reading score.

To determine which are the variables for calculating the data, the researcher defines the theory of Ary who states that Variable is the concept that has various values. This research consists of two variables. First variable is independent variable symbolized by "X" and second variable is dependent variable symbolized by "Y".

1. Independent variable

    Independent variable is assumed as variable that affects the dependent variable.[5] *Students' learning style* is taken as an independent variable.

2. Dependent variable

    Dependent variable is a variable affected by independent variable.[6] *Students' achievement* is taken as dependent variable.

Finally the second research question which is about the correlation between students' learning styles and their achievement in critical reading

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[5] Ary. Donald, *Introduction to Research in Education…..* 35.
[6] Ary. Donald, *Introduction to Research in Education…..*35.

class automatically will be answered. Consequently, the correlation of two variables will be found.

E. Data Analysis Technique

The technique of data analysis was used by the writer is the formula of Person's product moment correlation to examine whether there is correlation between students' learning style and achievement or not. The researcher used person's product moment formula. The data about the students' learning style and critical reading achievement were analyzed in the following procedures:

- Preparation

   a. Checking the student's name and identity.

   b. Checking the data completeness.

   c. Checking the data content.

- Tabulating

   a. Distributing the questionnaire to the students

   b. Scoring the result of questionnaire

   c. Collecting the documentation of students' critical reading score.

   d. The coefficient of correlation between the students' EQ (X) and the students' English achievement (Y) had been determined.

   Correlation coefficient usually represented by r indicates indicating both the direction of the correlation (either positive or negative) and the strength or the degree of the relationship between variables.

The method used Person's product moment to find the correlation significant. The formula is as follows:

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

Where:

R : Correlation coefficient of variable X and Y

$\sum^{XY}$: The sum of the product of X and Y scores for each students.

$\sum X$: The sum of X scores

$\sum Y$: The sum of Y scores

$\sum X^2$: The sum of square of students learning style scores

$\sum Y^2$: The sum of square of students' achievement in critical

 reading score

$(\sum X^2)$: The sum of the squared X scores.

$(\sum Y^2)$: The sum of the squared Y scores.

N : Total of respondent

The formula above is very important due to find out whether or not the (Ho) Hypothesis or (Ha) Hypothesis is accepted in this research. The result computation indicates whether there is any correlation between the two variables or not. Significant critical value: 0.05 and 0.01

Criteria   : If r value > r table, it means that there is correlation because Null Hypothesis (Ho) is rejected and Alternative Hypothesis (Ha) is accepted.

If r value < r table, it means that there is no correlation because Null Hypothesis (Ho) is accepted and Alternative Hypothesis (Ha) is rejected.

According to Sugiono, the coefficient correlation is gotten from the formula. It shows the interval of coefficient and the level of relationship between the two variables below. [7]

Table 3.1

Coefficient Correlation

Interval of Coefficient	Relationship Level
0,00 - 0,199	Very weak
0,20 - 0,399	Weak
0,40 - 0,599	Enough
0,60 - 0,799	Strong
0,80 - 1,000	Very strong

The correlation coefficient has some important properties. Mark Belnaves and Peter Caputi explains that the magnitude of the correlation coefficient

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[7] Prof. DR. Sugiyono, *Statistika Untuk Penelitian* (Bandung: Alfabeta, 2007), 231.

indicates the strength of the relationship between the variables. The values of the correlation coefficient can range from -1 to +1. A coefficient close to +1 or to -1 indicates a strong relationship between two variables. Scores closes to zero indicated the absence of a relationship between the two variables. The variables are positively related, if the coefficient has positive sign. [8]

Furthermore, in order to make calculating the data of research easier and valid, the researcher used application SPSS 16.0 from windows computer program. The value of sig from the output of SPSS with the level of significance 0, 05 is compared. If the value of sig is higher than the level of significance, the null hypothesis is rejected and the alternative hyphothesis is accepted, it means that there is significant correlation and "vice versa" If the value of sig is lower than the level of significance, the null hyphothesis is accepted and the alternative hyphothesis is rejected, it means that there is no significant correlation.

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[8] Mark Balnaves and Peter Caputri, *Introduction to Quantitative Research Methods an Investigative Approach.* (London: SAGE Publication Ltd, 2001), 155.