CHAPTER III

RESEARCH METHOD

This study aimed at investigating whether there is any correlation between multiple intelligences scores and English national examination scores. This chapter consists of some principle components of the research methods used in this research. They are the research design, the setting and the subject of the study, the research variable, the instrument, the data collection technique, the research hypothesis, also the data analysis.

A. Research Design

The research design used in this study is descriptive using correlation. It used descriptive study which focused in discovering and measuring the degrees of relationship between two or more variables. The quantitative data of the research which is used in this design is the correlation study. As pointed out in a book by Emzir, the purposes of correlational methodology are to disclose relationship of each variable and to know the prediction score of one variable through score in another variable.[1]The result of the descriptive researchis only the description about the certain variable by serving the frequentation, and rate number or the other qualification.[2]

[1]Prof. Dr. Emzir, M.Pd.,*MetodologiPenelitianPendidikanKuantitatif&Kualitatif*(Jakarta: PT. Raja GrafindoPersada, 2008), p.47.
[2]FaizalSanapiah, *Format-Format PenelitianSosial*, (Jakarta: Raja GrafindoPersada, 2007), p.20-21.

The aim of this study is to know whether there is any correlation between multiple intelligences score and English national examination score. The variable of this study are multiple intelligences score, as independent variable, and English national examination, as dependent variable. As the purpose of this research is to find the correlation between these two variables, the appropriate design is descriptive using correlation.

With this descriptive using correlation design, this study depends on statistical principles and analysis in measuring the degree of relationship between the two variables. Although there are two variables above, it does not mean that it hasreciprocal causal connection because the two variables are discussed only in order to know whether or not there is any correlation between the two variables.

A specific formula is used to find the extent of relationship between the two variables. The relationship was computed to get the correlational coefficient. The correlational coefficient shows the level of relationship between the two variables. From this, the data findings could be well interpreted and concluded based on the research question.

B. Research setting and subject

The study was conducted at SMP Muhammadiyah 9 “MeSRA” Surabaya which is located on Jl. Jojoran I/50 Karangmenjangan Surabaya.The data were the score of multiple intelligences and English national examination from 63 students at the third year in academic year 2010/2011. These 63 students were all the population here.

C. Research Variable

This study tried to find the information about the existing condition; it directed the study toward determining the extent of relationship between two variables. In this study, the multiple intelligences scores as the independent variable (X variable), and English national examination result as the dependent variable under investigation (Y variable).

D. Data Collection Technique

The data collected to answer the research question are data about students' multiple intelligences score and English national examination score. To obtain the valid data, the data collection technique used is documentation. The students' English national examination score and the students' multiple intelligences research files were collected from the school report card.

E. Research Instrument

The instrument of this research is documents which include as the official documents had by school. The documents are about the data of multiple intelligences score and English national examination score in academic year 2010/2011. The data are as a proof of students' learning process during school.

Also, interview used assupporting instrument in this research. Although it is not to obtain the data which used to find the research question above, it is necessary used. It is needed to know the implementation of the subject in that school by interviewing the headmaster and the English teacher there.

F. Research Hypothesis

The statement of the hypothesis of this study is as follows.

1. Hypothesis Alternative (Ha): There is positive and significant correlation between multiple intelligences score and English national examination score of the third year students at SMP Muhammadiyah 9 Surabaya.
2. Hypothesis Null (Ho): There is no positive and significant correlation between multiple intelligences score and English national examination score of the third year students at SMP Muhammadiyah 9 Surabaya.

G. Data Analysis Technique

The collected multiple intelligences score and English national examination score data were analyzed, examined, interpreted, and concluded the result of the research. The technique of analysis the data was done in these following steps.[3]

1. Preparation

   In this step, the data about multiple intelligences score and English national examination score were checked the accomplishment. And chose the data needed or not.

2. Tabulation

   In the tabulation the data of multiple intelligences score and English national examination score were classified and put in a table. It will know by seeing page 38-40 and 43-45 in Chapter IV.

[3]SuharsimiArikunto, *ProsedurPenelitian…* 235

3. Application of the formula suitable with the approach of the research.

According to the approach used in this research, this research uses the data analysis technique of Pearson's Product Moment Correlation. It is one technique to find the correlation between two variables. It is called Product Moment Correlation because the coefficient correlation is obtained by searching the multiplication of the moments of correlated variables (product moment).[4]

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

Note :

r_{xy} = correlation coefficient of variable X and Y

n = number of pairs of scores

$\sum xy$ = the sum of the product of paired score multiplication of X and Y scores for each student

$\sum x$ = the sum of X (MI scores)

$\sum y$ = the sum of Y (English national examination scores)

$\sum x^2$ = the sum of square of students' MI scores

$\sum y^2$ = the sum of square of students' English national examination score

$(\sum x)^2$ = the square of the sum of students' MI scores

$(\sum y)^2$ = the square of the sum of students' English national examination score

[4]SuharsimiArikunto, *ProsedurPenelitian*… 274

The formula above is very important to findout whether the hypothesis null (Ho) or hypothesis alternative (Ha) is accepted in this research. Then, the result of computation indicates whether or not there is any correlation between the two variables.

The coefficient correlation which got from that formula is interpreted based on the guidance in Sugiyono's book. It shows the interval of coefficient and the level of relationship between the two variables below.[5]

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 Balnaves and Peter Caputi explained that the magnitude of the correlation coefficient indicated 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. If the

[5]Prof. DR. Sugiyono, *StatistikauntukPenelitian.* (Bandung: Alfabeta, 2007), p.231

coefficient has a negative sign, the variables are negatively associated. If the coefficient has a positive sign, the variables are positively related.[6]

In order to make all the calculation easier, SPSS 16.0application in windows computer program was used. 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 accepted and vice versa.So that, it did not need to compare betweenthe research result and statistic table manually because it can be known from the Z score at the end of statistic technique from computer.

[6]Mark Balnaves and Peter Caputi, *Introduction to Quantitative Research Methods an Investigative Approach.* (London: SAGE publication Ltd., 2001), p.155.