

Chapter Three

Research Methodology

Research Design

According to Wikipedia, quantitative method is the systematic empirical study of observable individualities through statistical, mathematical or computational methods. In this research, the author uses a quantitative method that aims to know the correlation between the frequency of using dictionary and students' vocabulary mastery.

This research applies correlational research in which it is a "statistical test to determine the tendency or pattern for two (or more) variables or two sets of data to vary consistently" (Creswell, 2012, p. 338). Correlational research design is used to measure the correlation between two or additional variables.

Research Setting

In this study, the research will be conducted in PBI UMY because PBI UMY is where the researcher studies. This way will make the researcher easier to gain the data because it is accessible. The researcher will be collecting the data in September 2017 since the teaching and learning process take place at that time.

Population and Sample

1. Population

Population is the group of individuals having one characteristic that distinguishes them from other groups (Creswell, 2012). In this research, the population will be the entire students of ELED UMY batch 2014. They consist of 151 students. This batch is chosen because the students of this batch have been taking the highest amount of subjects compared to other batches.

2. Sample

Sample is the group of respondents “in a study selected from the target population from which the researcher generalizes to the target population” (Creswell, 2012, p. 381).

There are four classes in ELED UMY students’ batch 2014 that are class A, B, C, and D. Class A is chosen as the sample of this research that consists of 31 students. Because they are kind and must fill questionnaire and vocabulary test about reading through the list of words carefully and writing Y (for YES) or N (for NO) in the box.

Instruments of the Study

In this study, the instruments that will be applied are the test and questionnaires. The test will be distributed in order to find out students’ vocabulary mastery. The test also consists of 60 questions in which students are asked to answer the knowing of words both easy and difficult English words without looking up a dictionary. Meanwhile, the questionnaire will be distributed in order to see the students’ frequency of using dictionary. The researcher will use *Bahasa Indonesia* in the questionnaire. The researcher thinks that *Bahasa Indonesia* is more appropriate than English language because *Bahasa Indonesia* is the first language of all participants and it will make the questionnaires easier to understand.

Technique of the Data Collection

The writer will use two tools to gather the data including questionnaire and vocabulary test. They are:

1. Questionnaire

A questionnaire is a research instrument that consists of “a series of questions and other prompts for the purpose of gathering information from respondents” (Gault, 1907).

There are two types of questionnaire, including open and closed questionnaire. In this research, the writer distributes the questionnaire along with its instructions in which the participants are asked to select one option among four options by giving them a checklist.

2. Vocabulary test

Test is a sequence of inquiries or trainings that are used to measure the abilities of information, intellect, aptitude or skill of the individual or group. There are numerous types of tests in data collection, including: behavior tests, ability tests, attainment tests, intellect tests, and attitude test. In this research, the attainment test is used to measure students' vocabulary mastery. This test consists of writing yes or no in the box that contain responses. The researcher counts test score through SPSS and uses the calculation for Pearson (r) formula in SPSS.

Analysis of Data

After collecting the data, the writer will conduct particular stages to analyze the data.

The analysis stages will be as follows:

1. Introduction Analysis

Introduction analysis is to shorten the data in order to be able to be recited and understood simply. There are two data explicitly:

a. Questionnaire Data

The writer considered the score of the questionnaire data called independent variable (X) in the following criteria:

Frequency of using dictionary	Score
Never	1
Sometimes	2
Frequent	3
Very Frequent	4

b. The Score of Vocabulary Test

While the students' vocabulary test is called dependent variable (Y) in the following criteria:

Criterion	Score
Excellent	48.01 – 60.00
Good	36.01 – 48.00
Fair	24.01 – 36.00
Poor	12.01 – 24.00
Very Poor	0.00 – 12.00

2. Hypothesis Analysis

After the data are obtained, the writer inspects research hypothesis by scheming and correlating the data of X and Y variables. The inspection uses Product Moment.

The calculation for Pearson (r) is as the following:

$$r = \frac{\sum xy}{\sqrt{(\sum x^2)(\sum y^2)}}$$

Where: r = correlation constant

$\sum x$ = the ideals for the X variable

$\sum y$ = the ideals for the Y variable

$\sum xy$ = the ideals for XY variable

3. Final Analysis

The outcome of correlation between X and Y variables will be related with the value (r_{table}). The table value is 5% or 1%. If $r_{xy} > r_{table}$ is substantial or there is a correlation between students' frequency of using dictionary and their vocabulary mastery. If $r_{xy} < r_{table}$ is not substantial. It yields that there is no correlation between students' frequency of using dictionary and their vocabulary mastery. A positive correlation occurs when the score changes either increasing or decreasing. A negative correlation occurs when the scores on single variable increases and scores on decrease. The attainment of constant correlation is as follow:

0.00 – 0.199: very low correlation

0.20 – 0.399: low correlation

0.40 – 0.599: fair correlation

0.60 – 0.799: high correlation

0.80 – 1.000: very high correlation