### **CHAPTER III**

#### **METHODOLOGY**

This chapter presents the procedures used in conducting the research. It covers research design, population and sample, data collection and data analysis.

# 1. Research Design

As stated in the purpose of the study, the study will be conducted in order to know error in using prefixes made by the five semester students of English Education Department at Islamic University of Surabaya. Especially in negative prefixes and specified into six kind of negative prefixes, including *prefix in-, prefix un-, prefix non-, prefix a-, prefix dis-, and prefix mis-*.

In this research the writer will be used descriptive quantitative study, because in this research the writer will count the most frequent error. According to Ary stated that descriptive research is research that asks questions about the nature, incidence, or distribution of variables; it involves describing but not manipulating variables.<sup>1</sup> According to Gay quantitative studies designed to describe the current condition are called survey or descriptive research. <sup>2</sup> From the definition, it could be clarified that the researcher will try to collect data from the students' misformation error in employing prefixes. Especially in the

<sup>&</sup>lt;sup>1</sup> Donald Ary, et. al, *Introduction to Research in Education*,( Wadsworth: Cengage Learning, 2010) 163

<sup>&</sup>lt;sup>2</sup> L. R. Gay, *Education Research: Competencies for Analysis and Applications* (USA: Pearson Education, Inc, 2003)p.102

form negative prefixes, and specified into six aspects, they were prefix *in-, un-, non-, a-, dis-, and mis-*.

# 2. Population and Sample

In conducting research population and sample are very important. According to Ary, the small group that is observed is called sample, and the larger group about which the generalization is made called a population.<sup>3</sup> According to Gay, the population is the group of interest to the researcher, the group to which the results of the study will ideally generalize.<sup>4</sup> In this study, the target of the study was the six semester student of English Teacher Education Department academic year 2012/2013 at UIN Sunan Ampel Surabaya. The total population is 120 students who are divided into four classes; A, B, C, D. They were chosen as the population because they have already learned Morphology.

To conduct this study, the amount of sample will be required. Gay has stated, "cluster sampling is randomly selected groups, not individuals. All the members of selected groups have similar characteristic". In this study, a sample was drawn from A, B, C, D, classes. It was because each class had equal characteristic, for example; the students in each class have been given the same material especially in morphology. Therefore, the writer took the students as a sample by using cluster sampling that fell on class B consisting of 30 students.

<sup>4</sup> ibid

<sup>3</sup> Ibid

ibid i

#### 3. Research Instrument

Each technique/method that is used to collect the data needs an instrument. Instrument is the measurement tool in the test which potentially made the researcher easier in collecting data and analysis.<sup>6</sup>

In short, instrument is a tool which is used by a researcher in using method during conducting the research in order to get the data better. Thus, determining instrument depends on the method used in the research.

The instrument which will be used to collect the data of first research question is the question sheets which contain the question that will be answered by the students. The amount of questions was 45 items contain uncomplete sentences (see appendix 1). The instrument utilized for second research question is result of the test.

And the question of the test must be tried out in advance. In this study the test is administered to six semester students of English Teacher Education Department UIN Sunan Ampel Surabaya. They were not already included in sample and class A was chosen. The purpose of conducting the try out test will to establish the test validity and reliability

In applying the instruments, the researchers need to analyze the validity and the reliability of the instruments before it given to the subject of the study

\_

<sup>&</sup>lt;sup>6</sup> Sugiono, MetodePenelitian ...... 148

### a. Validity

According to Ary, et all, validity is "the extent to which an instrument measured what it claimed to measure. The focus of recent views of validity is not on the instrument itself but on the interpretation and meaning of the scores derived from the instrument". So, the validity is related to the instrument of the research. For this research, the researcher chooses content validity. The standard of content validity is the degree to which the sample of items, tasks, or questions on a test are representative of some defined universe or domain of content. Content validity is related to the content of the test. It means that content validity is related to the content of items in the test that is available in the curriculum. Therefore the actualization of the test objectives indicates that the test will be conducted in accordance with those objectives. The relevance between the content of the test was implies the validity will be used in this study.

### b. Reliability

Reliability is the degree of consistency with which it measures what ever it is measuring. <sup>9</sup> It means that the test was said reliable if the result of the test had consistent score.

<sup>7</sup> Donald Ary, et. al, *Introduction to Research in Education*, (Wadsworth: Cengage Learning, 2010) p.

<sup>&</sup>lt;sup>8</sup> Ibid

<sup>&</sup>lt;sup>9</sup> Ibid p. 249

Reliability of the whole test can be estimated by using the following formula:

$$r11\left(\frac{n}{n-1}\right)\frac{S_t^2 - \sum piqi}{S_2^t}$$

Where:

r11 : Reliability of the whole test

n : The number of items in the test

pi : Proportion of correct responses on a single item

qi : proportion of incorrect responses on a single item

 $S_2^t$ : Variance of scores on the total test (squared standard

deviation)

According to Sudijono, if r is 0, 70 or more  $(r \ge 0, 70)$ , it means that the test is reliable, otherwise if r is less than 0, 70  $(r \le 0, 70)$ , it means that it is unreliable.<sup>10</sup>

In order to know whether the test items were reliable or not, the researcher had administered tryout. The tryout was given to the six semester students of English Teacher Education Department, A class. Based on the calculation of the tryout, the tryout score showed the strong criteria of reliability (see appendix III). The reliability was 0.77. Based on the criteria

 $^{\rm 10}$  Anas Sudijono, Pengantar Evaluasi Pendidikan (Jakarta: PT. Raja Grafindo Persada, 2005)p. 209

above, the test was reliable to be used in this research. Thus, it could be used for the instrument of this research (see appendix IV and V).

# c. Item Analysis

Item are said to be satisfactory if they meet two requirements, difficulty level and discriminating power of items. Item difficulty level determinates how easy or difficulty that particular item for the students. To evaluate this, the following formula is employed:

$$P = \frac{Np}{N}$$

Where:

P : Difficulty index

Np : The number of correct answer on single items

N : Total number of the student who taking the test

According to Witherington in Sudijono, has described the item difficulty level on the table below:

Difficulty Level	Interpretation
P > 0,25	Too difficult
0.25 < P > 0.75	Average
P <0,75	Too easy

From the calculation (see appendix V), the result showed that the level of students difficulty was about 0, 25 - 0, 75. It means that the entire item of test which was tested was enough for students. It was not too easy or too difficult to do, the other items were revised or discarded. However, it still had to be analyzed per item to find out item discrimination of the test.

Meanwhile the discrimination index of an item described how good a particular item was in distinguish the good students for the poor ones. The discriminations index will be calculated by using the formula bellow:

$$\theta = \frac{P_u P_L}{2\sqrt{(p)(q)}}$$

Where:

 $P_u$ : Proportion the correct answer of higher group

 $P_L$ : Proportion the correct answer of the lower group

P : Proportion of correct responses on single item

Q : Proportion of incorrect responses on the same item

 $\theta$ : Discrimination index

This study used 27% of upper group and 27% of lower group because the students who took the test (responses) were less than 100. The items, which have good discrimination index (satisfactory, good and excellent), will be used. In this study, the researcher had calculated item discrimination of the test from tryout result (see appendix IV).

**Table of Discrimination Index** 

Discrimination index	Interpretation
Less than 0,20	Poor
0,20-0,40	Satisfactory
0,40-0,70	Good
0,70-1,00	Excellent
Negative sign (-)	Very Poor

# 4. Data Collection Technique

Collecting data can be done in various setting, sources and ways. <sup>11</sup> In this study to collect the data, the researcher refers to the research problem. To answer the research question number one, Data are obtained through tests. In this test students are required to fill in the blank in uncompleted sentence. The researcher will give the sentences to be answered by students. In each sentence there is an incomplete word which needs to be completed by the students in appropriate or suitable negative prefixes (see appendix VI). For the research question number two data will be collected from the result of the test.

# 5. Data Analysis Technique

After collecting the data from the students' answer sheets, the researcher came to do the analysis in order to answer the research questions. The following procedures were used:

1. The researcher will identify each item test that had been answered by the students. Then, each item test will compare with the key answers. The

 $<sup>^{11}</sup>$  Sugiyono, Metode Penelitian , Pendekatan Kuantitatif, Kualitatif, dan R&D (Bandung: Alfabeta, Cv., 2010), 137

students' answer will be considered as errors if they were not in

agreement with key answer.

2. After identifying the misformation errors, the researcher will classify the

errors into some specific category.

3. The next procedure of data analysis process, the researcher will analyze

and describe the characteristic of misformation error.

4. Finally, the writer will do the process of computing the frequency of

misformation errors by using the percentage, in which common formula

of percentage will be used such as introduced by Sudijono: 12

$$P = \frac{F}{N} \times 100\%$$

Where:

P : Percentage

F: Frequency of errors in each type

N: Total number of misformation errors

<sup>12</sup> Anas, Sudjiono, *Pengantar Evaluasi Pendidikan*, (Jakarta: PT. Raja Grafindo Persada, 2005) p. 104