# CHAPTER III

# THE RESEARCH METHODOLOGY

## A. Type of the Study

This research used quantitative research to gather the numerical data. Quantitative research was research carried out by collecting numerical data from sample drawn from a certain population. Thus, it finally attempted to generalize the research findings to the whole population through statistical analysis. Similarly, an understanding of the conclusions of the study would be better if also with tables, graphs, charts, images, or other display[1].

## B. Design of the Study

The use of method in a research is very necessary, because it able to help a researcher to get data easily. In this study, the writer used research and development quantitative design of the study. According to Brog and Gall, research and development is a powerful strategy for improving practice. It is a process used to develop and validate educational product[2]

## C. Population and Sample

**1.** Population

[1] Suharsimi Arikunto, *Manajemen Penelitian*, p. 11
[2] Brog and Gall

Population is all the subject of the research. According to encyclopedia of educational evaluation, "a population is a set (or collection) of all elements processing one or more attributes of interest". According to Suharsimi Arikunto, Population is ''the whole of research subject''[3]. The writer chooses the population is all of the third semester students of English study program of the State Islamic College of Palangka Raya.

Table 3.1 the Number of Population

| Class | B |
|---|---|
| Students | 20 |

**2.** Sample

Sample is some or represent of population that is researched. If the subject is less than 100, preferably taken all that research is the study population. But if the amount is large, it could be taken between 10 - 15% and more[4]. Because the population is less than 100, in this case the study is population study since the writer takes the entire subject as the sample.

## D. Research Instrument

[3] Suharsimi Arikunto, "*Prosedur Penelitian Suatu Pendekatan Praktik*", 2002, Jakarta: Rineka Cipta, p.102.

[4] *Ibid.*, p. 134

In a study, instrument as a tool for collecting data plays a very significant role in that it greatly determines the result of the study.

1. Research Instrument.

   Because there is one variable, namely: the problem of reported speech. For measuring these variables, the writer used test as instrument for measuring them in research.

2. Research Instrument of Try Out

   The aim of instrument of try out is to know the test instruments are relevant to be given to the students. The writer performed try out. It is used to know the validity of the test, reliability and level of difficulties of the test. The instruments try out was tested to the other class of school of the population of the study but in the same level. The try out test was administrated to the third semester of STAIN Palangka Raya.

3. Research instrument Validity

   Validity is concerned with the extent to which an instrument measures what one thinks it is measuring[5]. Simply, it can be said that the test will be valid, if it measures accurately what intended to measure.

   In this study, the validation of instrument is mainly direct to the content validity. Related to the writing test, the content validity is check by examining and the test use to measure the objectives. The writer used inter-rater method (test of validity). Inter-rater is two raters who score the students' writing to get

[5] *Ibid.* p. 213

the score compositions as possible. The researcher used product moment correlation as the formula to calculate the validity from the result[6].

$$r_{xy} = \frac{N.\sum XY - (\sum X).(\sum Y)}{\sqrt{[N.\sum X^2 - (\sum X)^2].[N.\sum Y^2 - (\sum Y)^2]}}$$

Where:

$r_{xy}$ : Index correlation number "r" product moment

N : Number of class

$\sum xy$ : Multiplication results between score X and score Y

$\sum x$ : Total value of Rater I

$\sum y$ : Total value of Rater II

Interpretation:

$r_{xy} > r_t$ = valid

$r_{xy} < r_t$ = Invalid

Riduwan in Mayasarah states the criteria of interpretation of validity[7]:

0.800 – 1000 = very high validity

0.600 – 0.799 = high validity

04.00 – 0.599 = fair validity

0.200 – 0.399 = poor validity

0.000 – 0.199 = very poor validity

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[6] Anas Sudijono, *Pengantar Ilmu Statistik Pendidikan*, Jakarta: PT. Raja Grafindo Pustaka, 1997, p.193

[7] Mayasyarah, *The effectiveness of Video Compact Disc as an Audiovisual Medium toward the Students' Listening Comprehension Score of the teent grade students at MAN Model Palangka Raya,* Palangka Raya: Unpublished Thesis: State Islamic College of Palangka Raya, 2010

4. Research instrument Reliability

The reliability of a measuring instrument is the degree of consistency with which it measures whatever it is measuring[8].

In rater reliability, there are inter-rater and intra-rater reliability. A simple way to determine the reliability of ratings is to have two or more observers independently rate the same behaviors and then correlate the observers' ratings. The resulting correlation is called the inter-rater[9]. Meanwhile intra-rater reliability referred to consistency of rater in scoring the same paper or two different point of time. It point out and individual accuracy in scoring a particular composition.

In this study, the researcher applied inter-rater reliability to correct students' score. The coefficient correlation and interpretation of inter-rater reliability according to Djiwandono as show in table[10]:

Table 3.1
Inter-rater reliability coefficient correlation and interpretation

| Correlation coefficient | interpretation |
|---|---|
| 0.80 to 1.00 | Very high |
| 0.60 to 0.79 | High positive |
| 0.40 to 0.59 | Moderate |
| 0.20 to 0.39 | Low |

[8] Donald Ary, Lucy Cheser Jacob, Chris Sorensen, Asghar Razavieh, *Introduction to Research in Education 8th Edition,* p. 236

[9] *Ibid.* 256

[10] M. S. Djiwandono, *Tes Bahasa – Pegangan Bagi Pengajar Bahasa*, Jakarta: PT. Indeks, 2008, p. 168

| | |
|---|---|
| 0.00 to 0.19 | Little |

5. Index of difficulty

The index of difficulty (or the facility value) of an item simply shows how easy or difficult the particular item proved in the test. The index of difficult (F.V.) is generally expressed as the fraction (or percentage) of the student who answered the item correctly. It is calculated using the formula[11]:

$$F.V = \frac{R}{N}$$

F.V = Index of the difficulties (Facility Value)

R = the number of correct answers (Represent)

N = the number of the students taking the test

To interpret the index of difficulty, it used Robert L. Thorndike and Elizabeth Hagen's interpretation[12].

P< 0.30 = Difficult

P 0.30-0.70 = Fair

P> 0.70 = Eas

## E. Data Collection Procedures

In the study, the writer used several procedures in collecting the data, as follows:

**1.** Grouping, the writer determined the class into one group

[11] *Ibid.,* p. 125

[12] Anas Sudijono, *Pengantar Statistik Pendidikan*, Jakarta: Ciputat Pres, 2000, p. 372

2. Giving Pretest, the writer has given the pre-test to determine the students ability, the pretest was conducted on Thursday, 25st September
3. Giving Treatment, the writer taught module in using preposition of time to the class
4. Giving Posttest, the writer has given the post-test to determine the effect of module. The posttest was conducted on Saturday, 16st October 2014

## F. Data Analysis Procedure

Data analysis is the process of systematically searching and arranging the interview transcripts, field notes, and another material that you accumulate to increase your own understanding of them and to enable you to present what you have discovered to others[13]. There are four steps in analyzing errors are:

1. Identifying Error

   The first step to identify error is to identify them. To identify errors we have to compare the sentences learners produce with what seem to be normal or 'correct' sentence in the target language which correspond with them.

2. Describing Errors

   Once all the errors have been identified, they can be described and classified into types. There are several ways of doing this. One way is to classify errors into grammatical categories. Another way might be to try to

[13] Sugiono, op. cit., p. 334.

identify general ways in which the learners' utterances differ from the reconstructed target-language utterance.

3. Explaining Errors

The identification and description of error are preliminaries to the much more interesting task of trying to explain what they occur. Errors are systematic to a large extent and predictable to a certain extent. The mother tongue language sometimes uses another word instead of a distinct word. In this step we can explain the source of the errors.

4. Error Evaluation

Evaluating errors determine wether the error is global errors or local errors. The errors classification may determine wether it is a serious error or not[14].

[14] Ellis, Rod, *op.cit.,* p. 15.