

CHAPTER III

RESEARCH METHODOLOGY

A. Research Design

This research study uses quantitative approach. A quantitative approach is one in which the investigatory primarily uses postpositive claim for developing knowledge (i.e., cause and effect thinking, reduction to specific variables and hypothesis and question, use of measurement and observation, and the test of theories) employs strategies of inquiry such as experiment and survey and collect data on predetermined instrument that yield statistics data. (Donald 1985: 260)

The researcher uses Pre-Experimental design. This research used pre-experimental with One-Group Pretest-Posttest design. This research was classified as pre-experimental design because it was little or no control of extraneous variables. In the One-Group pretest-posttest design, a single case is observed at two time points, one before the treatment and one after the treatment. Changes in the outcome of interest are presumed to be the result of the intervention or treatment. No control or comparison group is employed.

The design of this study is experimental design because the researcher wants to know the effect of Listen- Reading- Discuss strategy in reading comprehension on recount text. According to Arikunto, Experimental study is a study which aimed to know there is or not the effect of the variable studied. (John W. Creswell 2014:21)

The researcher uses the one-group pretest-posttest design usually involves three steps: (1) administering a pretest measuring the dependent variable; (2) applying the experimental treatment X to the subjects; (3) administering a posttest, again measuring the dependent variable. Differences attributed to application of the experimental treatment are then evaluated by comparing the pretest and posttest score (Ary, 2010:648).

Table 3.1 The Design of Pre-test and Post-test

| Pre-test | Treatment | Post-test |
|----------|-----------|-----------|
| Y 1 | X | Y 2 |

Explanations:

Y1 : Pre – test in form of written test to measure the students’ reading comprehension on recount text before the treatment.

X : Treatment, the treatment is teaching reading recount text using Listen- Reading- Discuss Strategy.

Y2 : Post – test in form of written test to measure the students’ reading comprehension on recount text after the treatment.

B. Research Setting

This research conducted at MA. An-najah Puteri Cindai Alus Martapura at in MA. An-najah Puteri Cindai Alus Martapura, which is located in Jalan Cindai Alus Rt. 07, Rw. 04 Martapura Kota, Kab. Banjar, South Kalimantan.

C. Population and Sample

1. Population

According to Sugiyono (2011: 80) population is generalization areas that consist of object or subject that has certain qualities and characteristic

of the applied researcher to learn and concluded. The population is eleventh grade in MA. An-najah Puteri Cindai Alus. It has two classes which consist of less and more than from 15 and 18 students from two classes (class XI of IPA and XI of IPS).

2. Sample

Sample is part of number characteristic from taken population. (Sugiyono, 2011:81). The Sample is one class (class XI IPS) consist of eighteenth students. Purposive sampling is determining of technique sample based on certain consideration. (Sugiyono, 2011:85). The purposive sampling of the researcher is selecting based on the English teacher telling that many the students get difficult to comprehend reading text and they need a supported strategy for interesting in English learning.

D. Research Instrument

The whole process of preparing to collect the data is called instrumentation (Fraenkel and Wallen, 2009 : 113). The instruments of this research is test, consist of pre-test and post-test. Before the researcher use the instrument for to measure students reading comprehension, the instruments used must be validity and reliability.

1. Validity

Validity is the important idea to consider when preparing or selecting an instrument for use. Validity refers to the appropriateness, meaningfulness, correctness, and usefulness of the inferences a researcher makes (Fraenkel and Wallen, 2009 : 150).

Content validity is used in this research. Content validation is partly a matter of determining if the content it is supposed to represent (Fraenkel and Wallen, 2009: 153). It shows that the content is appropriate or not and also measure the students' achievement in English. Additionally, the validity of the instruments will be consulted with lecturer and English teacher to know whether the instruments are valid or not.

According to Fraenkel and Wallen (2009 : 154) stated the reliability refers to his consistency of the scores obtained-how consistent they are for each individual from one administration of an instrument to another and from one set of items to another. The researcher uses Alpha formula with SPSS 22 program to explain the reliability of the test, with category based on: (Hilton and Brownlow, 2004: 64)

If $\alpha = >0.90$ the reliability is perfect

= 0.70-0.90 the reliability is high

= 0.5-0.70 the reliability is moderate

= <0.50 the reliability is low

Validity is a measure that shows the levels validity or the validity of an instrument. A test is said to be valid when able to measure what is about to be measured Product Moment = 5 %. The researcher corrects all of the items to know whether each of them valid or not. It is counted using product moment formula:

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

Explanations:

r_{xy} : Correlation coefficient between X and Y variable

N : Total of test participant

X : Score for each item

Y : Total score (Arikunto: 2010: 168)

2. Reliability Test

To test the extent to which measuring instruments can be trusted or reliable, in this study used the alpha formula because the measured data in the form of data with Likert scale. The questionnaire answer on Likert scale has gradation from very positive to very negative.

$$r_{11} = \left(\frac{n}{n-1} \right) \left(1 - \frac{\sum \sigma_b^2}{\sigma_t^2} \right)$$

r_{11} = Instrument of reliability

$\sum \sigma_b^2$ = The number of variance items

σ_t^2 = Total of variance

n = Number of questions

(Arikunto: 2010: 109)

3. 2 Interpretation Table of Reliability

| Points | Interpretation |
|-------------------------|----------------|
| $\alpha \geq 0.9$ | Excellent |
| $0.7 \leq \alpha < 0.9$ | Good |
| $0.6 \leq \alpha < 0.7$ | Acceptable |
| $0.5 \leq \alpha < 0.6$ | Poor |
| $\alpha < 0.5$ | Unacceptable |

E. Data Collecting Procedure

The whole process of preparing to collect the data is called instrument.

(Fraenkel and Wallen, 2009:113) The instrumentation in this research is test.

The test is pre-test and post-test.

1. Test

A procedure intended to establish the quality, performance, or reliability of something, especially before it is taken into widespread use (google dictionary)

a. Pre-test

To know whether the using on LRD strategy could influence the students' reading comprehension ability, in this case, the researcher gave pre-test with written test form before the students' got more explanation in reading comprehension ability text. From this result the researcher knew the students' mastery in answering the questions of reading comprehension ability exercises and know the weakness of learning process (Donald, 2010: 201).

b. Post-test

After analyzing and discussing the weakness and strength that was done by the researcher and the student during teaching-learning process without explaining and giving the reading comprehension ability exercise in pre-test, the researcher asks to the students about the difficulties in answering the exercise and gives more explanation about the reading comprehension ability and LRD strategy until the students understand. Finally, the researcher gives the post-test with written test form.

F. Technique of Data Analysis

This research uses quantitative approaches in analyzing the data. According to Fraenkel and Wallen (2006, p.15) quantitative data deal primarily with numbers. Therefore quantitative approach is used to describe the development of the students' Writing ability whose are taught by discovery learning strategy.

The technique for data analysis which is used *SPSS program*: The t-test assesses whether the mean scores from two experimental conditions are statistically different from one another. A *repeated-measures* t-test (also known by other names such as the 'paired samples' or 'related t-test') is what you should use in situations when your design is within participants. In a within participants design, participants contribute data for the dependent variable in all of the experimental conditions.

Paired sample T test is used to compare if there are differences or similarities between two groups of data samples that are related / paired. (Yamin & Kurniawan, 2009: 56).

One sample T-test is statistical procedure used to determine whether a sample of observation could have been generated by a process with a specific mean. This test used SPSS 22 program. Shapiro-Wilk because there are 30 students on this study, to compute the one-sample t test, used the following commands:

- a. Analyze => Compare Means => One-Sample T test
- b. Move scholastic aptitude test-math to the Test Variables box.
- c. Type 500 in the Test Value box (the test value is the hypothesized population mean).
- d. Click OK.

If the value of probability $> 0,05$ H_0 (Null Hypothesis) is accepted. And

If the value of probability $< 0,05$ H_0 (Null Hypothesis) is rejected.