

CHAPTER III

RESEARCH METHODOLOGY

3.1 Research Design

The researcher worked on descriptive qualitative research to carry out this study. It is a method used to analyze and explain phenomenon and situation (Rugayah, 2016:6). This study designed to collect information based on fact were there. In this discussion, the researcher didn't need to describe correlation, didn't do hypothesis and didn't occur inferential statistically but the researcher described the result of this study by using words and sentences.

In summary, this study was conducted by descriptive qualitative research as the way to do the research in this case, it described the difficulty index, discrimination index, and distractor index of English mid semester test for the second grade students at MAN 2 Model Pekanbaru in 2017/2018 academic year.

3.2 Source of Data

Source of data in this study was document which the main source of this research. The document belongs to secondary data since the data had been provided. Then, they gained from second person (Rugayah, 2016:17-18). In this study, the researcher gathered all the archives from the school. Moreover, the document was in form of data questions and answer key and data of students' answer of English mid test for second grade students in MAN 2 Model Pekanbaru.

3.3 Data Collection Technique

There are various techniques to collect the data; they are observation, communication, measurement, sociometry, and documentation (Margono, 2010: 158-181). In conducting this research, the researcher employed one of the five techniques, it was documentation technique. Documentation is a technique to get anything in the form of archives including books, theory, law, etc. (Margono, 2010:181). The documentation was done by visiting the school through finding the archives as stated before.

3.4 Data Analysis Technique

Data must be analyzed to get the empirical evidence of the research. Data analysis is a process of systematically searching and arranging the interview, notes, and other accumulated information to improve comprehension toward study, so it can be represented to other people (Rugayah, (2016:30). Technique of data collection that used in this research based on the data and the types of information that was needed for this research in form of descriptive qualitative. There were some techniques that the researcher used to analyze the data, as follow:

3.4.1 Difficulty Index Analysis

According to Wahyuni and Ibrahim (2012:130) analyzing difficulty index can be conducted by some steps below:

- a. Arranging the students' score from the highest to lowest
- b. Taking 27.5% students' higher score (upper group); 27.5% students' lower score (lower group); and the rest was called the middle group.

- c. Analyzing the correct or incorrect answer per item per student. This analyzing just done to upper and lower groups
- d. Counting difficulty index of the test items by using formula of:

$$IF = \frac{FH + FL}{N}$$

which:

- IF : *Item Facility*, difficulty index of the test item
- FH : *Frequency High*, total of correct answer upper group
- FL : *Frequency Low*, total of correct answer lower group
- N : Total of students upper and lower groups

3.4.2 Discrimination Index Analysis

According to Wahyuni and Ibrahim (2012:136) analyzing discrimination index can be conducted by the steps below:

- a. Arranging the students' score from the highest to lowest
- b. Taking 27.5% students' higher score (upper group); 27.5% students' lower score (lower group); and the rest is called the middle group.
- c. Analyzing the correct or incorrect answer per item student. This analyzing just done to upper and lower groups only.
- d. Counting discrimination index of the test items by using formula of

$$D = \frac{FH - FL}{n}$$

which:

- D : *Discrimination item*, discrimination index of the test item
- FH : *Frequency High*, total of correct answer upper group

FL : Frequency Low, total of correct answer lower group

n : Total of students upper and lower groups; 27.5% of subject

3.4.3 Distractor Item Analysis

The analyzing discrimination index can be conducted by the steps below as adapted from lowest Wahyuni and Ibrahim, (2012:136):

- a. Arranging the students' score from the highest to lowest
- b. Dividing total students into two groups; upper and lower groups (Arikunto, 2013: 235)
- c. Counting the choice to all items for the two groups
- d. Interpreting distractor items through see the total of distractors