

## **CHAPTER III**

### **METHODOLOGY OF RESEARCH**

#### **A. Place and Time of the Research**

The research took place at MTs Al-Khairiyah Kamasan. The location is in front of MPK KH. Syam'un street, Kamasan Village, Cinangka District, Serang Regency-Banten (42167). The researcher conducted the research by taking the English final term examination in the first semester of the academic year 2020/2021. The researcher took this place because she has access to this school. The researcher knew the characters and learning environment of the students. Besides, the total of the students is representative of the research.

The research carried out between December 2020 up to February 2021, about two months. The researcher took this time because the final term examination in the academic year 2020/2021 at the first semester implemented at December 2020. Therefore, the researcher waits for student answer sheets in the last December 2020, while in January up to February 2021 for analysis of the test item in the difficulty level and discrimination power.

#### **B. Method of The Research**

The researcher used quantitative research as a method by using descriptive analysis. The researcher used the quantitative method because she wants to test the hypothesis that has been set, which supported by some numerical data and interpreted the result by words or sentence as a descriptive analysis approach.

Quantitative research is obtrusive and controlled, objective, generalizable, outcome-oriented, and assumes the existence of 'fact', which are somehow external to and independent of the researcher.<sup>1</sup> The researcher also used a descriptive analysis approach to describe the result of the research by words. A descriptive analysis is a statistical analysis to describe the data which has been collected as it is, without making general conclusions.<sup>2</sup> It means that the researcher only describes data of sample without describes data of population. In the descriptive analysis, the data is presented in tables, diagrams, graphs, and others.<sup>3</sup> This is intended to make it easier to understand the data presented.

## **C. Population and Sample**

### **1. Population**

The research population is the seventh grade of MTs Al-Khairiyah Kamasan, consisting of 44 students, 24 students from 1A and 20 students from 1B.

### **2. Sample**

To make the research effective, the researcher used two classes as a sample. The sample from 1A is 24 students, while the sample from 1B is 20 students. Therefore, the total sample is 44 students. The researcher conducted a random sampling technique to take a sample. The random sampling technique gives all student to have

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<sup>1</sup> David Nunan, *Research Methods in Language Learning* (New York: Cambridge University Press, 1992), 3.

<sup>2</sup> Sugiyono, *Metode Penelitian Pendidikan Pendekatan Kuantitatif, Kualitatif dan R&D* (Bandung: ALFABETA, 2015), 147.

<sup>3</sup> Sugiyono, *Metode Penelitian*, 148.

an equal chance of inclusion in the sample.<sup>4</sup> The researcher divided students into three groups: upper, middle, and lower groups.

#### **D. The Research Instrument**

The researcher used the first semester of the final term examination test in a summative test of instruments to collect the data in the academic year 2020/2021. The test taken by the researcher is multiple-choice as the researcher has explained in the background that the English test is created by the teacher himself at MTs Al-Khairiyah Kamasan in Pandemic. The English teacher in MTs Al-Khairiyah Kamasan creates only multiple-choice, consisting of 25 questions for the student final term examination in the academic year 2020/2021.<sup>5</sup> Therefore, the researcher only uses multiple-choice to conducted.

#### **E. The technique of Collecting Data**

The techniques of collecting data are:

1. Observation: the researcher took previous research for observation.
2. Question Sheet: the test item of the first semester of the final term of examination test in the academic year 2020/2021 that the researcher took.
3. Documentation: the researcher took the student answer sheets and answer key as primary resources for collecting the data.
4. Interview: seeking permission from the English teacher to use the document and ask for other information required.

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<sup>4</sup> C.R Kothari, *Research Methodology (Methods and Techniques)*. Second Revised Edition (New Delhi: New Age International Publisher, 2004), 60.

<sup>5</sup> Sahroni, interviewed by Alma Umi Salamah. Serang, Desember 06, 2020.

## F. The technique of Analyzing Data

The data are taken from the student answer sheet of the final term examination at the seventh grade of MTs Al-Khairiyah Kamasan in the first semester. The researcher analyzed the difficulty level and discrimination power in multiple-choices. The technique of analyzing the data is:

1. Asking permission to take the student answer sheet to the English teacher.
2. List the student answer sheet from the highest to the lowest value.
3. Divided student into three groups: upper, middle and lower. But, analyzing test item only happened in the upper and lower group.
4. Analyzing the test item in level difficulty and discrimination power based on their formula.
5. Categorized the result based on level difficulty and discrimination power criteria.
6. Interpreting and describing the result of the test item as the final.

The formula for computing item level of difficulty for analyzing multiple-choice is as follow:<sup>6</sup>

$$P = \frac{B}{T}$$

Where:

$P$  = the index level of difficulty

$B$  = the number of test-takers in the total group who answered correctly

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<sup>6</sup> Kunandar, *Penilaian Autentik (Penilaian Hasil Belajar Peserta Didik Berdasarkan Kurikulum2013): Suatu Pendekatan Praktis* (Jakarta: Raja Grafindo Persada, 2013), 240.

$T$  = total number of test-takers in the group

The formula for computing item discriminating power for analyzing multiple-choice is as follow:<sup>7</sup>

$$D = \frac{Ru - Rl}{\frac{1}{2}T}$$

Where:

$D$  = the index of discriminating power

$Ru$  = the number in the upper group who answered the item correctly

$Rl$  = the number in the lower group who answered the item correctly

$T$  = total number of students included in the item analyze

## **G. Hypothesis**

The hypothesis will be shown in these two categories:

1. There is difficult, moderate and easy on interpreting of test item on difficulty level.
2. There is excellent, good, satisfactory, poor and very poor on interpreting of the test item on discrimination power.

The hypothesis above is only calculated based on the explained theories, the related and previous above. Because the research hypothesis is somehow will be formulated like this:

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<sup>7</sup> Norman E. Gronlund, *Constructing Achievement Test*. Second Edition (USA: Prentice-Hall, Inc, 1977), 112-113.

*An Analysis of Difficulty Level and Discrimination Power of English  
Final Term Examination at Seventh Grade of MTs Al-Khairiyah Kamasan (A  
Quantitative Research in the Academic Year of 2020/2021).*