**CHAPTER III**

# METHOD OF RESEARCH

# 3.1 Design of the Research

This research was designed by applying quantitative methods. That was, researcher collected data obtained from research.

This type of research was an experimental design. This meant in collecting research data; the researcher divided into two groups: experimental class and control class. The experimental classexplains theeffect of the factors considered while the control class do not.

The researcher identified whether the used of problem based learning strategy can effect the students’ narrative writing text. In collecting data the researcher conducted a pre-test to see the students’ narrative writing text before using the model. Then treated student by using problem based learning (PBL) models in teaching narrative writing text and after giving students some treatments the researcher gavea post-test. After the data had been obtained, the test result would be compared and analyzed the data.

# 3.2 Population and Sample

# 3.2.1 Population

According to Arikunto (p.148) population is defined as all members of any well-defined class of people, event or objects. It means that population is the whole subjects that will be researched in the research. The populations of this

research were all of students second grade of Tsanawiyah A Hidayah Lubuk Pakam, which total number of population are 54 students, which consist of 2 classes. It can be seen in the table 3.1:

**Table 3.1**

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Class** | **Gender** | **Total** |
| **Male** | **Female** |
| 1. | VIII 1 | 13 | 14 | 27 |
| 2. | VIII 2 | 11 | 16 | 27 |
| Total | 24 | 30 | 54 |

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# 3.2.2 Sample

According to Sugiyono, (2017: 81) the sample is part of the random sampling which is the source of data in research, where the population is part of the number of characteristics possessed by the population.

The samples of this research were two classes. One classes as the experimental class, whose the students would be taught by using problem based learning and another class as control class, whose the students would be taught without problem based learning.

# 3.3 Instrument of Collecting Data

Creswell (2008:14) states an instrument is a tool for measuring or documenting quantitative data. It contains specific questions and responsibilities that you establish or develop in advance of the study. In this research, the researcher used a test for testing to know students’ speaking ability. The test will be given in the form oral test, the teacher asks all of the students from each group to come forward and make dialogue based on situation and the theme of the test is based on the syllabus that will be learnt by the students.

Data and information collection techniques in this research used writing narrative text. Tests were carried out from the beginning and end of the learning process in the form of pre-test and post-test to determine the level of students' understanding of narrative text material in English lessons. Tests were based on topics that have been studied in class.

# 3.4 Technique of Collecting Data

The several steps of data collection that will be carried out by researcher are as follows:

1. Pre-test

Preliminary tests conducted by researcher before treatment. The pre-test was conducted to determine students' abilities in writing narrative text, before implementing problem-based learning (PBL).

1. Treatment

In this case the researcherappliedthe problem-based learning models (PBL) in writing narrative text.

1. Post-test

After the treatment was carried out, the next action was a post-test to determine the effect of using a problem-based learning models (PBL).

# 3.5 Technique of Analyzing Data

To analyze the data obtained, the researcher used t-test formula. The test accessed the mean of groups are statically different from each other, this analysis was appropriate to compare the mean of two groups. First of all, the researcher figure out of the main score the experimental and control group using the formula:

$$t=\frac{Mx-My}{\sqrt{\left(\frac{\sum\_{}^{}X^{2}+\sum\_{}^{}Y^{2}}{Nx+Ny-2}\right)\left(\frac{1}{Nx}+\frac{1}{Ny}\right)}}$$

Where:

T = Total score

Mx = Mean of experimental group

My = Mean of control group

Σy =Standartderivasion of control group

nx = Total sample of experimental group

ny = Total sample of control group