CHAPTER III
METHOD OF RESEARCH

3.1 Method of Research

This research, I used the pre-experimental method. This method just uses one class as an experiment class and there is no control class. There are some treatments given in that class directly between a pre-test and a post-test as Sugiyono (2011: 74).

3.2 Population and Sample

The population of this research is class VIII B of MTs Alkhaerat Gorontalo. Actually, I chose this class because of my experience when I taught in that school I found that their vocabulary was still low. They have faced some difficulties in vocabulary. This is become one of their problem when they learn English at school. Beside that, they want to learn English more but with the fun way. Furthermore, I take them as my population and sample. The total number of students is twenty three. Also, sample of this research is taken through purposive sampling technique because of limited time and cost as in Arikunto (2006: 139-141). Therefore, all students at grade VIII is taken as a population and sample in this research.
3.3 Design of Research

This research used an experimental design that wants to find out the influence of make a match technique. It is designed by one-group pretest-posttest design.

Formula

\[ O_1 \times O_2 \]


With: \( O_1 = \) pre-test

\( O_2 = \) post-test

\( X = \) treatment

a. Pre-test

The pre-test have given to the students before the treatment. In this step the students will get a test which relate to topics such as jobs, workplace, hobbies, and animals. The total of items is forty items; every topic will be representing in ten items. The aim of this test is just want to know how far the students’ ability particularly their previous knowledge in English vocabulary.

b. Treatment

After the pre test, the student taught by using Make a Match technique as a treatment of research. The treatment itself will be conducted in six times with different topics each meeting.
c. Post-test

In this step the student given the test, the purpose is want to know whether the application of Make a Match can improve students’ ability in mastering vocabulary or not.

3.4 Variables of Research

The two forms of variables are independent and dependent variable. Independent or free variables is the simulation, predictor. It can affect or change the dependent variable and dependent variable is output as in Sugiyono (2010: 38-339) so there are two variables in this research:

There are two variables in this research such as:

1. Variable $X =$ (independent Variable). In this case variable $X$ is “Make a Match technique”

2. Variable $Y =$ (dependent Variable). Variable $Y$ of this research is “the students’ vocabulary”

3.5 Technique of Collecting the Data

The technique of collecting the data of this research is by the use of test. In this research the test is multiple choices form. Test is a measuring instrument which is given to individual to get answers which expected of both written and oral, or act as academic achievement tests and intelligence tests based on (Uno et al, 2003: 37).
Technique of collecting the data of this research is by giving the test namely multiple choices that measure students’ vocabulary. So, total of the questions are 30 items. The form of the test is mix, such as Picture and describe thing.

### 3.6 Blue print of test

Indicators of the test focus on topics namely jobs, work place, and animals. Here is the blue print of the test that concerns to the topics:

<table>
<thead>
<tr>
<th>No</th>
<th>Indicator of vocabulary</th>
<th>Number of question</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Jobs</td>
<td>10</td>
<td>0-1</td>
</tr>
<tr>
<td>2.</td>
<td>Work place</td>
<td>10</td>
<td>0-1</td>
</tr>
<tr>
<td>3.</td>
<td>Animals</td>
<td>10</td>
<td>0-1</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>30</td>
<td></td>
</tr>
</tbody>
</table>

### 3.7 The Validity of Testing

The validity of testing shows the truth and the original of the data that are collected by the instrument. In validity of testing correlation product-moment will be used with formula:

\[
R_{bts} = \frac{\bar{X}_p - \bar{X}_t}{SD} \times \frac{n}{q} \]

Surapranata (2004:61)
In this research the total of number instrument are 30. The result of testing validity of the test had show in appendix 8 it show that there are 20 items were valid. They are 1,2,3,4,5,6,7,8,9,13,15,16,17,19,20,23,24,28,29 and 30 (see appendix 8).

3.8 The reliability of testing.

Sugiyono (2011:121) stated that, by knowing the instruments have been using in pre test and post test increase or not, we can use the reliability testing. So in this case I will use KR (Kuder Ridcharson) with formula:

\[
    r_i = \frac{k}{(k-1)} \left\{ \frac{s_i^2}{s_r^2} - \frac{\sum p_i q_i}{s_r^2} \right\} \quad \text{Sugiyono (2011:186)}
\]

Where:

- \( r_i \) = Internal reliability instrument
- \( p_i \) = proporsi banyaknya subyek yang menjawab pada item 1
- \( q_i = 1 - p_i \)
- \( s_i^2 \) = total variant
To determine of reliable test whether the test is reliable or not I use criteria suggested by Arikunto (2006:186) they are as follow:

- 0.02 = very low
- 0.02-0.39 = low
- 0.40-0.59 = medium
- 0.60-0.79 = high
- 0.80-1.00 = very high

3.9 Technique Analyzing the Data

3.9.1 The data Analysis and Hypothesis Verification

The hypothesis verification, I used t-test formula. This formula is used to find whether or not the application of Make a Match technique can increase the students’ vocabulary ability the formula is follow:

a. Assembling of the hypothesis that is tested

\[ H_0 : \mu_1 = \mu_2 \]
\[ H_a : \mu_1 \neq \mu_2 \]

b. Real stage \( \alpha = 0.05 \)

c. Statistic formula used in hypothesis verification is:

\[
t = \frac{\bar{x} - \mu_0}{\frac{s}{\sqrt{n}}} \quad \text{Sugiyono (2011:250)}
\]
where:

\[ \bar{x} = \text{the average value of pre-test and post test} \]
\[ n = \text{the number of sample} \]
\[ \mu_0 = \text{the score of hypothesis} \]
\[ s = \text{standard of deviation of both pre-test and post-test} \]

### 3.9.2 Hypothesis Verification

In this research I used hypothesis verification as follows:

- \( H_0 : \mu_1 = \mu_2 \): there is not different between pre test and post test
- \( H_a : \mu_1 \neq \mu_2 \): there is different between pre test and post test

\( \mu_1 = \) pre-test
\( \mu_2 = \) post-test

notes:

- The hypothesis \( (H_0) \) will be accept if \( t_{\text{count}} < t_{\text{list}} \)
- The hypothesis \( (H_0) \) will be reject if \( t_{\text{count}} > t_{\text{list}} \)

Thus, for knowing the hypothesis accepted or not in this research, I did the analysis the data by using t test. It used for knowing the influence of free variable and main variable. Also, t test useful for comparing between \( t_{\text{count}} \) and \( t_{\text{list}} \) score. Which is the rule decided that is if the hypothesis \( (H_0) \) will accepted if \( t_{\text{count}} < t_{\text{list}} \), it means not significance because \( H_0 \) is accepted and \( H_a \) reject. But if the hypothesis \( (H_0) \) will be reject if \( t_{\text{count}} > t_{\text{list}} \) it means significant because \( H_0 \) is reject and \( H_a \) accepted.