Chapter 3

Methodology

Methodology of research

In this research, the researcher used quantitative method. Quantitative is an approach that requires using numbers, ranging from data collection, interpretation of these data, as well as the appearance of the result (Arikunto 2010, p.27). Based on this theory, it can be concluded that, quantitative studies always use numbers and formulas to get the results of the study.

The researcher applied flash card as the media of learning through quasi experiment in which the study uses the statistical analysis. This research explains the steps of implementation of the research from pre-test, treatment, and post-test.

Research design

Pre-test was conducted to determine the developing of students’ ability in writing skill before application of treatment. Treatment is a tested media and method to the class to which the experiment. Then post-test is done to find out the developing of student’s ability in writing after the applied this media flashcard after the treatment. The material of pre-test and post-test is Recommendation letters.
Population and Sample

Population

The population of this research takes the students in SMK 1 Batudaa, which located in Dunggala village, Batudaa subdistrict, Gorontalo province.

Sample

Sampling is determined directly by researcher, namely purposive sampling. Purposive sampling is the technique that is used to take sampling from the population is tended to one object depending on consideration. In this case class X1 akuntansi SMK 1 Batudaa which has 30 students. The researcher chooses this class as the sample, because the researcher found the problem that the teacher did not use media to teach students especially to teach writing. It seems the students need media to support them in teaching learning.

Variable of Research

The variable of this research are:

Variable X : flashcard as the independent variable
Indicator : the application of media flashcard

Variable Y : Students’ writing ability as dependent variable
Indicator : the students’ ability in writing

Data Collection

The researcher used a test to know the development of students learning activities. In this research, the researcher using written test, because written test can facilitate the students to answer the questions which given by the researcher. The model of the test that has been given to the students to ask them make business letter in English. In this case, by giving the test, the
researcher wants to know the students ability in writing business letter in English by using flashcard as a treatment.

In this research, the researcher do two tests, they are pretest and posttest.

a. Pretest

Pretest is conducted to know the students’ ability in writing skill before applying of treatment. In pretest, researcher was give the pretest that has been given to the student asks them to make business letter in English with topic recommendation letter.

b. Treatment

After pretest, the researcher did the treatment. The researcher gives the 5 times of treatments, to get the maximal of result. The treatment in this research is using flashcard of teaching. This media the researcher draw up to use in learning process to develop students’ writing ability in business letter with different topics for each meeting. The topic include on types of business letter such as: Meeting one Resignation letters, Meeting two: Sales letters, Meeting three: Order letters, Meeting four: Complaint letters.

a. Post-test

After do the treatment, the researcher gives the posttest, and posttest is to find out the development of students’ writing ability in letter, with the same topic that is Recommendation letters after applying media in treatment.
Here is the design of quasi experiment, group pretest-posttest design.

\[
Y_1 \quad X \quad Y_2
\]

Where:

\[
Y_1 = \text{Pre-test} \\
X = \text{Treatment} \\
Y_2 = \text{Post-test}
\]

**The technique of analyzing the data**

In analyzing the data of the students’ writing ability in business letter based on the indicators of writing evaluation, the researcher give intensive score between 5 to 3. Effendi (2000.p.89)” gives some procedure to range and give score for analyzing subject of research itself.”

The analysis involve six aspects of English business letter, they are: heading, inside address, salutation, body, closing, and signature.

**The distribution of the score in writing English business letters**

Based on its aspect.

<table>
<thead>
<tr>
<th>No</th>
<th>Aspect</th>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Heading</td>
<td>5</td>
<td>One or two small mistakes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3</td>
<td>Only one or two big mistakes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1</td>
<td>More than two big mistakes</td>
</tr>
<tr>
<td>2</td>
<td>Inside address</td>
<td>5</td>
<td>One or two small mistakes</td>
</tr>
</tbody>
</table>
### Data Analysis

The data of this research was analyze quantitatively. The researcher use statistical analysis, in analyzing the data the researcher will use T-Testing.

In (Sudjana, 1995, pg. 239) Verification test will use t-test:
\[ t = \frac{Md}{\sqrt{\frac{\sum X2d}{n(n-1)}}} \]

Where:

Md = Mean of difference pre-test and post-test

Xd = Deviation of each subject (d-Md)

\( \sum x2d \) = Amount of deviation quadrature

N = the number of sample

d.b = a given of N-1

The Normality Analysis of the Data

In Sudjana, (1995, p. 466-467) the normality testing is the perquisite for using T-Testing. The normality analysis is intended to know whether the data is normal or not. In analyzing the data, the researcher uses liliefors method with the real stage \( \alpha = 0.05 \) by the following procedures:

a. Observation X1, X2, X3,…Xn is becoming deviation Z1, Z2, Z3, …, Zn by using the formula as follows:

\[ Z_i = \frac{X_i - \bar{X}}{S} \]

Where:

Z_i : Standard of value

\( \bar{X} \) : The average of total score
S : total of score deviation

b. For each deviation use distribution of normal and then will count the deviation by using the formula as follows:

\[ F(Z_i) = P(Z \leq Z_i) \]

c. The next procedures was counting proportion \( Z_1, Z_2, Z_3, \ldots, Z_n \) which is small or similar with \( Z_i \). If this proportion is \( S(Z_i) \), so

\[ S(Z_i) = \frac{\text{amount } Z_1, Z_2, Z_3, \ldots, Z_n \leq Z_i}{N} \]

d. Count the deviation of \( F(Z_i) - S(Z_i) \) and then set the absolute value

e. Take the big value among the absolute value deviation, which is called as \( L_0 \)

f. The criterion of analysis, the data is normal distribution if \( L_0 \leq L_{\text{list}} \)

**Hypothesis Verification**

In verifying the hypothesis of this research, the researcher using the level of significance \( \alpha = 0.05 \) with the criteria as follows:

\( H_0 \) : There is no influence of flashcard to develop students’ writing business letter.

\( H_1 \) : There is any influence of flashcard to develop students’ writing business letter.

a. \( H_0 \) will be accepted if \( t_{\text{count}} \leq t_{\text{list}} \)

b. \( H_1 \) will be accepted if \( t_{\text{count}} \geq t_{\text{list}} \)