

CHAPTER III

RESEARCH METHOD

A. Research Design

This research focused on students' habit in playing Mobile Legends game and students' listening proficiency. This research is a quantitative approach with correlation method. Correlation method is most appropriate for this research, because it uses two variables to find out the relationship between students' habit in playing Mobile Legends game and students' listening proficiency then show if they have any positive or negative relation and examine hypothesis.

Pearson Product Moment formula is used to correlate two variables and to find out the significance correlation between students' playing game (Mobile Legends) habit and their listening proficiency. The independent variable of this research is the habit in playing Mobile Legends game (variable X) and the students' listening proficiency is the dependent variable (variable Y), variable Y has divided into Y1 and Y2.

B. Research Setting

This research is field at MTsN 2 Tapin on Jl. Veteran RT.23 No.10 Kec. Tapin Utara, Rantau City Post Code 71112 and this research is done from February until March 2018.

C. Population and Sample

1. Population

Population is all cases, situations or individuals who share one or more characteristic. According to Sugiyono, Population is generalization that composed of the subject / object that has certain qualities and characteristics of the applied researcher to learn and then be concluded. Population of this research is the students of MTsN 2 Tapin at eighth grade academic year 2017/2018. It has five classes (class A, B, C, D and E), in each classes have 34 until 36 students. It can be seen in the following table:

Table 3.1 The Population of The Research

8th Grade		
No	Class	Population
1	A	36
2	B	36
3	C	36
4	D	36
5	E	34

2. Sample

Sample is a subset of individuals from a given population. According to Suharsimi Arikunto (2006), Sample is a part of population which has same characteristics. There are two ways in selecting a sample. First, if the population is less 100, all population

can be sampled. Second, if the population is over 100, the researcher can take 10%-15% or 20%-25% from all population as a sample. Based on the explanation above, the researcher took 25% of all number of the students of eighth grade of MTsN 2 Tapin academic year of 2017/2018 as the purposive sample.

The kind of sample that is used on this thesis is purposive sampling. That is taken from all the Mobile Legends players based on the pre observation and pre questionnaire.

D. Technique of Collecting Data

In collecting the data, the instruments of this research are questionnaire to measure the students' habit in playing Mobile Legends game (variable X) and listening test to measure the students' listening proficiency (variable Y).

1. Questionnaire

Questionnaire is a list of questions provided to others who are willing to respond (respondents) as requested by the researchers. There are two kinds of questionnaire, they are open and enclosed questionnaire. In this research, the researcher distributed questionnaire to the students aimed to know about student habit in playing Mobile Legends game. Total items of the questionnaire are 20 items and using five alternatives based on the Likert's scale types. Likert's scale is used to measure attitude, opinion, perception based on the certain object or phenomena (Siregar, 2013). The researcher used

questionnaire to get the data about students' habit in playing Mobile Legends game.

2. Listening Test

In this research, the achievement test is used to measure student's listening proficiency. A test is a method of measuring a person's ability, knowledge, or performance in a given domain (Brown, 2010). A test is used to collect the data of students' listening proficiency (variable Y). To measure students' listening proficiency, there are two parts of the test, the first part is test about Mobile Legends and the second part is about general knowledge. Then the test must have two results, 20 questions are taken from game Mobile Legends and 20 questions taken from English subject listening material.

3. Technique of Data Analysis

a. Questionnaire Data

The researcher categorized the score resulted of questionnaire data or also called independent variable (X) into the following criteria. If a student chooses *Always (selalu)*, the student get score 5. This is a table to understand about Likert's scale types:

Table 3.2 Likert Scale

Likert's scale types	Score
Always	5
Often	4

Sometimes	3
Seldom	2
Never	1

After calculating all the result in the questionnaires, the researcher determines the students' habit strength in watching English movies on personal computer. According Sudijono (2006), the formula in interpreting the score is:

- a. Finding the mean

$$M_x = \frac{\sum x}{N}$$

- b. Finding the standard deviation

$$SD_x = \sqrt{\frac{\sum fx^2}{N}}$$

After that, the researcher determines the Classifying the scores into three categories low, fair, and good by applying this formula

- c. Classifying the scores into three categories

-Top up of habit in playing Mobile Legends score = $M_x + 1 SD_x$

-Bottom of habit in playing Mobile Legends = $M_x - 1 SD_x$

-Explanation:

M_x = mean of students' habit in playing Mobile Legends

SD_x = Standard deviation of students' habit in playing Mobile Legends

$\sum fx$ = Total score of students' habit in playing Mobile Legends

N = Total Number of the respondents

To test instrument before turn into field, researcher used Alfa Cronbach formula to get reliability test, as follow:

$$\alpha = \left(\frac{K}{K-1} \right) \left(\frac{s_r^2 - \sum s_i^2}{s_x^2} \right)$$

α = alpha cronbach reliability coefficient

k = total questioner number

$\sum s_i^2$ = total variants score item

s_x^2 = all variants score item

With :

If $\alpha = >0.90$ the reliability is perfect

= 0.70-0.90 the reliability is high

= 0.50-0.70 the reliability is moderate

= <0.50 the reliability is low

The questionnaire and the test are tested in the same school, MTsN 2 Tapin. After collecting data, the researcher took some step to analyze data. The analysis step as follow:

b. The score of listening test

The students' listening test is also called dependent variable (Y). The students answered 20 multiple choices and 20 matching for each about the game (Y1) and general knowledge (Y2). Therefore the

total questions (Y) are 40 items. There are two parts for each tests, the first part is multiple-choice that each of true answer gets 5 point, the second part is matching that each of true answer gets 5 point. The total score for the test is 100. In classifying the score, the researcher uses the category which is submitted by David P. Harris (1969), as follows:

Table 3.3 David P. Harris Scoring

Score	Category
80 – 100	Excellent
70 – 79	Good
60 – 69	Fair
50 – 59	Low
	Poor

After that, the researcher determines the students' English listening test generally by applying this formula:

$$M = \frac{\sum X}{N}$$

After the data of students' habit in playing Mobile Legends game and their listening proficiency are collected, the researcher examines research hypothesis by calculating and correlating the data of X and Y variables. The examination uses Product Moment.

The equation for Pearson (r) is as follow:

$$r_{xy} = \frac{N \cdot \sum x \cdot y - (\sum X)(\sum Y)}{\sqrt{[N \cdot \sum X^2 - (\sum X)^2] [N \cdot \sum Y^2 - (\sum Y)^2]}}$$

$$r_{xy} = \frac{\sum x \cdot y}{\sqrt{(\sum x^2)(\sum y^2)}}$$

r_{xy} = correlation coefficient between variable X and Y. $\sum x$ = the values for the X variable.

$\sum y$ = the values for the Y variable. $\sum x \cdot y$ = the values for the XY variable.

However, before using the formula, the researcher had done normality test and linearity test because these tests were prerequisites in using Pearson product moment formula. Normality test was done to determine normal distribution and linearity test was used to know the relation between dependent and independent variable. In doing normality test and linearity, the researcher used SPSS version 23. The criteria in determining normal distribution of the data are as follows:

- A normal distribution of data, if the value of significance > 0,05
 - An abnormal distribution of data, if the value of significance < 0,05
- The criteria in determining the linearity of the variables are as follows:

- If the value of significance > 0,05. It means that the variables

are linear

- If the value of significance $< 0,05$. It means that the variables are not linear

Then, the researcher interpreted the value of r_{xy} by comparing it with r_t with, significant value 0,05. The result of correlation between X and Y variables are compared with the value (r_{table}). The table value is 5 % or 1 %. If $r_{xy} > r_{table}$ is significant or there is a correlation between students' habit in playing subway surfers game and their listening proficiency. If $r_{xy} < r_{table}$ is not significant. It means that there is no correlation between students' habit in playing Mobile Legends game and their listening proficiency. A positive correlation indicates that the score move together either increasing or decreasing. A negative correlation indicates that the scores on one variable rise and scores on the other decrease. Correlation does not imply caution means two events are in some ways correlated does not mean that on necessarily cause the other. The ranging of correlation coefficient is as follow (Sudijono, 200):

Table 3.4 Correlation Coefficient

r_{xy}	Interpretation
0,00 – 0,20	There is a very low correlation between variable X and Y

0,20 – 0,40	There is a low correlation between variable X and Y
0,40 – 0,70	There is a medium correlation between variable X and Y
0,70 – 0,90	There is a high correlation between variable X and Y
0,90 – 1,00	There is a very high correlation between variable X and Y

Furthermore, in order to test the significance of the product moment correlation can be done in two ways:

4. Comparing the value r_{count} with r_{table} where n is the number of respondents and the significance level of 1% or 5%. Test criteria of significance is received H_0 and H_1 rejected if the $r_{\text{count}} \leq r_{\text{table}}$, otherwise reject H_0 and accept H_1 if $r_{\text{count}} > r_{\text{table}}$.
5. Using the formula of product moment correlation significance test with $df = n - 2$ and a significance level of 1% or 5%. Test criteria of significance is H_0 received and H_1 rejected if $t_{\text{count}} \leq t_{\text{table}}$, otherwise reject H_0 and accept H_1 if $t_{\text{count}} > t_{\text{table}}$. The formula product moment correlation tests of significance are shown below.

$$\frac{r\sqrt{n-2}}{1}$$

$$t = \frac{r}{\sqrt{1-r^2}}$$

Furthermore, to determine the contribution of the independent variable (x) on the dependent variable (y) can be calculated using the coefficient of determination by squaring the correlation coefficient, then multiplied by 100%. The determination coefficient shows that the percentage of independent variables (x) on the dependent variable (y), while the rest influenced by other factors. The coefficient of determination can be formulated as follows:

$$KD = r^2 \times 100\%$$

Note:

KD = Determination coefficient r = Correlation coefficient