

CHAPTER III

RESEARCH METHODOLOGY

A. Research Methodology

Methodology is the systematic, theoretical analysis of the methods applied to a field of study. According to Khotary (2004:8) states that research methodology is a way to systematically solve the research problem. It may be understood as a science of studying how research is done scientifically. In this study the researcher used Pre-Experimental Design as the methodology in order to find out the use of Teams Games Tournament in Simple Present Tense is effective.

Pre-Experimental research is a research that uses only one experiment group without control group as the subject. This statement also supported by Creswell (2009: 158) states that with pre-experimental design, the researcher studies a single group and provides an intervention during the experiment. Then, in this research the researcher used Pre-Experiment One Group Pre-test-Post-test which Fraenkel et al (2012: 269) state that in the one group pre-test-post test design, a single group is measured or observed not only after being exposed to a treatment of some sort, but also before, so in this research design the researcher would do the pre-test before the treatment applied and after that the researcher have done the post-test after the treatment was given by the researcher. So the researcher used Pre-Experimental Research type One Group Pre-test and Post-test as the research design. After that the

researcher applied this research design based on the procedure that can be seen in the table as follows:

Table 3.1
Procedure of Pre-Experimental One Group Pre-test and Post-test

O1	X	O2
Pre-test	Treatment	Post-test

Fraenkel (2012:269)

Based on the table above, the researcher did pre-test (O1) to know the score before the treatment applied, after that the researcher conducted the treatment (X) which used Teams Games Tournament (TGT) as a teaching method, and then the last researcher did the post-test (O2) to know the score after the treatment applied, after that the researcher compared the mean score between pre test and post test as reference to know the effect of the treatment.

B. Research Population and Sample

1. Population

Population is the group of interest to the researcher, the group to whom the researcher would like to generalize the result of the study (Fraenkel, 2012:92). In this research the population is the students of class X SMAN 1 Sepauk that consist of 6 classes, can be seen in the table

below:

Table 3.2
Table of Population

Classes	students
X A	35
X B	35
X C	35
X D	35
X F	31
TOTAL	171

2. Sample

Sample is a small group that is observed. It can be said that the sample is a part of population which is will be the object in research (Cohen *et al*, 2005: 93). The researcher concluded that means of sample is half or less than all of the population that would be the object in research. Therefore, the sample in this research is the students of class X SMAN 1 Sepauk. For technique sampling in this research, the researcher used Probability Sampling (Random Sampling). According to Kothari (2004:60) says that Probability sampling is also known as 'random sampling' or 'chance sampling'. Under this sampling design, every item of the universe has an equal chance of inclusion in the sample. In this research, to got the sample the researcher right down the name of each class in the paper and made the paper into a ball after that put it into glass

and shakes it. After that, the researcher took one of the papers that would be the sample, and the chosen class was class X F.

C. Technique and Tool of Data Collecting

1. Technique of Data Collecting

The technique of data collecting that used in this research is measurement technique. According to Ross (2005:33), measurement is a process that assigns a numerical description to some attribute of an object, person or event. Therefore, the researcher used measurement technique to measure the significant difference of the students score in pre-test and post-test.

2. Tool of Data Collecting

Tool of data collecting that used in the study is written test. According to Brown (2003: 3) test is a method of measuring a person's ability, knowledge, or performance in a given domain. Then, Cohen (2007: 414) also states that in tests, researchers have at their disposal a powerful method of data collection, an impressive array of tests for gathering data of a numerical rather than verbal kind. The test is administered as the instrument because it considers as the most reliable way and it is easy to getting some information. The data collecting tool used in this study was achievement test which was the researcher provide the written test in pre-test before the treatment and post-test after implementing the treatment in the class. so, the test conducted in verbal

and nominal form. There are 20 questions in verbal form and 20 questions in nominal form.

3. Technique of Validating Data

In this research, the researcher used content validity to validate the data. According to Cohen *et al* (2007:137) states that “to demonstrate this form of validity the instrument must show that it fairly and comprehensively covers the domain or items that it purpose to cover in this research that become validator was the lecturer.

D. Technique of Data Analysis

In this research the researcher used several techniques to analyze the data that are:

1. The students' individual score

In this stage, the researcher determined the students individual score by used written test to know the result of pre-test and post-test. Afterwards, to determined students' individual mean score the researcher used the formula below:

$$X = \frac{R}{N} \times 100$$

Where:

X= Students' individual score

R = Students' test score

N = Total number of scoring items

100 = Maximum score

Table 3.3
The criteria for Assessment

Total Score	Representative score in symbol	Qualification
80-100	A	Excellent
70-79	B	Good
60-69	C	Average
50-59	D	Poor
<50	E	Very poor

Taken from: Writing English Language Tests by

J.B.heaton,(1988:96)

2. The mean score

After the steps above was done, the researcher did the next step which calculated the mean score of the students' pre-test and post-test that can be formulated as follows:

$$M_1 = \frac{\Sigma x_1}{N} \quad M_2 = \frac{\Sigma x_2}{N}$$

M_1 = the students mean score of Pre-Test.

M_2 = the students' mean score of Post-Test.

ΣX_1 = the students' of individual score of Pre-Test.

ΣX_2 = the students' of individual score of Post-Test.

N = the total number of students.

Heaton (1988:177)

3. The analysis for students' different score of pre-test and post-test

After determined the mean score the researcher analyzed students' different score of pre-test and post-test by used the formula showed below:

$$M_D = M_2 - M_1$$

Where:

M_D = the different students' mean score of pre-test and pre-test.

M_2 = the students' mean score of post-test

M_1 = the students' mean score of pre-test

4. The normality test

In order to know if the data distributed as normal distribution or not the researcher needed to account the normality of the test. If the data distributed as normal, it means that the researcher might be carry out the t-test. If the data not normally distributed, the researcher was not able to use t-test. But, if it is not, the researcher could use another alternative using the Mann Whitney U test with SPSS 16. Furthermore, in order to require the data as a normal distribution or not, the researcher used SPSS 16 One-Sample Kolmogrov-Smirnov Test can be seen in chapter IV.

5. The Analysis of the Significance of the Students Score

In order to know the test significant of the score of pre-test and post-test, the researcher considers the type of statistic which appropriate with the data. If the data in normal distribution, the researcher used the parametric statistic by using Paired-samples t-test. Paired –samples t-test

compares the mean between pretest and posttest, to analyze the data the researcher used SPSS 16 to help the researcher to find it out.

6. Testing of Hypothesis

In this research, it is important to know does the hypothesis can be accepted or not. It means that the testing hypothesis in this research is aimed to find out whether the hypothesis which is formulated in previous part can be accepted or not. It is important, because it helped the researcher to know that the hypothesis have been formulated well and could be accepted. Furthermore, the researcher had collected the data from the result of pretest and posttest. Then, the researcher analyzes the data using SPSS 16.0 by One-Sample Kolmogrov-Smirnov. If the sig value ($p < 0,05$ sig table (α), it means the data is significant different or that means H_a is accepted. But if the sig value ($P > 0,05$ sig table (α), it means the data is have no significant different or that means H_a is rejected. The result of this analysis determined whether the hypothesis formulated in this research can be accepted or not.