

CHAPTER III

RESEARCH METHOD

This chapter present seven topics dealing with the research method those are research design, population, sampling and sample, research instrument, validity and reliability testing, data collecting methods and data analysis.

A. Research Design

In accordance with the objectives of the research that is to improve a certain condition in the setting where the research was done, the research approach used in this research is a pre-experimental research design using quantitative approach with one group pretest-posttest design. In pre-test, that provided a measure on some characteristic that you asses for participants in an experiment before they received a treatment. In post-test that provided a measure on some characteristic that assesed for participants in an experiment after a treatment.

Creswell (2012:294) says that an eperimental design is thetraditional approach to conducting quantitative research or experimental are procedures in quantitative research in which the investigator determines whether an activity or materials make a difference in results for participants. Gay (1992:298) also said that experimental method is the only method of research that can truly test hypotheses concerning cause and effect relationships.

The researcher used a pre-experimental because the researcher want to search cause and effect between the independent and dependent variables.

The illustration of the research design in this study is:

Table 3.1 A diagram of One Group Pretest –Posttest

Y1	X	Y2
PRE-TEST	TREATMENT	POST-TEST
	(Independent Variable)	(Dependent variable)

Y1 : students' achievement on writing skills before being taught by using weekly reports tasking

X : weekly reports tasking that treatment

Y2 : students' achievement on writing skills after being taught by using weekly reports tasking

The procedures of pre experimental research that use One-Group Pretest-Posttest design are described:

1. Administering a pre-test before applying strategy with a purpose of measuring writing achievement of tenth grade students at SMK NU Tulungagung.
2. Applying the experimental treatment teaching writing by using weekly reports.
3. Administering a post-test after applying strategy with a purpose of measuring writing achievement of tenth grade students at SMK NU Tulungagung.

In this study, the researcher used pre-experimental treatment are determined by comparing the pretest and posttest scores. The purpose to identify the effectiveness of weekly reports tasking on the student's ability in writing recount text at SMK NU Tulungagung.

B. Population, Sampling, and Sample

1. Population

Population is all the subject of the research. According to Creswell (2012:142), population is a group of individuals who have the same characteristic.

In practice, quantitative researcher samples' from lists and people available. A target population (or the *sampling frame*) is a group of individuals (or a group of organizations) with some common defining characteristic that the researcher can identify and study. In this study, the population are all of the first grade students of SMK NU Tulungagung which consist of three class (Farmasi, Multimedia, Teknik Komputer & Jaringan, and Teknik Sepeda Motor).

2. Sampling

Sampling is the act, process, or technique of selecting a suitable sample, or a representative part of a population for the purpose of determining parameters or characteristics of the whole population (Fridah, 2002: 1). The primary goal of sampling is to get a representative sample, or a small collection of units or cases from a much larger collection or population. In an ideal situation, the researcher select a sample of individuals who are representative of the entire population. In this research, the researcher used probability sampling. The sampling type was random sampling. According Creswell (2012: 143), in simple random sampling, the researcher selects participants (or units, such as schools) for the sample so that any individual has an equal

probability of being selected from the population. The intent of simple random sampling is to choose individuals to be sample members are quite active in teaching learning process, pay more attention when the teacher explain the material than they make noise in the classroom and have good attitude. The researcher using random sampling to get the sample from all class of X class. And the appropriate class who have choose by using random sampling is X Farmasi class. Therefore, the researcher choses X class as sample in this research.

3. Sample

Within this target population, the researcher then select a sample for study. According to Creswell (2012:142), a sample is a subgroup of the target population that the researcher plans to study for generalizing about the target population. Based on the description above, the researcher got sample from population with certain sampling technique. The sample of this research was the students of X Farmasi which consist of 31 students.

C. Description of Treatment

This study was conducted in SMK NU Tulungagung. The research chooses this class recommended by English Teacher in SMK NU Tulungagung, the teacher suggest in the tenth Pharmacy Class because in this class almost student more active in teaching English. This study used Weekly Reports Tasking to teach writing recount text. Before the researcher was conducting a treatment, the researcher discussed first with the teacher and he

explained about the condition of the tenth Pharmacy Class. Although in this class the student more active, but they still difficult in writing recount text. So, the researcher offered teaching recount text by Weekly Reports Tasking. the teacher said that there is never teaching recount text by weekly reports tasking, almost teacher using diary or experience of student on the past. On this research, researcher asked the teacher to get 3 meetings for conducted.

Table 3.2 The schedule of treatment

NO.	Procedure of study	
	Date	Theme/Material
1.	April 12, 2018	Language Features of Recount Text
2.	April 19, 2018	Language Use in Recount Text
3.	April 26, 2018	Generic Structure of Recount Text

The treatments will be conducting for three days because the teacher explains about basic of recount text (grammar, vocabulary, and generic structure of recount text). The first activity, the teacher was giving stimulation for student. After that the teacher explains about grammar (past tense), and then the teacher asks students to identify the structure of simple past tense in the form of verb 1 and verb 2. On the second meeting for treatment, the teacher ask student to identify difficult word from the recount text that given then the student gives a meaning for difficult word that was identification. On the third meeting the teacher teaches about generic structure of recount text. After the student knows all of material, teacher ask student to make recount text about “My Holiday”.

D. Research Instrument

Instrument has important function in this research. Instrument is one of the significant steps in conducting this research. According to Creswell (2012:157), an instrument reasearch is to measure the variables in the study may not be available in the literature or commercially. Developing an instrument consists of several steps, such as identifying the purpose of the instrument, reviewing the literature, writing the questions, and testing the questions with individuals similar to those the researcher plan to study.

As an experimental research, the main instrument used in this research is test. The materials of the test was taken from English book which related to student's subject and based on KTSP. There were kinds of test in this research.

1. Pre-test

To measure the student's ability before the treatment process. The purpose of this test is to know the basic competence for student and their earlier knowledge before they get the treatment. Then, the score of the test will be determine between pre-test and post-test.

2. Post-test

To measure their ability after the treatment process. The purpose of this test is to know the basic competence for students and their knowledge after they get the treatment. It is done to know the final score and to know the student difference achievement before and after the treatment.

3. Try Out Test

Before administering the test, the researcher conducted the try out test to know whether the test was reliable or not. The test was conducted on March, 2018. The test was in the form of writing test by using weekly reports. To get the score, the researcher used a rubric to assess the writing test. The respondent is 24 students of MA Al Mushlihun Tunggangri Kalidawir Tulungagung of X-MIA class.

E. Validity and Reliability Theory

The researcher used validity and reliability because it is an important characteristic that every measuring instrument should pass. According to Creswell (2012:159), reliability and validity are bound together in complex ways. Validity can be thought of as the larger, more encompassing term when assessing the choice of an instrument. Reliability is generally easier to understand as it is a measure of consistency. If scores are not reliable, the scores are not valid; scores need to be stable and consistent first before the scores can be meaningful.

The ideal situation exists when scores are both reliable and valid. So, the scores need to be stable and consistent before they can be meaningful.

1. Validity

Validity assesses or measures what is supposed to be measured. The material of the test must be the same as the material which is given in the teaching learning process. According to W. Creswell (2012:159), Validity is the development of

sound evidence to demonstrate that the test interpretation (of scores about the concept or construct that the test is assumed to measure) matches its proposed use.

In this test, the researcher asked student to answer the essay test to measures student's writing skills. The researcher made this test based on the course objectives in the syllabus of tenth grade students of SMK NU Tulungagung.

2. Reliability

Reliability is the results of assessment in producing the score on different testing are consistency. According to Creswell (2012:159), reliability means that scores from an instrument are stable and consistent. Scores should be nearly the same when researchers administer the instrument multiple times at different times. Also, scores need to be consistent. When an individual answers certain questions one way, the individual should consistently answer closely related questions in the same way.

In the try out test, the researcher used Cronbach's Alpha to know the reliability of the test. For the qualification of pre-test and post-test, there are 5 aspect will be scored. They are composing, style, sentence formation, usage and mechanics. The students got 4 score for the highest score and 1 for the lowest score. The researcher tried to check the empirical reliability by using Cronbach's Alpha and to analyze the reliability the researcher used SPSS 16.0 after trying out the instrument.

The criteria of reliability according to Sujianto (2009:97), the value of Cronbach's Alpha as follows:

Cronbach's Alpha	Interpretation
0,00-0,20	Less reliable
0,21-0,40	Rather reliable
0,41-0,60	Quite reliable
0,61-0,80	Reliable
0,81-1.00	Very reliable

Table 3.3 The Scores' Criteria

1. Reliability of Pre-test

Table 3.4 Reliability of pre-test by using Cronbach's Alpha Tryout

Case Processing Summary

		N	%
Cases	Valid	24	100.0
	Excluded ^a	0	.0
	Total	24	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.774	2

The table showed that the result of Cronbach's Alpha is 0.774. It is conclude that the instrument of pre-test is reliable.

2. Reliability of Post-Test

**Table 3.5 Reliability of post-test by using
Cronbach's Alpha Tryout**

Case Processing Summary

		N	%
Cases	Valid	24	100.0
	Excluded ^a	0	.0
	Total	24	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.799	2

The table showed that the result of Cronbach's Alpha is 0.774. It is conclude that the instrument of post-test is reliable.

F. Data Collection Method

The researcher collecting the data by giving test. According with Donald, Lucy, and Chris (2006:201), test is valuable measuring instrument for educational research. Test is set of stimuli presented to an individual in order to elicit responses on the basis of which a numerical score can be assigned.

The test is used to get the data of the students of the student's writing skills. The researcher uses the essay test/writing test to test the writing skills. There are procedures of conducted the research:

1. Pre-test

Pre-test was given to the students before the students being taught writing skills by using weekly reports. The purpose of this test is to know the student's ability in writing skills before the students got the treatment.

2. Post-test

Post-test was given to the students after the students being taught writing skills by using weekly reports. The purpose of this test is to know the student's ability in writing skills after the students got the treatment.

G. Data Analysis

The collected data was processed by comparing with the first data (pre-test) and the second data (post-test) to see wheter there will be significant difference after give by the treatment or not.

The data result (post-test) of writing ability was data score of writing ability test by using weekly reports. The first data is student's scores before being taught writing skills by weekly report (pre-test). The researcher gives the student a test after get the treatment to get achievement of writing ability test in teaching writing by using weekly report. Weekly report maked by the student's ability was study before in one chapter. It is to know there is any

significant difference on student's ability in writing skills before and after being taught by using weekly reports. The researcher in this research used paired sample-T-test with formula of t-test and using SPSS 16.0 for windows.

The formula of t-test as follows:

1. The researcher finds out the mean of pre-test (x) and mean of post-test (y), the formula is:

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

$$y = \frac{\sum y}{N}$$

Where:

$\sum x$: Total score of pre-test

$\sum y$: Total score of post-test

N : total number of students

2. Then, the researcher finds out the mean of differentiate pre-test and post-test, the formula used is follow:

$$Md = \frac{\sum d}{N}$$

Where:

Md: the mean of differential pre-test and post test

$\sum d$: sum of different between post-test and pre-test

N : total number of students

3. Next, the researcher finds out the data percentage, the researcher used formula:

$$P = \frac{f}{n} \times 100\%$$

Where:

P : percentage of data

f : frequency of the counted value

n : number of students

4. After that, the researcher finds out the standard deviation, the formula used is:

$$S = \sqrt{\frac{\sum x^2 - \frac{(\sum x)^2}{N}}{N-1}}$$

$$S = \sqrt{\frac{\sum y^2 - \frac{(\sum y)^2}{N}}{N-1}}$$

Where

S : standard deviation

$\sum x^2$: sum of pre-test quadrate score

$\sum x$: sum of pre-tes score

$\sum y^2$: sum of post-test quadrate score

$\sum y$: sum of post-test score

N : number of students

5. Then, the researcher finds out the total number of quadrate deviation ($\Sigma x^2 d$), the formula is:

$$\Sigma x^2 d = \Sigma d^2 \cdot \frac{(\Sigma d)^2}{N}$$

Where:

$\Sigma x^2 d$: total number of quadrate deviation

Σd : sum of different between post-test and pre-test

N : number of students

6. Next, the researcher finds out the t-test by using formula:

$$t_{count} = \frac{Md}{\sqrt{\frac{\Sigma x^2 d}{N(N-1)}}}$$

where:

Md : mean different of pre-test and post-test

$\Sigma x^2 d$: total of quadrate deviation

N : number of students

7. Finally the researcher looks for t-table distribution with significant 5%

$$df = N-1$$

where:

df : degree of freedom

N : number of students

The criteria for accepting or rejecting the hypothesis are: if the significance value bigger than 0.05 means that H_0 is rejected and H_1 is accepted. On contrary, if the significance value smaller than 0.05 means that H_0 is accepted and H_1 is rejected.