CHAPTER III

RESEARCH METHOD

This chapter presents about the research method that used in conducting the research. It covers research design, population and sample, research instrument, validity and realibility, data collection method, and data analysis.

A. Research Design

This research uses a quantitative research, where the strategy that is used in this research is experimental design. According to Ary et al (2010:26) experimental study is scientific investigation in which the researcher manipulates and constructs one or more independent variables and observes the dependent variable or variables. Experimental research is classified into pre-experimental design, true experimental, and quasi-experimental.

In this study, the writer uses pre- experimental design because it is not visible for the writers to conduct random assignment to determine the sample of the research. According to Ary et al. (2010:303-305), there are two kinds of pre-experimental design, they are one-group pretest-posttest design and static group comparison. In this research, the researcher uses one-group pretest-posttest design because of the feasibility to conduct the research in two classes. The design is illustrated as follow:

Table 3.1 The Design One-Group Pretest–Posttest Design adapted from Ary et al. (2010).

Pretest	Treatment (Independent variable)	Posttest
Y_1	X	Y_2

Notes:

Y1   : students' achievement on reading recount text before being taught by usingflipped classroom.

X   : flipped classroom treatment

Y2   : students' achievement on reading recount text after being taught by using flipped classroom.

     The procedures of experimental research that use one group of pre-test and post-test design are:

1.   Administering a pre-test before applying flipped classroom with a purpose of measuring reading achievement of eighth grade at MTs Al-Huda Bandung.

2.   Applying the experimental treatment teaching reading by using flipped classroom to the subjects.

3.   Administering a post-test after applying flipped classroom with purpose of measuring reading achievement of the eighth grade at MTs Al-Huda Bandung.

     In this research, the researcher wants to see whether the flipped classroom is effective in teaching reading for eighth grade students of junior high school by comparing the pre-test and post-test scores.

B.   **Populatin, Sample, and Sampling**

1.   **Population**

According to Sugiyono (2015:117) population is generalization region than consist of subject, subject have quality and certain characteristic who prescript by researcher for study to pull the conclusion. The population of this research is all of students from eighth grade in MTs Al-Huda Bandung Tulungagung which consists of 156 students. For full-day class consist 18 students and regular class consist 138 students.

Table 3.2 Population of Research

No.	Class	Gender	
		Male	Female
1	VIII-A	11 students	7 students
2	VIII-B	15 students	17 students
3	VIII-C	16 students	18 students
4	VIII-D	21students	16 students
5	VIII-E	20 students	13 students
Total students		156 students	

2.   **Sample**

The important step in conducting the research is selecting the sample. Sample is a part of population which is used to generalize the finding due to the researchers' limitation of time, capability, etc to take all members of population. Ary et al. (2010:148) state that sample is the small group that is observed. It means that several students who become the subject of the research. In this research, the researcher takes one class because in this school for full-day class

only exist one class every level . It is eighth A (full-day) class that consist of 18 students that include 11 male and 7 female.

3.   **Sampling**

Sampling is a technique to take sample from population. Sampling technique is needed as representative sample of the whole population. In this research, the researcher uses purposive sampling. In purposive sampling, sample has been chosen for a specific purpose (Cohen et al, 2005:103). The researcher chooses purposive sampling technique because she doesn't have authority to make a new class only for research. So, the sample is determined by the teacher.

C.   **Research Variable**

A variable is a construct or a characteristic that can take on different values or scores (Ary et al., 2010:37). There are two kinds of variable in this research. They are independent variable and dependent variable.

1. Independent variable

Ary et al. (2010:266) state that the independent variable is manipulated (changed) by the experimenter. It means that the independent variable can   give effect to dependent variable. The independent variable in this research is flipped classroom which is symbolized by "X".

2. Dependent Variable

According to Ary et al. (2010:266), the variable on which the effects of the changes are observed is called the dependent variable, which is observed but not manipulated by the experimenter. So, the dependent variable is an outcome from

the effect of the independent variable. The dependent variable in this research is achievement of reading recount text which is symbolized by "Y".

D.   Research Instrument

Research instrument is tool of collecting data. Instrument is a tool used to measured natural phenomena or social will be observed (Sugiyono 2015:148). The instrument of this research is test. Arikunto (2006:127) states that test is a series, question, exercise or other means which used to measure the skill, knowledge, intelligent, ability or talent that have by individual or group. Thus a test is a method to gain the data by giving some questions to the respondent. The test was developed from K13 and syllabus which was used by MTs Al-Huda Bandung Tulungagung and seeing the standard competence. After knowing the standard competence, researcher developed some indicators that must be reached by the students. From those indicators, researcher developed the test that consists of two kind test; pretest and post- test.

The test were in the form of objective test that are multiple choices. The researcher requires 20 questions which is 20 questions of multiple choices. The score the objective tests the researcher treats them without any differences. Means, there was only one correct answer for each items. The test is used to measure the process that students making after learn something in achieving objects.

E.   Validity and Reliability Testing

1.   Validity

The result of research called valid if there is the similarity between gotten data and actually happened to research object. Valid instrument is measurement's tool

uses to get data. Brown (2000:387) stated the degree to which the test actually measured what it is intended to measure. There are four types of validity; content validity, criterion validity, construct validity, face validity. In this research, the researcher analyzed the test from content validity, construct validity, and face validity.

a.   Content Validity

The test can be said to have content validity if the content of the test match or appropriate with sample of language skill. Ary et al (2010:226) stated that to have a content validity, the instrument are representative of some defined universe or domain of content. In this study the test had content validity because his test based on the curriculum objective and objective being assessed. This content validity can be showed as follow:

Table 3.3 Content Validity

Learning Objects	Type of Test	Test item
Menerapkan struktur teks dan unsur kebahasaan untuk melaksanakan fungsi sosial menyatakan dan menanyakan tindakan/kejadian yang dilakukan/ terjadi di waktu lampau, sesuai dengan konteks penggunaannya	Multiple Choice	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 18, 19

Menyusun teks lisan dan tulis untuk menyatakan dan menanyakan tentang tindakan/kejadian yang dilakukan/ terjadi di waktu lampau, dengan memperhatikan fungsi sosial, struktur teks, dan unsur kebahasaan yang benar dan sesuai konteks	Multiple Choice	20

b.   Construct Validity

Construct validity is validity which show how far the tests are suitable with the theory that becomes a foundation on composing those tests. Construct validity deals with the relationship between a test and a particular view of language and language learning (Johnson, 2001: 303). In this research, the test had high construct validity since it contained prompt in form of guided questions to measure students' skill in reading of recount text. See the construct of validation in the term of blue print.

c.   Face Validity

Face validity is sometimes used in describing tests. Basically, face validity refers to the degree to which a test visible to measure what it purpose to measure (Gay, 1992:156). In this study the researcher wants to know the students' score in reading after given treatment. Therefore the tests were in the form of objective test. It is a test such as one using multiple choice questions, in which the feelings or opinions of the person marking it cannot affect the mark given. In this test, there are some aspects that are consideration from this test to make a good test based on the validity.

a. To check that the instruction must be clear and understandable for the students

b. The test is suitable with syllabus and their level.

c. Time allocation must be given clearly.

2.   Reliability

The way to know a good test is by reliability. Ary (2002:250) states that reliability is concerned with the effect of such a random errors of measurement on the consistency of the scores. Reliability is the consistency of the measurement, or degree to which an instrument measures the same way each time it is used under the same condition with the same subject.

To measure that reliability of test item, the researcher firstly gained Try out. It is to know whether the instrument suitable or not. In this research, the researcher used SPSS 16.0 for windows to know the reliability of test instruments.

To describe the result of Cronbach's Alpha, the researcher used standard of George and Malley (as cited in A. Gliem and Rosemary R. Gliem, 2003) who argue the requirements bellow:

a) If $0,9 > \alpha > 1,0$; means that it is excellent.

b) If $0,8 > \alpha > 0,89$; means that it is good.

c) If $0,7 > \alpha > 0,79$; means that it is acceptable.

d) If $0,6 > \alpha > 0,69$; means that it is questionable.

e) If $0,5 > \alpha > 0,59$; means that it is poor.

f) If $\alpha < 0,5$; means that it is unacceptable.

Table 3.4 Reliability of pre-test

Reliability Statistics

Cronbach's Alpha	N of Items
.703	20

Table 3.5 Reliability of post-test

Reliability Statistics

Cronbach's Alpha	N of Items
.716	20

From the computation in SPSS, the reliability value of multiple choice pre-test was 0,703 and value of post-test 0,716. Based on the Cronbach's scale on the Cronbach's value between $0,7 > α > 0,79$ so it can be said that the instrument was acceptable.

F. Normality And Homogenity Testing

a. Normality test are used to determine whether a data set is well-modeled by a normal distribution or not, or to compute how likely an underlying random variable is to be normally distributed. Normality test is intended to show that the sample data come from a normally distributed population.

To know the normality the researcher used *Kolmogorov-Smirnove test* by using SPSS 16.0. *Kolmogorov-Smirnove D test* is a test of normality for large samples. If the result are significant, then the null hypothesis of no difference between the observed data distribution and normal distribution is rejected. Simply put, a value less than 0.05 indicates that the data are non-normal.

b. Homogeneity testing is conducted to know whether the sample data has a homogeneous variance or not.

G.   Data Collecting Method

To get the data, the researcher proceeded with test. According to Arikunto (2010:193) test is sequence of questions or practice which used to measure skill, intelligence knowledge, ability or potency of someone or a group. In this research the data collection method is administering test that consist of pre test and post test. The procedure of administering test was clarified as follow:

1.   Pre-test

As the first meeting, the researcher gave a pre test to the students. It was conducted to know students' score in reading comprehension before being taught the treatment. The test is given in order to know how far the students ability in reading comprehension of descriptive text. The pre test consist of 20 items in multiple choices. The pretest is reading and answering the question in form of recount text that decided by the researcher. After finishing the test or student work, the researcher calculate the score of pretest. The aim of calculating is to know the result of pre-test before being taught by using Flipped Classroom or the treatment. Then the score of the test will be determine between pre-test and post-test. Each student's assignment scored by using calculating bellow:

Gain score× 5

2.   Treatment

After administering pre-test, the researcher gave the treatment to the students. The treatment was done in 2 times. The steps of flipped classroom strategy in teaching reading recount text were:

a. Outside the classroom.

1.   Researcher shared a video teaching about recount text explanation through the researcher whatsapp group that the researcher has been made. Students were able to download the video through their laptop or smartphone.

2.   Students watched the video at home or wherever place that the students comfort to study in. They can also study individually or peers.

3.   During watching the video, students took some notes from the video and wrote a problem that they faced when they learn from the video.

4.   Students gave some exercise through the video.

b.   Inside the classroom

1.   Teacher asked what they had learned from the video and corrected the answer that the student had to answer in the video with the class.

2.   Teacher asked them whether there was something that they did not understand by the video.

3.   Teacher gave students a recount text.

4.   Teacher divided the students into 4 groups contain of 4 or 5 students.

5.   In group, students identified and explored the recount text of the paragraph to get the main idea from the first paragraph.

6.   Using their own words, students wrote important information from the text.

7.   This activity continued till the end of paragraph.

8.   Teacher and students discussed the content of the text. Teacher can point one of the groups to share their notes about the text. Teacher controlled and provided the right answer while checking the answer.

9.   Teacher evaluated the learning process.

3.   Post-test

The post-test is given to the students after conducting the treatment of using Flipped Classroom to increase students' reading comprehension. Similarly to pre-test the post-test also consist of 20 items in multiple choices. After the treatment process, researcher continued to deliver a post-test that would be given to the controlled group and the experimental group. The purpose of this test was to know the achievement of both groups after getting the treatment. After the researcher got the pre-test and post-test from full-day class, the researcher did the data analysis to found out whether there was an improvement in students' reading comprehension.

H.   Data Analysis

Data analysis is the way data analyzed by the researcher. In managing and analyzing the data collected, the researcher use quantitative data analysis by using statistical technique. The analysis is used to find the significant difference of the students' writing achievement before and after using Flipped Classroom. Analyzing data is a process of analyzing the acquired from the result of the

research. The data which is needed in this research have been collected in reading recount form.

I.   **Hypothesis Testing**

The hypothesis of this study is as follows:

a.   If the significant value is smaller than significance level (0.05), the alternative hypothesis (H_a) is accepted and the Null Hypothesis (H_o) is rejected. It means that there is no different score between use Flipped Classroom and do not use Flipped Classroom towards students' achievement in reading.

b.   If the significance value is bigger than significance level (0.05), null hypothesis (H_o) is accepted and the alternative hypothesis (H_a) is rejected. It means that there is different score between use Flipped Classroom and do not use Flipped Classroom towards students' achievement in reading.