CHAPTER III

RESEARCH METHOD

This chapter contains the description of the method employed in the research. The description covers research design, population and sample, research instrument, validity, and reliability testing, data collecting method, and data analysis.

A. Research Design

This research used quantitative research. Quantitative research is explaining phenomena by collecting numerical data that are analyzed using mathematically based methods in particular statistics (Aliaga and Gunderson in Mujis, 2004 : 1)

In this research, the researcher used the experimental research. According to Ary at all (2010:26) experimental research involves a study of the effect of the systematic manipulation of the variable on another variable. The manipulated variable is called the experimental treatment or the independent variable. The observed and measured variable is called the dependent variable.

There are many kinds of the experimental. According to Sukmadinata (2013:203) there are many kinds of the experimental, such as true experimental, quasi experimental and pre experimental. In this research the researcher was conducted in the quasi experimental research

design named Nonrandomized Control Group Design. The purpose of the teacher using quasi experimental research as a design because the researcher to know different effect of the treatment between the experimental classes that was taught teaching by using picture series and control classes which was taught without using picture series.

Table 3.1 Nonrandomized Control Group Pretest – Posttest

Group	Pretest	Independent Variable	Posttest
C	Y1	X	Y2
D	Y1	-	Y2

(Taken From Ary, 2010:316)

Where :

C : Experimental group

D : Control group

Y1 : Pre-test

Y2 : Post-test

X : Treatment on the experimental group

B. Population and Sample

1. Population

A population, according to Ary (2002:162-163) is all members of any well defined class of people, events, or object. It means that the population is a group of subjects, it can be person or things, to whom or which the findings of the research are to be applied.

In according to the topic of the research, the population was all of the students at the eighth grade of MTS Darul Hikmah Tawangsari Tulungagung in academic year 2016/2017. There were four classes. The total number was 135 students.

2. Sample

Selecting sample is very important step in conducting a research. According to Ary, at.al (2010:149) the small group that is observed is called a sample and the larger group about which the generalization is made is called a population. A sample is a portion of a population. It means that a good sample must represent the entire populations as good as possible, so that the generalization of the sample as true as population.

In addition, Cohen, et. Al (2005:92) stated that the quality of a piece of research not only stands or falls by the appropriateness of methodology and instrumentation but also by the suitability of the sampling technique that has been adopted. The researcher used the sample of two classes that were chosen as the sample by using the purposive sampling technique in choosing the class. According to Ary (2002:163) purposive technique sampling technique is a portion of population from whom or which data are collected.

In this research the researcher selected classes 8C that consist of 34 students as the experimental group was taught by using picture series.

Whereas, class 8D consisting of 32 students was selected as the control group of this study which was taught without using picture series.

C. Instrument

Instrument is tool of collecting data that should be valid and reliable. According Ary et.al (2010:201) tests are valuable measuring instruments for educational research. A test is a set of stimuli presented to an individual in order to elicit responses on the basis of which a numerical score can be assigned. This score, based on the representative sample of the individual's behavior, is an indicator of the extent to which the subject has the characteristic being measured.

The instrument to collect the data in this research was test. The data were in the form of students' achievement on writing tests. The test was used to measured students' ability in writing recount text. The test was done twice, before and after treatment (pretest-posttest). The pretest was used to see the students' achievement in writing recount text before treatment was given and the posttest was used to see students' achievement in writing recount text after given treatment. To access students writing the researcher set up analytic scoring rubric which included the criteria like as; Content, Organization, Vocabulary, Grammar, Mechanic. The complete form of the writing scoring rubric can be seen in the Appendix 1.

D. Variable

A variable is defined as anything that has quantity or quality that varies. According to Santrock (2004:47) explained that a variable is the characteristic or attribute of individual, group, or educational system that researcher is interested in. There are two types of variable as follows;

1. Independent Variable

   Independent variable is a factor that affects a dependent variable. In this study, the independent variable is a use picture series in teaching recount text.

2. Dependent Variable

   Dependent variable is a variable that the researcher is interested in to change or to be affected. In this study, the dependent variable is a student's achievement in writing recount text.

E. Procedure of Treatment

Treatment was given after administering the pretest and before the posttest. The treatment conducted by the researcher on Saturday, 16th on April, 20[th,] 22[nd,] 24th 2017. The procedure of teaching followed Gerlack, at al. (1890:273-274) with some modification involving; (1) the researcher conveys about simple past tense, (2) the researcher shows the example of recount text, (3) the researcher asks the student to identify the generic structure and language feature of recount text, (4) researcher explains more about the media, (5) the researcher asks the students to make match story

with the sentence that was arranged, (6) the researcher review about the material, (7) the researcher give the opportunity to ask about picture series, (8) the researcher ask the students to make outline and submit the assignment.

For the detail the procedure of treatment is as follows:

1. First Treatment was conducted on April, 16th 2017

In the beginning the researcher conveyed about simple past tense and discussed the main points of recount text. After that the researcher introduced the media that are used in teaching writing recount text. The media that used is picture series or sequence of picture. The researcher ask the students to made a match the picture series with the sentence that was arranged. As soon as the students ask to make sentence based on the picture that given.

2. Second Treatment was conducted on April, 20th 2017

The researcher review about material and the researcher remind how to do the exercise based on explanation before. In the second treatment the researcher has given exercise to the students. Students asked to write recount text based on the picture that given by teacher.

3. Third Treatment was conducted on April, 22nd 2017

The researcher gave exercise to the students. The students asked to write paragraph with the recount text based on the serial picture that given by researcher.

4. Fourth Treatment was conducted on April, 24th 2017

The researcher gave exercise to the students. The researcher patch the picture series in the white board and ask the students to make a suitable paragraph that given by the researcher. The students ask to make outlining based on the picture series and write down the story based the result of outlining.

F. Validity and Reliability

1. Validity

Validity is the most important consideration in developing and evaluating measuring instruments, (Ary, et.al, 2010:225). Fraenkel and Wallen (2009:147) give addition that validity is the most important idea to consider when preparing or selecting an instrument for use. More that anything else, researchers want the information they obtain through the use of an instrument to serve their purposes. The drawing of correct conclusions based on the data obtained from an assessment is what validity is all about.

There are four types of validity; content validity, criterion-related validity, constructs validity, and face validity. In this study, the instrument tested by using *content validity, face validity, and construct validity* because those are relevant with this research.

a. Content Validity

Lodico et al. (2006:93) state the content validity is composed of two items of validity, sampling validity and item validity. Both sampling validity and item validity involve having experts examine items that make up the instrument.

A test was said have content validity if its contents constitute a representative sample of language skills, structures, etc, being tested beside that the content of instrument has also to relevant with the purpose of the test. In this case, the content of the test should refer to the "School Based Curriculum (SBC)". Based on the standard competence in syllabus of SBC, it is mentioned that the eight grade of Junior High School are expected able to comprehend the meaning in the simple short essay in the form or recount text to interact with the society around them. Based on the standard competence above, the students are expected to be able to read a simple text in the form of recount text.

In this research, the content of items in testing used recount text. It was suitable for the eighth grade students of MTS Darul Hikmah Tawangsari Tulungagung.

Table 3.2 Matrix of Content Validity

Main Competent	Basic Competent	Indicator	Instruction	Item
6. Mengungkapkan makna dalam teks tulis fungtional dan esai pendek sederhana berbentuk recount untuk berinteraksi dengan lingkungan sekitar.	12.2 Mengungngkapkan makna dan langkah retorika dalam esai pendek sederhana dengan menggunakan bahasa tulis secara akurat, lancar dan berterima untuk berinteraksi dengan lingkungan sekitar berbentuk recount text.	1. Write your full name, class, day/ date. 2. Make a Recount text with title of "My Great Day" story in 70 minutes. 3. Write at least three paragraphs. 4. Write a paragraph consist of orientation, sequence of events, and reorientation. Pay attention to content, organization, vocabulary, grammar, mechanic.	1. Write your full name, class, day/ date. 2. Make a Recount text with title of "My Great Day" story in 70 minutes. 3. Write at least four paragraphs. 4. Each paragraph consist 5 until 10 sentence. 5. Write a paragraph consist of orientation, sequence of events, and reorientation. 6. Pay attention to content, organization, vocabulary, grammar, mechanic.	1

b. Face Validity

The test is said to have face validity if it measures what is supposed to measure. This research was done to know the effectiveness of using picture series as a media to improve the student's ability in writing recount text, so the test should in the form of writing test. Related to this research, the researcher asked the students to write a recount text. It showed that the test was valid based on face validity

c. Construct Validity

Construct validity of a test as the extent to which a test is measuring the psychological construct it is intended to measure. Specifically, construct validity of experiments is defined as the validity of the inferences made about a construct based on the measures, treatment, subjects, and settings used in an experimental study. In this research, the test had high construct validity since it contained prompt in form of guided instructions to measure students' skill in writing a recount text.

Besides, the researcher tried to check the empirical validity by using SPSS 16.0 after trying out the instrument (pre-test and post-test). In this research, the researcher used SPSS 16.0 for windows to know the validity of test instruments. It can use corrected item-total correlation formulation. The criteria of validity of the instrumen can be divided into 5 classess as follows (Ridwan: 2004) :

1. If the *item-total correlation* score 0.00 – 0.20: less valid

2. If the *item-total correlation* score 0.21 – 0.40: rather valid

3. If the *item-total correlation* score 0.41 – 0.60: enough valid

4. If the *item-total correlation* score 0.61 - 0.80: valid

5. If the *item-total correlation* score 0.81 – 1.00: very valid

In this test, the researcher asked students to write story to measure students' ability in writing. The researcher made this test based on the

course objectives in the syllabus of first grade of MTS Darul Hikmah Tawangsari Tulungagung.

Table 3.3 Result of Validity

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
VAR00001	75.0000	9.778	.679	.[a]
VAR00002	74.7000	8.900	.679	.[a]

a. The value is negative due to a negative average covariance among items. This violates reliability model assumptions. You may want to check item coding.

Based table on above shows the result item- total correlation was valid based on criteria of validity.

2. **Reliability**

According Lodico et.al (2006:87), reliability refers to the consistency of score, that is, an instrument's ability to produce "approximately" the same score for individual over repeated testing or across different raters.

The computation of this reliability used IBM SPSS Statistics 16 with reliability analysis. The criteria of reliability's degree can be seen on Table below, whereas the reliability's result of tryout and instrument can be seen in appendix 3.

Furthermore, Ary, et.al (2010:236) stated that reliability of a measuring instrument is the degree of consistency with which it measures

whatever it is measuring. This quality is essential in any kind of measurement. On a theoretical level, reliability is concerned with the effect of error on the consistency of scores.

Reliability is the consistency of the instrument in producing the same score on different testing occasions or with different raters. To get reliable the researcher used inter-rater reliability. Inter- rater reliability is achieved when two scorers or two raters do the scoring (Isnawati: 23). Two rater in this research were the English teacher and the researcher herself. This research, the researcher also used SPSS 16.0 for window to know the reliability of test instruments.The criteria of reliability instrument can be divided into 5 classes as follows as follows (Ridwan : 2004), those are:

1. If the *cronbach alpha* score 0.00 – 0.20: less reliable

2. If the *cronbach alpha* score 0.21 – 0.40: rather reliable

3. If the *cronbach alpha* score 0.41 – 0.60: enough reliable

4. If the *cronbach alpha* score 0.61 - 0.80: reliable

5. If the *cronbach alpha* score 0.81 – 1.00: very reliable

In this research, the researcher uses SPSS 16.0 for window to know the reliability of test as instruments intended to use. The result of reliability testing by using SPSS 16.0 can be seen from the table:

Table 3.4 Result of Reliability

Reliability Statistics

Cronbach's Alpha	N of Items
.808	2

Based table on above, that the test can said reliable or not can be seen through cronbach's alpha. The score of cronbach's alpha 0,808 it's means reliable.

G. Normality and Homogeneity Testing

1. The Result Normality Testing

a. Normality Testing of Control Class

The normality testing used to check the data is normally distributed or not. The formula used to test the normality of the data was Kolmogorov - Smirnov test by the value of significant (a) = 0.050. The result can be seen below:

Table 3.5 Result Normality Control Test

One-Sample Kolmogorov-Smirnov Test

		PRETEST	POSTTEST	Unstandardized Residual
N		32	32	32
Normal Parameters[a]	Mean	63.00	75.75	.0000000
	Std. Deviation	5.454	3.927	5.45356105
Most Extreme Differences	Absolute	.268	.206	.266
	Positive	.100	.140	.098
	Negative	-.268	-.206	-.266
Kolmogorov-Smirnov Z		1.517	1.163	1.506
Asymp. Sig. (2-tailed)		.020	.134	.021
a. Test distribution is Normal.				

Based on the table above is known that the significance value from pre-test is 0.1517 and from the post test is 0.1163. Both value from pre-test and post-test are bigger than 0.05. The sig/p value on pre-test is 0.1517 and it is bigger 0.05 (0.1517> 0.05) means that the data is in normal distribution. Then, for post-test score the value of sig/p is 0.1163 and that is bigger than 0.05 (0.1163> 0.05) means that the data is in normal distribution. It also means that H_0 is accepted and H_a is rejected. So, it can be interpreted that both of data (pre-test and post-test score) are in normal distribution.

b. Normality Testing of Experimental Class

The normality testing used to check the data is normally distributed or not. The formula used to test the normality of the data was Kolmogorov - Smirnov test by the value of significant (a) = 0.050. The result can be seen below:

Table 3.6 Result Normality Experimental Test

One-Sample Kolmogorov-Smirnov Test

		PRETEST	POSTTES	Unstandardized Residual
N		34	34	34
Normal Parameters[a]	Mean	65.00	84.50	.0000000
	Std. Deviation	4.905	4.614	4.80920789
Most Extreme Differences	Absolute	.324	.190	.234
	Positive	.154	.159	.125
	Negative	-.324	-.190	-.234
Kolmogorov-Smirnov Z		1.886	1.109	1.362
Asymp. Sig. (2-tailed)		.002	.171	.049
a. Test distribution is Normal.				

Based on the table above is known that the significance value from pre-test is 0.1886 and from the post test is 0.1109. Both value from pre-test and post-test are bigger than 0.05. The sig/p value on pre-test is 0.1886 and it is bigger 0.05 (0.1886> 0.05) means that the data is in normal distribution. Then, for post-test score the value of sig/p is 0.1109 and that is bigger than 0.05 (0.1109> 0.05) means that the data is in normal distribution. It also means that H_0 is accepted and H_a is rejected. So, it can

be interpreted that both of data (pre-test and post-test score) are in normal distribution.

2. The Result Homogeneity Testing

a. Homogeneity Testing of Control Group

Homogeneity testing is conducted to know whether the collected data has a homogeneous variance or not. In this research, the Levene's test is used as a formula by the value of significance (α) = 0.050. The result can be seen below:

Table 3.7 Homogeneity Testing of Control Class

Test of Homogeneity of Variances

Pretest

Levene Statistic	df1	df2	Sig.
1.419	5	20	.260

Based on the table above it is known that the sig/p value is 0.260 higher than 0.05 means H_0 is accepted and H_a is rejected. So, it can be interpreted that the data is homogeneous.

b. Homogeneity Testing of Experimental Class

Homogeneity testing is conducted to know whether the collected data has a homogeneous variance or not. In this research, the Levene's test is used as a formula by the value of significance (α) = 0.050. The result can be seen below:

Table 3.8 Homogeneity Testing of Experimental Class

Test of Homogeneity of Variances
PRETEST

Levene Statistic	df1	df2	Sig.
2.095	6	24	.091

Based on the table above is known that the sig/p value is 0.091 higher than 0.05 means H_0 is accepted and H_a is rejected. So, it can be interpreted that the data is homogeneous.

H. Data Collecting Method

According Arikunto (2010:127) test is a series of questions, or others which are 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.

a. Pre-Test

The pretest is aimed is to know the students' writing achievement before the treatments carried out. This test was administered before the treatment. The pretest is aimed is to know the students' writing ability

before the treatments carried out. It was done on Saturday, 15th of April 2017. The researcher came to the class, and explained the material also told to the students what they had to do. The researcher asked the students to write story about My Great Day by follows instructions. The researcher gave time 70 minutes to finish working on it.

b. Post-Test

The post test was given to the experimental class and control class. It was given in order to know students achievement after they were taught by using picture series (experimental class) and without picture series (control class). In this case, students were asked to make recount text based on the correct order of generic structure. Post test was conducted on Saturday, 25th of April 2017.

I. Data Analysis

Analyzing data is a process of analyzing the acquired from the result of the research. After all the data needed in this research have been collected in writing recount form. The resercher analyzed wheter there is a significant difference between the ability in writing achievement who are taught by using and without picture series. In conducting the test, the writer gave achievement the writing ability of the students. To describe the students achievement in writing recount text, the researcher in this research using SPSS 16 for windows with the independent t-test. If the result of t- test was bigger than at the level of significance 0.05, the null

hypothesis could not be rejected, indicated that picture series was not effective toward students' writing achievement in recount text. By contrast, if significant level was bigger than t-test at the level of significance 0.05, the null hypothesis could be rejected indicating that picture was effective toward students' writing achievement in recount text. And if the significant value bigger than 0.05 means Ho is rejected and Ha is accepted. On contrary, if the significance value smaller than 0.05 means that Ho is accepted and Ha is rejected.