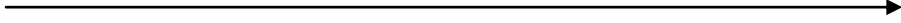# CHAPTER III

RESEARCH METHOD

This chapter presents Research Design, Subject of the Study, Variables, Research Instrument, Validity and Reliability Testing, Normality and Homogenity Testing, Data and Data Source, Data Collecting Method, and Data Analysis.

A. Research Design

Research design is strategy to arrange the setting of the research in order to get valid data. Creswell (2008: 3) states that "research is a process of steps used to collect and analyze information to increase our understanding of a topic or issues." From definition above, it is clear that research method is the way to conduct a research. Therefore, research method can be defined as a method to look for and discover the scientific truth, which is done in valid and reliable work.

This research was conducted in the quasi experimental research design named Nonrandomized Control Group Design. A quasi-experiment is a study that takes place in real-life settings rather than in laboratory settings, they are often considered not truly experimental research, but rather correlational research, which involves identifying statistical relationships between two variables rather than causal relationships (Vanderstoep and Johnston, 2009:37). According to Creswell (2008: 314) Below is the general overview of quasi-experimental design.

Table 3.1 Quasi-Experimental Design

Pre- and Posttest Design   Time

Select Control Group	Pretest	No Treatment	Posttest
Select Experimental group	Pretest	Treatment	Posttest

In this study, the researcher used quasi experimental design (an experimental group and control group). This study was classified as quasi experimental research design where the experimental group typically receives a new, treatment, a treatment under investigation, while the control group either receives a different treatment, or treated as usual. According to Best (1991: 73), the design of the experiment can be described as follows:

Where: $\underline{E\ \ 01\ \ x\ \ 02}$

C 03 y 04

In which

E : Experimental group

C : Control Group

01 : Pre-test for the experimental group

02 : Post-test for the experimental group

03 : Pre-test for the control group

04 : Post-test for the control group

X : Treatment with the hand puppet, and

Y : Treatment without hand puppet

In the design above, the subject were assigned to both of the experimental groups (top line) and control group (on the low line). The writer will check the quality of the subject first by giving a pre-test (01and 03), then give the experimental treatment, in this study, is taught narrative writing skill using hand puppets as a medium, to the experimental group, while the control group is taught without hand puppet as a medium in this research by using explanation.

B. Subject of the Study

1. Population

Population is whole of research subject. In Encyclopedia of educational evaluation noted that a population is a set (or collection) of all elements prossessing one or more attributes of interest (Arikunto, 2010:173). Population based on Ary et al in Sukardi (2003:53) population is all numbers of well defined class of people, events or object. In this study, the populations were all of second grade of MTs Darul Huda Wonodadi consisted of four classes; they were class A, B, C and D. The total population was 111 students.

2. Sample

According to Arikunto (2010:174) sample is a part of population which is researched. Azwar (2010:79) state sample is a part of population. In this study, the researcher took the VIII-D as the experimental group and VIII-C as a control group. This class consisted of 55 students of second grade at Mts Darul Huda Wonodadi. The sample of VIII-C consisted of 14 boys and 13 girls and the sample VIII-D consisted of 12 boys and 16 girls.

3. Sampling

Sampling is a technique of taking sample which gives opportunity for every element or population member to be chosen as sample. In this study the researcher used purposive sampling. Purposive sampling is one of types in non-probability sampling. According to (Sudjana & Ibrahim, 2007:85) purposive sampling is the technique that is used if the researcher has the certain consideration in determining the sample that is appropriate with the purpose of research.

The researcher had taken two classes of fourth classes from the eighth grade of MTs Darul Huda Wonodadi on academic year 2016/2017 exactly VIII C class and VIII D class. Both classes consist of heterogeneous students (high, middle, and low achievement) and these classes were selected based on the consideration such as, those classes are equal in level of English.

C. Variables

Variable is a concept which serves a particular purpose and can be expressed in quantitative or qualitative value. There were two variables in this research. Those variables were independent variables, and dependent variable.

According to Arikunto (2006:118), variable are the subject of a research,or the things that become points of attention of a research. While, Sugiono (2006:60) stated that variable is everything which is in every form which is settled by the researcher to be learnt as the purpose to get the information about these, and then get the conclusion. In this research, the researcher uses two variables, they are:

1) Independent Variable

The independent variable is the major variable which the researcher hopes to use to investigate. According to Sugiyono (2010:61) independent variable is variable that influence dependent variable. It is usually symbolized by "X". In this research, independent variable is the use of questioning strategy

2) Dependent Variable

The dependent variable is the variable which the researcher observes and measures to determine the effect of the independent variable. Sugiyono (2010:61) stated that dependent variable is the variable that influenced because of any independent variable. It is symbolized by "Y". Dependent Variable in this research is the score of the students' writing achievement.

D. Research Instrument

Research instrument is a tool for collecting data that should be valid and reliable. For getting the data about the students' achievement, the writer uses the instrument of test. According to Ary (2010:201) 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. The instrument of the study in this research is tests.

Before conducting test, the researcher followed some procedures below : (1) Selecting some topics of narrative text. (2) Constructing questions based on topics choosen.(3) Consulting the test result both the advisor and the English teacher. (4) Revised it based on suggestion. (5) Try out.

There are two kinds of test. Pre-test and post-test :

1. Pre-test

Pre-test refers to a measurement or test given to the subject prior to the experimental treatment. Pre-test was given to the 55 students of experimental and control group to measure their ability before being given a treatment. The test was given to know basic competence and to know their earlier knowledge before they got treatment. Pre-test was given by asking the students to write one short story of narrative text the title of legend sura and baya. The score of pre-test then were gotten. The pre-test was conduct in the first meeting and one meeting before they were getting tryout. Pretest for the experimental class was conducted on February 20th 2017 and control class on February 21st 2017.

2. Post-test

Post-test was a measure on some attribute or characteristics that was assessed for participant in an experiment after treatment. Post-test was used to measure students' ability after giving treatment process to know their knowledge after they got the treatment. Post-test was given by asking the students to write one short story narrative text the title of The Story of the Smart Parrot in experimental class and about The Goose and the Golden Eggs in control class.

The post-test were in the form of writing narrative text about The Story of the Smart Parrot and about The Goose and the Golden Eggs. The test was used to measure the students' achievement after they were given treatment. The post-test was conduct in the last meeting and only one meeting on March 8th 2017.

In this research, Method of scouring wich require a separate score for each of a number aspects of a writing task is said to be analitic (Isnawati, 2014: 44). The following is an example of analytic scoring provided by Cohen (1994:328-329) the analytic scale is used as described in table 3.2

Table 3.2 Scale for Assesing the Students Writing Ability

Focus/rating	5 (Excellent)	4 (Good)	3 (Average)	2 (Poor)	1 (Very Poor)
Content	Main ideas stated clearly and accurately, change of opinion very clear	Main ideas stated fairly clearly and accurately, change of opinion relatively clear	Main ideas stated somewhat unclearly and inaccurate, change of opinion somewhat weak	Main ideas not clear or, change of opinion weak	Main ideas not all clear or accurate, change of opinion very weak
Organization	Well organized and perfectly coherent	Fairly well organized and generally coherent	Loosely organized but main ideas clear, logical but incomplete sequencing	Ideas disconnected, lacks logical sequencing	No organization, incoherent
Vocabulary	Very effective choice of words and use of idioms and word forms	Effective choice of words and use of idioms and word forms	Adequate choice of words but some misuse of vocabulary, idioms and word forms	Limited range, confused use of words, idioms, and word forms	Very limited range, very poor knowledge of words, idioms, and word forms
Grammar	No errors, full control of complex structure	Almost no errors, good control of structure	Some errors, fair control of structure	Many errors, poor control of structure	Dominated by errors, no control of structure

Mechanics	Mastery of spelling and punctuation	Few errors in spelling and punctuation	Fair number of spelling and punctuation errors	Frequent errors in spelling and punctuation	Not control over spelling and punctuation
The total number gotten x 100 = n The maximal score (20)					

Table 3.3 Criteria of Writing Test

No.	Grade	Qualification	Range of scores
1	A	Excellent	100 – 85
2	B	Good	84 – 70
3	C	Average	69 – 55
4	D	Poor	54 – 50
5	E	Very poor	49 - 0

E. Treatment

The two groups are given a different treatment. The experimental class got a treatment by using hand puppet as media in teaching writing narrative text. The first treatment was given on February 22nd 2017she explained about narrative text and how to write it. Then, in the next three meetings (February 27th 2017, March 1st 2017, March 6th 2017), she asked the students to practice to write narrative text by using different narrative story in experimental class specially.

Otherwise, the control class was taught without using hand puppet. The first treatment was given on February 22nd 2017she explained about narrative text and how to write it. Then, in the next three meetings (February 28th 2017, March 1st

2017, March 7th 2017), she asked the students to write narrative text by using different narrative stories.

F. Try Out

The researcher also conducted a try-out of instrument before using it to collect data. "The result of try out can be used to measure the validity and the reliability of the test, and it can be carried out in either a small number or a large number" (Arikunto, 2010:223). So, the try-out functions to determine the extent to which it discriminates between individuals who are different.

In constructing the instrument, there were considered some purpose which tended to influence the reliability of the test, they were: (1) To know the level of the test, whether the test is easy or difficult; (2) To know the number of the test, whether it is more enough or not; (3) wording, whether the students understand the topic; (4) introducing the topic, whether the students are familiar with the topic about narrative.

The researcher conducted try out on February 18th 2017 in class VIII-A for 28 students in the same level but in different classes. They were getting the same topic for pre-test. From the purpose above, the purpose of this try-out was to wording and introducing the topic. From the result of the try-out the students understood the instruction.

There were some instructions in the try out: (1) the topic is narrative text with the title about legend sura and baya, in here you can write a short story. (2) based on the topic, you can make improvement or imagination.

G. Validity and reliability testing

A research is always dependent upon measurement. There are two important characteristics that every measuring instrument should go trough a process of validity and reliability check.

1. Validity

Validity is an important thing in developing and evaluating measuring an instrument. Ary et.al (2010: 225) defines validity as the extent to which an instrument measured what it claimed to measure. In other words, validity can be defined as the instrument that measured what the writer wants to measure. The researcher ascertained that the instrument had two kinds of validity as follows:

a) Content Validity

Content validity is a kind of validity which depens on careful analysis of the language being tested and a particlar test. The test in this research includes in content validity, if the test relevant with the purpose with the content. In this research, the content of the test refer to Curriculum 2013.

In this research the content of the test is about short functional text and essays in the forms of narrative. This content suitable use to second grade of junior high school. The standard competence and basic competence of curriculum 2013 shows in the table follows:

Table 3.4 Content Validity

Standar Competence	1.1 Memahami makna dalam esai pendek sederhana berbentuk recount dan narative untuk berinteraksi dengan lingkungan sekitar
Basic Competence	11.11 Membaca nyaring bermakna teks fungsional dan esai pendek sederhana berbentuk narrative dengan ucapan, tekanan dan intonasi yang berterima yang berkaitan dengan lingkungan sekitar
Indicator	- Membaca nyaring dan bermakna teks esai berbentuk narrative - Mengidentifikasi berbagai makna teks narrative - Mengidentifikasi tujuan komunikatif teks narrative - Mengidentifikasi langkah retorika dan ciri kebahasaan teks narrative
Technique	Writing Test
Instrument of Test	Pretest Posttest

b) Construct validity

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 writing a narrative text.

c) Face validity

Face validity refers to the degree to which a test looks right, and appears to measuret he knowledge or abilities it claims to measure, based on subjective judgement or the examinees who take it, the administrative personnel who decide on its use, and other phsycometrically unsophisticated observers (Brown, 2004).

The test in this research was designed to measure students' writing skill, thus, to achieve face validity, the researcher provided the instructions to ask students to write.

2. Reliability

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. According to triton in Sujianto (2009:97) the value of cronbach's alpha can be interpreted as follow:

Table 3.5 Cronbach's Alpha Interpretation Based on Triton

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

Case Processing Summary

		N	%
Cases	Valid	28	100.0
	Excluded[a]	0	.0
	Total	28	100.0

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

Case Processing Summary

		N	%
Cases	Valid	28	100.0
	Excluded[a]	0	.0
	Total	28	100.0

Table 3.6 Reliability Statistics

Reliability Statistics

Cronbach's Alpha	N of Items
.703	2

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
tryout_1	66.1429	41.164	.545	.[a]

In this research, the researcher tried to check the empirical reliability by using SPSS 16.0 after trying out the instrument (pre-test and post-test). In trying out the instrument, the Cronbach's Alpha score was 0.703 Related with the categories of reliability testing stated by Sujianto, the result of computation of both groups was categorized into reliable test.

H. Normality and homogenity testing

1. Normality Testing

Normality testing is conducted to know whether the gotten data is normal or not. In this research, normality test is done toward the result (students' score) of posttest in writing narrative text. To know the normality, the researcher uses One-Sample Kolmogorov-Smirnov formula by using SPSS program 16.0 version.

Normality test is done by using the rule of Asymp. Sig (2 tailed) or p. If Asymp. Sig (2 tailed) or p > 0,05 so the test distribution is normal.

In this research, normality testing was done toward the students' score in posttest, not only for the control group but also for experimental group.

Table 3.7 Normality Test of Experimental Class

One-Sample Kolmogorov-Smirnov Test

		posttest_experimental
N		28
Normal Parameters[a]	Mean	72.6429
	Std. Deviation	5.73627
Most Extreme Differences	Absolute	.215
	Positive	.208
	Negative	-.215
Kolmogorov-Smirnov Z		1.140
Asymp. Sig. (2-tailed)		.149
a. Test distribution is Normal.		

Table 3.8 Normality Test of Control Class

One-Sample Kolmogorov-Smirnov Test

		posttest_control
N		27
Normal Parameters[a]	Mean	67.7037
	Std. Deviation	5.16508
Most Extreme Differences	Absolute	.301
	Positive	.154
	Negative	-.301
Kolmogorov-Smirnov Z		1.566
Asymp. Sig. (2-tailed)		.015
a. Test distribution is Normal.		

Based on the result of computation by using SPSS program 16.0 version, it can be concluded that the test distribution of two groups were normal.

2. Homogenity testing

Homogeneity testing is used to know whether the gotten is homogeneous or not. In this research, homogeneity test is done toward the result (students' score) of pretest in writing narrative text. To know the homegeneity, the researcher uses Test of Homogeneity Variance formula by using SPSS program 16.0 version. Homogeneity testing was done after doing the distribution score of group involved. The variance can be said homogeneous if the significance of the result is more than 0.050.According to Prayitno (2009:89), the assumption of ANOVA testing is the data groups' variance that is homogeneous. The criteria of testing, if the significance is smaller than 0.05 (sig. < 0.05) that the data is not homogeneous; on the contrary, if the significance is bigger than 0.05 (sig.> 0.05) that the data is homogenous.

Table 3.9 Homogeneity of Test

Test of Homogeneity of Variances

pretest_experimental

Levene Statistic	df1	df2	Sig.
5.258	4	21	.004

ANOVA

pretest_experimental

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	244.510	5	48.902	2.344	.077
Within Groups	438.157	21	20.865		
Total	682.667	26			

From the result above, the test is homogeneity because significant is 0.077, it means that the significant is more than 0.05 (0.077 > 0.05). The homogeneity testing of variance in pretest of control group and experimental group for writing narrative text in this research showed that the data had homogeneous variance, so it is qualified to be analyzed.

I. Data and Data Source

1. Data

According to Arikunto (2010:172) data is written facts or notes gotten by the researcher that will be organized in research activity. Data can be in the form of fact or numbers.

In a research, the role of data is very important since it is used to answer the problems. In this research the data was students' writing score that gotten from writing test. The data was from control and experimental class.

2. Data Source

Data source can be defined as the subject in whom the data is taken (Arikunto, 2010:172). There are two kinds of data sources; primary data source and secondary data source. Primary data source is data taken directly from the field, while secondary data source is data not taken directly from the field.

In this case the researcher used primary data source, since the data was students' writing worksheet that were taken from the tests administered directly by the researcher towards the experimental class and control class.

J. Data Collecting method

Data collecting method is a way how the needed data are collected. Data collecting is a systematic and standardized procedures to obtain the necessary data (Tanzeh, 2011:83). To collect the data, test was used as an instrument.

Hence, the data of this study were collected by administering test. Arikunto (2010:193) explains "Tool is a space of question or exercise and other tools that are used to measure the knowledge, kills, abilities or talent of the intelligentsia that is owned by an individual or group". Ary et al (1985:189) sees a test is a set of stimuli presented to individual in order to elicit responses on the basis of which a numerical score can be assigned". Test is as an instrument or procedure designed to elicit performance from the learners with the purpose of measuring their attainment of specified criteria.

In getting the data, class VIII-D was become an experimental group and VIII-C was become an control group. The researchers as teacher in this study teaches the students. In teaching learning process for the first meeting was given on February 20th 2017, the teacher gave pretest in writing narrative. In the next three meeting (February 27th 2017, March 1st 2017, March 6th 2017), the teacher taught writing narrative text by using hand puppets as media in experimental class and next three meeting(February 28th 2017, March 1st 2017, March 7th 2017), the

teacher taught writing narrative text without media in control class. In the last meeting, the teacher gave posttest in writing narrative to the students. Post-test was given March 8th 2017 by asking the students to write narrative text about The Story of the Smart Parrot and about The Goose and the Golden Eggs in control class.

Table 3.10 The activities of two groups

Experimental class	Control class
1. Teacher taught the narrative text using the hand puppets.	1. Teacher explains orally to the students about the narrative text.
2. Teacher makes a conversation with the hand puppets related to the hand puppets narration.	2. Teacher asked students to mention about the generic structure of narrative text.
3. Teacher asked student to write a sentence in the black board based on the hand puppets and check together with the students.	3. Teacher asked students to try to imagine the legend sura and baya.
4. Teacher asked students to mention about the generic structure of narrative text.	4. Teacher asked student to write a sentence in the black board based on their imagination. And then check together with the students.
5. The teacher gave the narrative text and then the students identify the generic structure and schematic structure of narrative text.	5. The teacher gave the narrative text and then the students identify the generic structure and schematicstructure of narrative text.
6. Teacher asked students to make short story legend of sura and baya based on the hand puppets said.	6. Teacher asked students to to make short story legend of sura and baya that they know.

K. Data analysis

Data Analysis is a continuation process from the process of data processing to know how the interpretation data, then data analysis of the result that has been on the level of result of data processing (Prasetyo & Jannah, 2005:184)

In this research, the researcher used Independent Sample T test at SPSS 16.0 for windows to know the significant difference of writing achievement of students' between they are taught by using hand puppet as media and those are taught without using hand puppet as media. Indeed, according to (Priyatno, 2009:77) the method in further analysis of the data is as follow:

1. Formulating the hypotheses. The hypotheses are in the form of Alternative Hypothesis (Ha) and Null Hypothesis (Ho)

2. Determining the value of t_{count}. It can be seen on the output of SPSS analysis.

3. Determining the value of t_{table}. The value of t_{table} can be seen from in significance level 0.05 : 2 = 0.025 (two tailed test) with degree of freedom (df) is n-2 (55 − 2 = 53).

4. Determining hypothesis testing. Simply, the hypotheses testing are:

    a. If $-t_{table} \leq t_{count}$ and Sig > 0.05 so Ho is accepted.

    b. If $-t_{count} < -t_{table}$ or $t_{count} > t_{table}$ and Sig < 0.05 so Ho is rejected.