CHAPTER III

RESEARCH METHOD

This chapter describes the research design, Population, Sampling and Sample, Variable, Research instrument, Validity and Reliability testing, Normality and homogeneity testing, Data collecting method and Data analysis.

A. Research Design

Research in general is defined as a process of data collection and data analysis that carried out systematically and logically to achieve the certain goal (Sukmadinata, 2012: 5). It means that research is a process used to collect and analyze information to achieve certain goal. Research design is the way or the strategy to arrange the setting of the research in order to get valid data.

This research used quantitative research. Mujis (2004:1) states quantitative research is explaining phenomena by collecting numerical data that are analyzed using mathematically based methods (in particular statistics). In the quantitative research there are experimental and non-experimental. Experimental research involves a study of the effect of the systematic manipulation of one variable and non-experimental research, the researcher identifies variable and may look for relationship among them, but does not manipulate the variables (Ary, 2002:24).

The design of this research was an experimental research. There are many kinds of experimental research designs, such as pre-experimental, true experimental and quasi experimental (Ary, 2010: 328). In this research, the researcher used quasi experimental design, involving two group pretest and posttest. The purpose of the researcher using quasi experimental research as a design because the researcher has no chance to select students randomly to be respondents of the research sample. In this research, according to Campbell and Stanley (1963: 13), the types of this research can be designed as follows:

Table 3.1 Test Quasi-Experimental Design

Test Quasi-Experimental Design

Group	Pretest	Independent variable	Post-test
C	Y1	-	Y1
D	Y1	X	Y2

Explanation:

C : Control group

D : Experimental group

Y1 : Pre-test

Y2 : Post-test

X : Treatment of the experimental group

The steps of conducting this quasi experimental research that use Two Group Pre Test-Post Test Design are explained below :

1. Administering a pretest with a purpose of measuring achievement of control group and experimental group of the eighth grade students at SMPN 3 kedungwaru

2. Applying the experimental treatment in teaching reading by using 3-2-1 strategy as the strategy to the subjects the eighth grade students' at SMPN 3 Kedungwaru

3. Administering a posttest with a purpose of measuring reading comprehension of the eighth grade students' at SMPN 3 Kedungwaru

The Procedures of Using 3-2-1 Strategy

According to Zygorious-COE, Wiggin and Smith (2005), there are several main guidelines for conducting 3-2-1 strategy as follows :

a. The teacher creates 3-2-1 strategy chart to guide the students. The teacher explains to the students the concept of 3-2-1 Strategy together with what benefits for students are.

b. After making the chart, the teacher gives the students the topic and asks the students what they know about it.

c. The teacher asks the students to discover three (3) items in the text that he or she read.

d. The teacher asks the students to write down things two (2) of the three interesting items that they have identified.

e. The teacher asks the students to write one question (1) about the text.

B. **Population, Sampling and Sample**

   1. Population

A population is defined as all members of any well-defined class of people, events, or objects population is the whole research subject. It is important that the research must be designed carefully and completely (Arikunto, 2006:130). Based on the statement above, it can be concluded that the population is a group of subjects. It can be person or things, whom the findings of the research to be applied.

The population of in this research was the students of the eighth grade of SMPN 3 Kedungwaru in academic year 2017/2018. There were ten classes. The total number was 320 students.

2.Sampling

Sampling is the process of taking sample. Ary (2002: 163) states that the purpose of sampling is to obtain information concerning the population. Sampling is the process of selecting a number of individuals for a study in such as that the individuals represent the larger group from which they were selected.(Gay:1992). In this research, the researcher used *purposive sampling technique*. Purposive sampling is one of types in non-probability sampling. 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 (Sudjana & Ibrahim, 2007:85). The researcher had taken

two classes of thirteen classes from the eighth grade of SMPN 3 Kedungwaru on academic year 2017/2018 exactly VIII C class and VIII D class. In this research, the researcher used *purposive sampling technique*, because the samples have sufficient competence on English competence based on recommendation of the English teacher of SMPN 3 Kedungwaru.

3.Sample

Selected of the sample is very important step in conducting a research study. Sample taken from the population should be representative that sample is a part representative of population that is observed (Arikunto, 2010: 174). Sample is part of reached population that has the same characteristic with the population (Sudjana & Ibrahim, 2007:85).

In this research, the researcher chooses two classes from the eighth grade SMPN 3 Kedungwaru, precisely VIII-C class consist of 32 students as control group and VIII-D class consist of 32 students as experimental group. The researcher takes those classes as her sample because it was recommendation of the English teacher in this school, because he was assumed both classes have average achievement of the eighth grade. So, those classes represent all of students of the tenth grade at SMPN 3 Kedungwaru.

4. Variable

Variable is a construct or a characteristic that can take on different values or scores (Ary, 2002:39). Moreover, variable is the characteristic or attribute of

individual, group, or educational system that researcher is interested in. (Santrock, 2004:47) There are two types of variable as follows :

1. Independent variable

   Independent variable is called causing variable (Arikunto, 2006:119). Independent variable is variable which is manipulated by a researcher deliberately. In this research, the independent variable is 3-2-1 strategy.

2. Dependent variable

   Dependent variable is effected variable (Arikunto, 2006:119). Dependent variable is a variable that enrage in function relationship influence by independent variable. In this research, the dependent variable is students' reading comprehension in narrative text.

C. Research Instrument

Research Instrument played an important role in a research, it could be used to achieve the data. According to Arikunto (2010 : 160) stated that research instrument is a device used by the researcher in collecting data to make her or his work become easier and get a better result, means accurate, complete and systematic in order to make the data easy to be processed. Thus, Research Instrument is tool of collecting data that should be valid and reliable. The instrument in this research is test

Tests are valuable measuring instruments for educational research. Test is a series question, exercise or other means which are used to measure the skill,

knowledge, intelligent, ability or talent that have by individual or group. According Arikunto (2006:127) stated that a test is a method to gain the data by giving some question to the respondent. In this research, the test used to measure the student's achievement in reading comprehension before and after they taught by using 3-2-1 strategy. According to Scott (2006:141) stated that the steps to arrange the test are as follows: (1) Limit the tested material. Here, the material is limited in reading recount text. (2) Determine the term to do the test. (3) Determine the test type. Here, the multiple choice test was used because it was considered can appropriately measure the students' knowledge in reading comprehension.

In this research, the test was used to measured students' reading achievement of narrative text. The test was done twice, before and after treatment (pretest-posttest) in two class with or without giving treatment. The pretest was used to see the students' reading achievement in narrative text before treatment was given and the posttest was used to see students' reading achievement in narrative text after given treatment.

D. Validity and Reliability Testing

All good tests possessed two qualities: validity and reliability (Harris ,1969:13). It means in the experimental study, a researcher must check the validity and reliability of the instrument that has been made to determine such instruments valid or not.

1. Validity

Validity refers to the precise measurements of the test. Validity is the most important consideration in developing and evaluating measuring instruments (Ary, et.al, 2010:225). Validity (in testing) is the degree to which a test measure what it is supposed to measure, or can be used successfully for the purpose for which it is intended (Richard, 1992:296). According Isnawati (2014) there are four types of validity, they are content validity, criterion-related validity, construct validity and face validity. The researcher emphasizes on the content validity and face validity. In this study, the test had content validity because this test based on the course objectives in the syllabus of the eighth grade of SMPN 3 Kedungwaru. The content validity in this research can be showed as follow:

a. Content Validity

Content validity is the extent to which a measuring instrument provides adequate coverage of the topic under study. The test was said to have content validity if its content constitutes a representative sample of the language skills, structure etc, being tested (Isnawati, 2014: 27). It means that the test have content validity if there any relevancy of the objective of the test and the content of the test item. A comparison of test specification and test content is basis for judgment for content validity. The researcher made this test based on the course objective in the syllabus of the eighth grade of SMPN 3

Kedungwaru. Therefore, this is valid in term of content validity. The content validity in this research can be showed as follow:

Table 3.2 Content Validity of the objective of syllabus

Standar Competence	11. Memahami makna dalam esei pendek sederhana berbentuk *recount,* dan *narrative* untuk berinteraksi dengan lingkungan sekitar
Basic Competence	11.1 Membaca nyaring bermakna teks fungsional dan essai pendek sederhana berbentuk *recount* dan *narrative* dengan ucapan, tekanan dan intonasi yang berterima yang berkaitan dengan lingkungan sekitar 11.2 Merespon makna dalam teks tulis fungsional pendek sederhana secara akurat, lancar dan berterima yang berkaitan dengan lingkungan sekitar.
Indikator	• Mengidentifikasi gagasan utama teks *narrative* • Mengidentifikasi berbagai informasi rinci dalam teks *narrative* • Mengidentifikasi ciri-ciri kebahasaan teks *narrative* • Menunjukkan gagasan utama (main idea) suatu teks atau paragraf berbentuk *narrative* • Menentukan tujuan teks atau penulisan berbentuk *narrative* • Menyebutkan informasi rinci dalam teks, baik yang tersirat maupun tersurat berbentuk *narrative* • Menjelaskan makna kata atau ungkapan tertentu dalam teks *narrative*
Technique	Reading Test

Instrument of Test	Pretest
	Posttest

Table 3.3. Content Validity of Test item

Competence Indicator	Test Items	
	Pretest	**Posttest**
1. Mengidentifikasi gagasan utama teks *narrative*	1,3,7	1,7,13,14,16
2. Mengidentifikasi berbagai informasi rinci dalam teks *narrative*	2,5,14,16	2,8,12,15
3. Mengidentifikasi ciri-ciri kebahasaan teks *narrative*	6,11,19	6,11,19
4. Menunjukkan gagasan utama (main idea) suatu teks atau paragraf berbentuk *narrative*	12,15	20
5. Menentukan tujuan teks atau penulisan berbentuk *narrative*	10	5
6. Menyebutkan informasi rinci dalam teks, baik yang tersirat maupun tersurat berbentuk *narrative*	20,17,9,4	9,10,17,18
7. Menjelaskan makna kata atau ungkapan tertentu dalam teks	3,8,18	3,4,13

b.   Face Validity

Face validity is measure the validity instrument from the surface of the instrument itself. Basically, face validity refers to the degree to which a test visible to measure what it purposes to measure (Gay, 1992 : 156). A test is said to have face validity if it looks as if it measures what it is supposed to measure. A test which does not have face validity may not be accepted by test takers, teachers, education authorities or employers. In this study, the item of the tests was designed to measure the students' score in reading after giving treatment. The researcher ensured face validity by consulting to English teacher of SMPN 3 Kedungwaru.

2. Reliability

Reliability is the characteristic of very good test for it to be valid. Reliability show whether an instrument is can be used as a device to collect the data. Reliability is concerned with the effect of such random errors of measurement on the consistency of scores (Ary, 2002: 250). Reliability concerns the extent to which an experiment, test, or any measuring procedure yields the same results on repeats trials. The tendency toward consistency found in repeated measurements of the same phenomenon is referred to as reliability (Edward and Richard, 1987:11).

According to Kirk and Miller (1986) identified three types reliability referred to in quantitative research, which relate to : (1) the degree to which a measurement, given repeatedly, remains the same (2) the stability of a

measurement over time; and (3) the similarity of measurements within a given time period. It means that the results of the test will be same although the students were tested on different occasions. To prove that the test was reliable, the researcher conducted a try out for the test to prove that the test was reliable in the different subject before the researcher conducting the research to the sample of study. In 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 (Ridwan, 2004:118), they are:

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

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

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

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

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

The data on the table 3.4 was the score obtained from the try out. Score 1 was taken from the researcher when before conducted pre-test and score 2 was before conducted post-test. After obtaining the two scores, the researcher did a reliability testing and got the result as presented on table as follow :

Table 3.4 The scores obtained from try out

No	Students	Score 1 Try out (pre-test)	Score 2 Try out (post-test)
1	AR	65	65
2	BY	70	65
3	CN	60	65
4	CML	60	60

5	DS	75	80
6	DN	75	80
7	RN	65	65
8	EK	75	75
9	FRD	65	70
10	JHN	60	70
		$\sum X = 670$	$\sum X = 695$

After the score of pre-test and post-test was calculated by using SPSS

16.0, the result of reliability testing can be seen from the table 2.5 below:

Table 3.5 pre-test reliability

Reliability Statistics

Cronbach's Alpha	N of Items
.723	10

Table 3.6 post-test reliability

Reliability Statistics

Cronbach's Alpha	N of Items
.725	10

From the computation in SPSS the reliability value of pre-test is 0,723 and

the reliability from the post test is 0,725. Based on Cronbach's Alpha

interpretation by Ridwan, it means that the result (see table 3.6) of the pre-test

and post-test was reliable. So, it can be said that the both of instrument test

were reliable.

E. Normality and Homogenity Testing

   1. Normality testing

The normality testing used to check the data is normally distributed or not. The normality of data is important because the data can be considered to represent the population when it is in normal distribution (Priyatno, 2012:33). In this research, normality test is done toward the result (students' score) of pretest in reading narrative text. to find the normality of the instrument, the researcher intended to test the normality of the data by using SPSS 16.0 with One-Sample Kolmogorov-Smirnov. 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 reseach, normality testing was done toward the students' score in pretest such as the control group and experimental group. The result of normality computed by SPSS 16.0 are presented as follows:

Table 3.7 Normality Test of Experimental Group

One-Sample Kolmogorov-Smirnov Test

		Pretest Experimental
N		32
Normal Parameters[a]	Mean	67.81
	Std. Deviation	6.082
Most Extreme Differences	Absolute	.178
	Positive	.178
	Negative	-.140
Kolmogorov-Smirnov Z		1.007
Asymp. Sig. (2-tailed)		.262
a. Test distribution is Normal.		

Table 3.8 Normality Test of Control Group

One-Sample Kolmogorov-Smirnov Test

		Pretest Control
N		32
Normal Parameters[a]	Mean	57.34
	Std. Deviation	7.827
Most Extreme Differences	Absolute	.201
	Positive	.201
	Negative	-.143
Kolmogorov-Smirnov Z		1.137
Asymp. Sig. (2-tailed)		.151
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 group were normal.

2. Homogeneity Testing

Homogeneity testing is conducted to know whether the gotten data has a homogeneous variance or not. The computation of homogeneity testing using SPSS Statistics 16 is *Test of Homogeneity of Variances* by the value of significance (α) = 0.05. Before doing homogeneity testing, the researcher decides hypothesis in this homogeneity as follow:

a. H_0 : If the value of significance > 0.05, means data is homogenity

b. H_1 : If the value of significance < 0.05, means data is not homogenity

Homogeneity testing was done after doing normality testing. To know homogeneity, the researcher uses Test of Homogeneity of variances with SPSS. 16.0. The result can be seen below:

Table 3.9 Test of Homogeneity of Variances

Test of Homogeneity of Variances

Levene Statistic	df1	df2	Sig.
3.117	1	61	.082

The variance can be said homogeneous if the significance of the result is more than 0.05. The table above shows that the significant level is 0.082 in which it is higher than 0.05 (0.082 > 0.05). Thus, the data is homogeneous.

F.   **Data Collecting method**

The data collecting method is the method to obtain the data in the research. The purpose of data collecting in conducting scientific research was to get material that needed in the research. In this research the researcher uses test as data collecting method and also the instruments. 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. It means that a test is a method to gain the data by giving some questions to the respondent. Technique of collecting data in this research was clarified as follow:

a.   Pre-test

Pre-test provides a measure on some attribute or characteristic that someone assesses for participant in an experiment before they receive a treatment (Wiersama, 1911: 106). Pre-test was given to the students in the first meeting before treatment. The test was in the form of written form. It was conducted to know the students score in reading and the purpose of the test is given to know how far the students ability in reading comprehension. Pre-test was 20 multiple choice form.

b. Post-test

Post-test is one kind of test which given after treatment of the students. Post-test provides a measure on some attribute or characteristic that someone

assesses for participant after a treatment (Wiersama, 1911: 106). After gaining score in pre-test and conducting treatment, the researcher administered post-test to know how effective the treatment and to measure their ability after treatment process. Post-test is given in the last meeting of teaching learning process. After the researcher know score of the tests, the researcher compares both of the score to know the students" difference competence before and after they get treatment.

G. Data analysis

Analyzing data is a process of analyzing the acquired from the result of the research. According to Suharsini and arikunto (1996: 148) state that quantitative data is the technique to analysis and count the data. It means that the technique of quantitative data analysis is the process of data is shape by number. In this researcher, the researcher used quantitative data analysis. To analyze the data, the researcher applied paired T-test at SPSS 16.0. T-test technique is a statistical technique which is used to test the difference significance of 2 mean which comes from 2 distributions. Based on the statement above, this research used t-test in order to differentiate the students' result of reading a narrative text who were taught by using 3-2-1 strategy and those who were taught without using 3-2-1 strategy was significant or not.