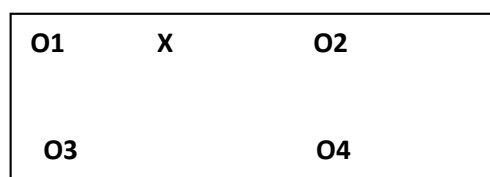# CHAPTER III
RESEARCH METHOD

This chapter discusses the place and time of the study, population and sample, research design, research variable, instrument, processing of collecting, tryout of the instrument, method of data.

3.1 Research Design

This research, the writer conducted a quantitative research the method in this research. The method in this research that the writer used was a quasi experimental. According to (Mubarok, 2015), experimental research is one of the most powerful research methodologies that research can use. He also said that experimental research is a research method to find a specific treatment effect against the other in uncontrolled conditions.

The experiment research was conducted in two classes and it was taught by different methods. Jigsaw technique was used in the experimental group while conventional method was used in the control group. The experimental class was the group who received the treatment that was jigsaw technique, while the control group was a group who not exposed to the experimental treatment.

The writer use quasi experimental research design. The writer wants to know the effect of jigsaw technique on the students' reading comphrehension of narrative text. The writer gives pre-test and post-test for two classes but giving a treatment only for one class. The writer will give a pre-test before applying the treatment and give post-test after applying the treatment to one class.

O1	X	O2
O3		O4

(Mubarok, 2015:91)

In which:

X :Treatment given experiment group

O1: Pre-test for the experimental group

O2 : Post-test for the experimental group

O3 : Pre-test for the control group

O4 : Post-test for the control group

3.2 Place and Time of the Study

The study was conducted in SMA N Nalumsari Jepara. That is located on JL. No.2 Nalumsari Jepara 59466. This study was conducted on odd semester.

3.3 Population and Sample

According to (Mubarok, 2015), population is a unit of the object or subject that has certain qualities and characteristics which are studied by the researchers then by deduced.

The population of this research was the whole students of eleventh grade students of SMA N Nalumsari Jepara which have 22 classes consisting of 640 students. There are six classes that consist of three social science. Classes and three of sciences classes. By using sample random sampling technique classes chosen were X1 science A1 as the experimental class and XI science A2 as the controlled class. Each class consists of 39 students so the total sample was 76 students.

3.4 Research Variable

According to Fred.D.Kerlinger as cited by (Arikunto, 2010), that all experimental have one fundamental idea behind them; to test the effect of one more independent variables on a dependent variable (it is possible to have more than one dependent variable in experiments).

This research, that used jigsaw as technique in teaching reading narrative text, had two variable. Those variable are:

1. The Independent Variable

   Independent variable is the variable that the experimenter changes within a defined range: it is variable in whose effect the experimenter is interested. The independent variable of this research is the use of jigsaw in teaching reading narrative text.

2. The Dependent Variable

   Dependent variable is that measure the influence of the independent variable. The dependent of this study is the students' achievement in the written test in reading narrative text.

3.5 Instrument

Research instrument was a device used by the research while collecting data to make the work become easier and to get a better result, complete and systematic in order to make the data easy to process (Arikunto, 2010)

Test was the instrument used in collecting the data. The test was used to find out if there is an effectiveness of using jigsaw technique towards students' reading comprehension on narrative text. The test is given in the beginning and in the end of the treatments. The test consists of five narrative text and 20 question in the multiple choice form. The indicators can be seen in the table below.

Table 3.1

Base Competence	Indicators	Number of Question
Understanding and responding meaning of monologue text/essay that uses various written language accurately, fluently, and comprehensively in the	The students are able to determine the main idea of the text	1,6,11,16

form of report, spoof, and analytical exposition text		
	The students are able to determine the detail of inform of the text	2,3,7,8,12, 13,14,17,1 8,5
	The students are able to determine the reference of the text	10,19,16
	The students are able to determine the synonym of the text	4,9,15,20

3.6 Procedures of Collecting Data

In collecting data, the writer followed some procedures, such as doing try-out, giving, pre-test and post- test and post- test.

Table 3.2 The activities.

		■							
		■							
			■						
				■	■				
						■			
							■	■	
									■

3.7 Tryout of The Instrument

The instrument used in this research was a test (pre-test and post-test). Before a test given to the students, tryout test applied first to know the test was good instrument. The result of the test was to find out the validity and reliability.

The instrument that was firstly used for pre-test and post-test in the form of multiple choice. The test was given to the eleventh grade students' the researcher only took XI A-3 class. There were thirty nine students as respondents of the try-out of the test. They have to answer the question of multiple choice consisting of 30 items. The aim of this test was to see the validity and reliability of each question made.

a. Validity

Validity is a measure that the level of validity or rightness of an instrument (Arikunto, 2013:211). An instrument that is valid have high validity. Every test has to be valid. The writer used the product moment formula to calculate the validity, it can be seen as follows:

To calculate the validity, the writer will use the Product Moment formula:

$$r_{xy} = \frac{(N.\Sigma XY) - (\Sigma X \Sigma Y)}{\sqrt{\{N.\Sigma X^2 - (\Sigma X)^2\}\{N.\Sigma Y^2 - (\Sigma Y)^2\}}}$$

In which:

rxy   : the item of the test reliability

N   : the number of respondent

X   : total score of each item

Y   : individual total score

X^2 : total for the square for each item

Y^2 : total for the square of individual total score

$(X)^2$: the square of the total score for each item

$(Y)^2$: the square of the individual total score.

b. Reliability

Reliability showed a definition that an instrument is dependable enough used as a tool of data collection because that is good instrument (Arikunto, 2013:221). Reliability means reliably, so it is dependable. The writer the used the Speramen-Brown formula to measure the reliability of the test:

To measure the reliability of the test, the writer will use the following formula:

$$r_{11} = \frac{2.r_{hh}}{(1 + r_{hh})}$$

In which:

r_{11} : coefficient of reliability

r_{hh} : reliability of half test

3.8 Method of Data Collections

The writer was conduct research in SMAN NALUMSARI JEPARA.

There are several steps to collect the data in this research. They are:

1. Pre-Test

The researcher gives the students pre-test before she gives treatment to the students.

2. Treatment

The researcher will teach taught reading of narrative text both to experimental group and control group. Experimental group will be taught using jigsaw, while for control group will be taught using method that was usually used by the teacher.

Group	Meeting	Treatment
Experimental group	First meeting	➢ The researcher engaged students to relate material. ➢ The students were divided into small group, one group consist of 5-6 students. Then every group discussion related to the material.

		➢ The students learn about the narrative text Malin Kundang, the researcher asked the students to find the main idea every paragraph , the characteristic of narrative text. ➢ The students discussion with their groups. ➢ The students share discuss other the group. ➢ The researcher conclude about the material.
	Second Meeting	➢ The researcher reviewed the previous material. ➢ The students continue to discussion with the their friends. ➢ The researcher asked to the students to make a large group. All of group to be one group. ➢ Every group explained the result of discussion in a large group
Control	First meeting.	➢ The researcher gave little explanation about narrative text. ➢ The researcher asked students to read and understanding the narrative text then find is generic structure and language feature in pairs. ➢ The students make a narrative text.
	Second meeting	➢ The researcher reviwed material in previous meeting. ➢ The researcher asked the students to make a summary.

3. Post- test

The post test was given after the teacher gives treatment to know whether or not the change on students reading comprehension in narrative text.

3.9 Method of Data Analysis

The important data would be collected through administering pre-test and post-test. After getting the data, the writer process statistically and analyzed them. The writer compared data score between experimental and control group class.

The writer use different technique to find out the differences of student's score. The writer used statistic technique analyis to analysis the data using SPSS statistical application and T-test.