

CHAPTER III

RESEARCH METHODOLOGY

This chapter explains and illustrates how this study is conducted with the subject of research design. It consist of research design, place and time of the research, population and sampling, research variables, research instrument, techniques of data collection and techniques of analysis data.

3.1 Research Design

Research design is the process of some steps used in collecting the data, analyze the information to understand about the topic or issues then get valid data. The researcher use quantitative design for this research. According to Cresswell (2002:13) Quantitative research is the researcher identifies problem based on the trend then explain why something occurs, this research is focus on which one variables effect the other variables. John and James (2006:64) The researcher using term of number to explain and analyzing the data in this research. This research used experimental design which has relation with the quantitative research like Creswell (2002:294) states that “experimental design is the traditional approach to conducting quantitative research”.

In this research, the researcher used quantitative methods, to be more specific is Experimental design. The purpose of this research is to know and to find out the effectiveness of reciprocal teaching to increase reading comprehension. Ary (2010:271) states “ The experimental design sets up the conditions required for demonstrating cause and effect relationships”. “These conditions as follows: (1) cause precedes effect in time, (2) the cause variable covaries (occurs together) with the effect, and (3) alternative explanations for the causal relationship can be ruled out”. Experimental design has differ in the number of independent variables that are manipulated. According to John and James (2006:177) Experimental design is the blue print of the procedures that enable the researcher to make a test of hypotheses by reaching valid result about relationships between independent and dependent variables. There are 3 kinds of experimental design, they are :

Pre-experimental design, True experimental design, and Quasi experimental design.

In this research, the researcher used Quasi Experimental Design. Quasi experimental design include assignment but not random assignment of participants to groups. According to Creswell (2002:309) In quasi experiments, the researcher assigns intact groups the experimental group and control group. In this research, there are 2 groups selected, they are Control Group and Experiment Group. Both of them are given same pretest and same post test too. the experimental group given a treatment after the pretest while the control group will not be given a treatment. The design of this research can be seen on the table below:

Table 3.1 Quasi Experimental Design

Group	Pretest	Treatment	Post test
Select Control Group	Pretest	X	Post test
Select Experimental group	Pretest	Treatment	Post test

3.2 Place and Time of the research

3.2.1 Time of the research

The researcher held the research in 20th January - 22nd February 2018. This research is about experiment research by the title the effectiveness of Reciprocal Teaching Strategy to increase student reading comprehension in narrative text.

3.2.2 Location of the research

The researcher did the research at the eighth grade of SMP Negeri 39 Junior High School of Surabaya. The place of the research is located at Jln. Raya Prapen Panjang Jiwo, Tenggilis Mejoyo Surabaya.

3.3 Population and Sampling

3.3.1 Population

Population is defined as broader group of people in methodology of research especially in this research. According to Ary (2010:148) Population is defined as the larger group or population is all the subjects of the research, it consist class of people, events, and objects. Population in this research is eighth grade SMP Negeri Junior High School 39 of Surabaya in the academic year 2017/2018. There are 519 students from 8 classes which consist from VIII A – VIII H.

3.3.2 Sampling

Sampling is important and needed in research methodology especially in this research. According to Ary (2010:148) Sampling is a portion of a population or it is the small group of population. The researcher asks the teacher to choose 2 classes. The chosen groups are from VIII A and VIII B classes to participate in this research as control group and experimental group. The chosen classes were VIII A as experimental group and VIII B as control group.

3.4 Research Variables

Research variable is needed for experimental design of the research. Ary (2010:37) states “a variable is a construct or a characteristic that can take on different values or scores”. It means that variable is a form that arranged by the researcher for this research so that can be found some information and make a conclusion. The variable in this research refer to the the object that researcher focus in this research. There are two variables in this research, they are Independent variable and Dependent variable.

3.4.1 Independent Variable (X)

Independent variable is the variable that can stand alone without depend on the other. In this research, the independent variable is the reciprocal teaching strategy as the method for this research.

3.4.2 Dependent Variable (Y)

Dependent variable is a variable that can not stand alone without a media or the method for the research. The dependent variable in this research is students' reading comprehension in narrative text.

3.5 Research Instrument

In this research, the researcher use some instrument to support the experimental research, they are :

3.5.1 Try Out

Try out test is needed in this research. Try out was given in the beginning of the research before pretest, treatment, and post test were held. The researcher are conducting try out test before conducting pretest. Try out was conducted in another class of experimental class and control class. The subject for this try out was VIII F class of SMPN 39 of Surabaya which have same ability with both of classes that the researcher taken in this research. In this test, the students were asked to answer 30 questions which 15 questions were multiple choice in part A, and 10 matching synonyms in part B. There are several purposes why try out should be conducted. The first purpose is decided whether the test got validity and reliability or not. Second, the instrument of this test is appropriated for students as the tools for testing experimental class and control class(see appendix).

3.5.2 Pretest

Pretest is the test which given by the researcher to the student before doing the treatment in the research. According to Creswell (2002:297) a pretest gives or provides a measure on some attribute or characteristic from researcher for the student in an experiment before the student receive a treatment. So the pretest is a tool to measure the students' ability in reading before doing the treatment. This pretest is given to the both of group, experimental group and control group. So, in this research, the researcher will give pretest about reading comprehension in

narrative text. The pretest was given for VIII A class and VIII B class with the same materials.

3.5.3 Post-Test

Post test is a test that given by the researcher to the both of classes after the treatment in the experimental group in this research. For treatment the researcher implement Reciprocal Teaching Strategy. The post test is given whether to know the effectiveness reciprocal teaching strategy in students' reading comprehension in narrative text is increasing or not. Creswell (2002:297) states "A post test is a measure on some attribute or characteristic that is assessed for participants in an experiment after a treatment". It means that the post test given from the researcher to both of group after a treatment in experimental group.

3.6 Research Procedure

3.6.1 The Procedure of Collecting Data

There are some procedures to collect the data in this research. This research is carried out through the following steps:

Table 3.2 Conducting Data Schedule

No.	Time	Schedule	
1	Tuesday, 2 nd January 2018	Send permission letter at SMP Negeri 39 Surabaya	
		Control Class	Experimental Class
		Pre -Research	
		<ul style="list-style-type: none"> a. Selected Group b. Determining material about narrative text and the topic for learn activities of the research c. Arranging and making lesson plan during learning the activities of the research d. Determining the instrument of the research e. Analyzing the instrument of the research f. Giving Pre-Test 	<ul style="list-style-type: none"> a. Selected Group b. Determining material about narrative text and the topic for learn activities of the research c. Arranging and making lesson plan during the activities of the research d. Determining the instrument of the research e. Analyzing the instrument of the research. f. Giving Pre-Test
2	Wednesday-Thursd ay, 14 th - 15 th February 2018	Research Process	

		<ul style="list-style-type: none"> a. Introducing and Explaining about material whether that used in learning activities of the research b. Introducing and Explaining about material whether that used in learning activities of the research c. The researcher ask the students to analyze the text of narrative text by scientific approach d. The students practice in the class by doing an exercise in group discussion e. The students presented the answer and result in front of class 	<ul style="list-style-type: none"> a. Introducing and Explaining about material whether that used in learning activities of the research b. Introducing and Explaining about material whether that used in learning activities of the research c. Giving students a treatment of narrative text by using Reciprocal Teaching Strategy d. The researcher asked the students to analyze narrative text by using Reciprocal Teaching Strategy e. The students analyzed the text by using Reciprocal Teaching Strategy in group discussion and presented the answer and result in front of class
3	Wednesday-Thursday, 21 st - 22 nd February 2018	Research Closing	
		<ul style="list-style-type: none"> a. Giving Post-Test to measure control class b. The researcher analyzed the data of Post-Test c. The researcher counted the data and compare between control and experimental group to know the effectiveness of this method. 	<ul style="list-style-type: none"> a. Giving Post-Test to measure experimental class b. The researcher analyzed the data of Post-Test between control and experimental group c. the researcher counted the data and compare between control and experimental class to know the effectiveness of this method

3.7 Validity and Reliability

Validity and reliability are very important in every research especially experiment research. Validity and reliability are important for measuring instrument that used by the researcher. The relationship between these concept that used for the researcher is give post test for the students. In that test the researcher gave reading passages about narrative text to know the students reading comprehension by using reciprocal teaching strategy. The purpose this test was

conducted are to determine whether the test are valid and reliable. The next purpose is to determine whether the instrument of the test are appropriate and suitable for the level of students' ability. According to Ary (2010:239) the important thing in measuring instrument is a reliable, which reliable comes first and it still reliable without being valid and it is unless without being reliable.

3.7.1 Validity

In this research design, validity is the most important since it will determine to measure an instrument. Ary (2010:225) states “Validity is the most important consideration in developing and evaluating measuring instruments. Historically, validity was defined as the extent to which an instrument measured what it claimed to measure”. It means that validity is very important and needed in measuring instruments in the research. The validity will get by the researcher to demonstrate and show the instrument in fact. The validity data was measured from the valid instrument. In this research, the researcher make the instrument became valid in reading narrative text for eight grade, the researcher use standard competency and basic competence in Indonesia curriculum that called Kurnas (Kurikulum Nasional), it was related with those instruments:

Table 3.3 The Result of Validity

Class	Main Competency	Basic Competency	Competence Indicators
Eighth Grade 2013 Curriculum	<p>KI 1: Respect and comprehend the teachings of their religion</p> <p>KI 2: Respect and comprehend the honest behavior, discipline, responsibility, caring (tolerance, mutual cooperation), polite, and confidence in interacting effectively with the social environment and the nature in the range of social intercourse and existence</p> <p>KI 3: Understand and apply the</p>	<p>1.1 Thanks to the occasion can learn English language as a international language as a motivation in learning</p> <p>2.1 Showing good manner and caring attitude to do interpersonal communication with teachers and friends</p> <p>3.14 Understanding</p>	3.14.1 Identification

	<p>knowledge (factual, conceptual, and procedural) based on curiosity about knowledge, technology, art, culture that related to phenomenon and events to be visible</p> <p>KI 4: Processing, providing, and reasoning in the real concrete (use, disentangle, combine, modify, and make) in the abstract domain (write, read, count, draw/illustrate, and arrange) that suitable of the learned in school and the same source in the theory</p>	<p>social function, text structure, and language elements from narrative text in the fable form that suitable with the context use</p> <p>4.18 Comprehend the meaning of the narrative text in oral and written in the short fable form and simple use</p>	<p>social function, text structure, and language elements from narrative text in the fable form that suitable with the context use</p> <p>3.14.2 Mention social function, text structure, and language elements from narrative text in the fable form that suitable with the context use</p> <p>3.14.3 Explain social function, text structure, and language elements from narrative text in the fable form that suitable with the context use</p> <p>4.18.1 Identify the meaning of the narrative text in oral and written in the short fable form and simple use</p> <p>4.18.2 Describe narrative text in oral and written in the short fable form and simple use</p> <p>4.18.3 Describe implicit and explicit story or information including moral value from narrative text</p>
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Based on the table above, it shown the data is suitable with main competency, basic competence, and the indicators. The Indicator is also related to the main and basic competence. The researcher held consultation to ask the validity with the expert judgment. They were Gusti Nur Hafifah, S.Pd, M.Pd as supervisor, Ari Setyorini, S.S, M.A as a reading lecturer and Mrs. Khusnul Khotimah, S.Pd as English teacher of SMPN 39 Surabaya.

Table 3.4 List of Validators

No.	Name	Validity of the test		Date of Validation
		Yes	No	
1.	Gusti Nur Hafifah, M.Pd	✓		14 th January 2018
2.	Ari Setyorini, S.S M.A	✓		25 th January 2018
3.	Khusnul Khotimah, S.Pd	✓		05 th February 2018

3.7.2 Reliability

The researcher used standard competency and basic competency of to know whether the instruments are valid or not. The researcher must measure reliability of the instruments. Reliability used to measure the instrument if it reliable and appropriate to use in this research. According to Ary (2010:236) that reliability is to show how is essential in any kind of measurement. Reliability of a measuring instrument is the degree of consistency. According to Creswell (2002:159) Reliability shows that the scores from an instrument which are stable and consistent. Reliability a goal of good research is to have measures or observations that are reliable. The researcher used SPSS to measure reliability. There is coefficient criteria in measuring reliability.

Between 0.800 until 1.00 = very high

Between 0.600 until 0.800 = high

Between 0.400 until 0.600 = enough

Between 0.200 until 0.400 = low

Between 0.00 until 0.200 = very low

If the correlation coefficient (r_{count}) is more than (r_{table}) so the point is valid.

3.8 Data Collection Technique

Data collection technique is the important for the researcher because it is main step of the researcher to get the data. Data is needed in every research to observed and studied, without the data the researcher will not get standardized. Therefore the researcher use test for data collection technique. The function of the test to get the result both pretest and post test. There are some steps done in data collection techniques as below:

1. Preparation
 - a. Analyzing topic materials
 - b. Make and Arrange lesson plan
 - c. Preparing Instrument, Assessment, and Test
 - d. Revision about instrument
 - e. Making test

For the preparation, the researcher consulted all above to the English teacher in SMPN 39 Surabaya.

2. Realization
 - a. Giving Pretest both of groups Experimental and Control group
 - b. Implementation of the treatment about Reciprocal Teaching Method in teaching reading narrative text at experimental group
 - c. Giving post test for both of group Experimental and Control Group
3. Ending of Action
 - a. Collecting Data
 - b. Observing Data
 - c. Analyzing Data

3.9 Data Analysis Technique

The researcher analyzing the data after has been collected. John and James (2006:351) state that “the purpose is to give the reader an overview by used statistical procedures and enough information to calculate many of them by hand and the aid of a computer”. This activity of data collection technique by grouping data based on variable to answer of the researcher’s statement of the problem as well to examine by the hypothesis.

3.9.1 Normality

The purpose of normality test is to know that the data normal or not. To check this data, the criteria of testing normality is if $P_{value} < \sigma$ so that H_0 is refused.

The criteria of the test based on P - value as below :

H_0 push away, if $P_{(value)} < \sigma$, so data is normal distribution

H_1 push away , if $P_{(value)} > \sigma$, so data is more normal distribution.

3.9.2 Homogeneity

To measure both classes are homogeneous, the researcher counted homogeneity by using Levene test of homogeneity of variences. Homogeneity test is done by using SPSS verse 20.0 to check both of classes are homogeneous or not. The criteria of testing Homogeneity:

The criteria of the test as below :

H_0 : SIG < ALPA 0.05, so data is not homogeneous

H_1 : SIG > ALPA 0.05, so data is homogeneous

3.9.3 T-Test

After testing homogeneity, researcher continued with T-test. T-test used to know if there is significance or not in implementation the strategy. On standardization 0.05 with formula hypothesis:

H_0 = Reciprocal Teaching Strategy is not effective in reading narrative text to increase reading comprehension at junior high school students.
 H_1 = Reciprocal Teaching Strategy is effective in reading narrative text increase reading comprehension at junior high school students.

The criteria of the test based on P value as below:
 H_0 Push away , if $P_{(value)} < \sigma$, so there is no effective
 H_1 Push away , if $P_{(value)} > \sigma$, so there is effective

The researcher counted T-test using manual way with calculating T_{count} and T_{table} . If $T_{count} > T_{table}$, So H_0 push away , but it if $T_{count} < T_{table}$ so that H_1 push away.

3.9.4 Computing Mean

Computing the mean use to calculate both of pretest and post test in each group. John and James (2006:359) stated that mean of a distribution commonly understood as the arithmetic average. The mean is probably the most useful of all statistical measures.

$$\bar{x} = \frac{\sum x}{N}$$

\bar{x} = Mean

$\sum x$ = The sum of the x scores

N = The number of the subject

3.9.5 Computing Standard Deviation

Determining the Standard Deviation used for the scores pretest and post test for both groups from raw scores.

$$S = \sqrt{\frac{\sum x^2}{N} - \bar{x}^2}$$

- S = Standard Deviation
- Σx^2 = The sum of the x squared scores
- \bar{x} = The mean of distribution
- N = The number of students