

CHAPTER III

RESEARCH METHODOLOGY

In this chapter the researcher presents the research method. It consists of research design, population and sample, research variable, research instrument, validity and reliability testing, normality and homogeneity testing, data collection method, data analysis and hypothesis testing.

A. Research Design

In this study, the researcher uses quantitative research methodology. Quantitative research methodology be included the category of empirical studies or statistical studies. This is used to measure problems by producing numerical data or data that can be converted into statistics that can be used. Quantitative methods require data collection, data analysis, data interpretation, and writing of research findings (Creswell, 2014). Quantitative research is widely used to present a fact or describe statistics, test a theory, show relationships between variables, and some are developing concepts, developing understanding or describing many things, both in the natural and social sciences.

In many educational research situations, it is sometimes not possible to take for the control group or treatment group randomly. Both the school system and the teacher want a researcher to decide which classrooms to take. To overcome this situation and related to the background of the study, researcher uses a Quasi-

Experimental Design with Nonrandomized Control Groups and Pretest-Posttest. According to Donald, Lucy, Chris, and Asghar (2010), Nonrandomized Control Group and Pretest-Posttest are the most popular in quasi-experimental design.

The goal of quasi-experimental design is to try to determine whether or not specific treatment influences the outcome (Creswell, 2014). The researcher can decide on two classes that look similar. Then, give special care to one giving group. The researcher assessed this by giving pre-test and post-test to both classes. This design is used to examine cause an effect of using story mapping technique on students' speaking skill in descriptive text.

In this research, it compares experimental class (where story mapping technique is applied in learning of descriptive text class) and controlled class (where story mapping technique is not applied in learning of descriptive text class). The effectiveness can be seen by comparing improvement of students' score of experiment class and controlled class of post-test after they have been given treatments by the researcher

The research design can be presented as follows:

Table 3.1 The Research Design

Group	Pre-test	Treatment	Post-test
Experimental Group	X ₁	SMT	X ₂
Control Group	Y ₁	DT	Y ₂

Note:

X_1	: Pre-test of experimental group
Y_1	: Pre-test of control group
SMT	: Story Mapping Technique
DT	: Discussion Technique
X_2	: Post-test of experimental group
Y_2	: Post-test of control group

B. Variable of the Research

In this study, there are two variables, namely independent variables and dependent variables, they are as follows:

1. Independent Variable

According to Sugiyono (2010:4), independent variable is always named stimulus and antecedent variable. Independent variable is a variable that cause a dependent variable. The independent variable of this research is teaching speaking using reciprocal teaching, which is symbolized by 'X'.

2. Dependent Variable

Dependent variable is a measure of the effect of the independent variable. Dependent variable is called output, criteria, consequent variable (Sugiyono, 2010:4). The dependent variable of this research is the students' speaking ability, which is symbolized by 'Y'.

C. Population And Sample

1. Population

The population is all member of each class or every school. Based on the research objectives above, the population of this research is the second grade students at MTsN 3 Kota Kediri in the academic year 2019/2020. The population of this research are from VIII A and VIII B. They are 68 students as the population.

2. Sample

Then, the samples of this research are two classes in the school, the classes will be selected by the school which is students from second grade those are VIII A and VIII B. Class VIII A consists of 34 students as the experimental group who will get the treatment from the researcher. Class VIII B also consists of 34 students as control group who will not get the treatment from the researcher. They are 68 students as the sample of this study. The researcher did not have authority to take the sample of the subject randomly, so the researcher take the whole class A and class B as the sample of this study. This sample is classified as an experimental group and a control group. VIII A students will be the experimental group and VIII B students will be the control group.

D. Research Instrument

Research instruments are tools that researchers use to measure participants. This is used to get primary data and support data. In this study, researchers used test as instrument. Test is an examination to know students' understanding about the materials and also to get the score for collecting the data. There two kind of test that used in thi study those are pretest and posttest. There are pre-test ,posttest and scoring rubric, such as:

1. Pre-test

Pre-test was administered in order to find out the students' speaking skill before the treatments. Pre-test that given before treatment. The first instrument to take the data is giving the pre-test to the experimental group. The aim of this test is to know the basic of students' ability before the treatment. The test is describing a story mapping that they make with the object that they like. They describe orally in front of class.

In pre-test, the researcher asks the students to make a group. one group consist of 4-5 students. And then they choose the object (someone, something, or activity) that they like and they make a story mapping about the object , so they can tell the stories freely and the researcher will only pay attention to their speaking skill.

2. Posttest

Posttest is the treatment that the researcher use after did pre-test is by using story mapping technique in speaking skill and that is the treatment for experimental group. The aims of post-test are to know the progression of students' speaking skill after be treatment and to know the result of treatment whether the treatment is effective or not. The researcher gives treatment to the experimental group by using story mapping technique. The researcher gave posttest in order to know the result of this class in teaching learning process whether they had progress or not. After that the researcher gave posttest for both of experimental and control group. At the end, the researcher got the data from pre-test and posttest and continue with analyzing the data of the research.

3. Scoring Rubric

Table 3.2 Scoring Rubric for Speaking

No	Criteria	Scale	Description
1	Pronunciation	5	Has little foreign pronunciation.
		4	Clear enough to be understood.
		3	The pronunciation leads to misunderstanding.
		2	Very hard to understand. Must frequently be asked to repeat.
		1	Unclear pronunciation
2	Grammar	5	Makes only little error on grammar and word order.
		4	Occasionally makes errors and unclear meaning.

		3	Makes frequent errors of grammar and word order.
		2	Grammar and word-order errors make comprehension difficult.
		1	Makes some errors in grammar which leads to unclear meaning.
3	Vocabulary	5	Use of vocabulary and idioms like native speakers.
		4	Sometimes uses inappropriate terms.
		3	Frequently uses wrong words / Inadequate vocabulary.
		2	Misuse of words and very limited vocabulary.
		1	Vocabulary limitations so extreme and impossible to make conversation.
4	Fluency	5	No hesitation in speaking like the native speakers.
		4	Speed of speech seems to be slightly affected by language problems.
		3	Speed and Fluency are rather strongly affected by language problems.
		2	Usually hesitant: often forced into silence.
		1	Speech is so halting (stop moving) and impossible to make conversation.
5	Comprehension	5	Appears to understand everything without difficulty.
		4	Understand nearly everything at normal speed, although occasional repetition may be necessary.
		3	Understanding with slower than normal speed with repetitions.
		2	Has great difficulty following what is said and needs frequent repetitions.

		1	Cannot be said to understand even simple conversational English.
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Source: David P. Harris, *Testing English as a Second Language*, New York, Rev. Ed. Mc.Graw-Hill, Inc., 2004, p.81

Criteria for score:

- 5 = Excellent
- 4 = Very Good
- 3 = Good
- 2 = Average
- 1 = Poor

E. Treatment Procedure

This research uses a quasi-experimental design including an experimental group and a control group consisting of pre-test and post-test. In class activities there are three stages including pre-teaching, teaching activity, and post-teaching. Based on that, the pre-teaching phase of the teacher gives a pre-test exam to determine the students' initial abilities, the teaching activity stage of the teacher begins to apply methods that make it easier for students to understand the material, and the post-teaching teacher provides a post-test exam to determine the results of student development after the method applied. There are 2 classes, namely an experimental group that uses the Story Mapping Technique and a control group uses the Discussion Technique. Following are the teaching procedures from the Story Mapping Technique and Discussion Technique, including:

Table 3.3 Treatment Procedure

Experimental Group	Control Group
Opening	Opening
Greet the students, Check attendance list and explain about the material, give simple question about their condition.	Greet the students, Check attendance list and explain about the material, give simple question about their condition.
The researcher explains about the definition, the function, the generic structure of descriptive text.	The researcher explains about the definition, the function, the generic structure of descriptive text.
The researcher gives an example of descriptive text, she describes about "My Favorite Room".	The researcher gives an example of descriptive text, she describes about "My Favorite Room".
The researcher asks the students to make some groups consist of 4-5 students, and the researcher gives the procedure of Story Mapping Technique.	The researcher asks the students to make some groups consist of 4-5 students, and the researcher gives the procedure of Discussion Technique.
The researcher gives kind of themes and then the students choose one of the themes.	The researcher gives some pictures and asks to students to describe it with their group and read together
Students apply picture series according to procedure.	The students analyze the generic structure about the descriptive text together in group.
The students try to describe one themes each group and then make a story mapping, draw the picture in form a chart, map, and other form.	Th researcher asks the students to tell more from the result of Discussion Technique.
The students doing presentation about what they describe in story	The researcher asks the students about the difficulty of Discussion

mapping orally without script. The researcher gives 5-8 minutes to present.	Technique.
The researcher ask the students about the difficulty of story mapping technique. And the researcher asks the students to tell about the activity.	Closing
Closing	

The schedule of the activity done in this research can be seen in Table 3.4.

Table 3.4 The Schedule of The Activity

Activity	Experimental Group	Control Group
Pre-test	January, 27 th , 2020	January, 28 th , 2020
Treatment 1	January, 29 th , 2020	January, 30 th , 2020
Treatment 2	February, 3 rd , 2020	February, 4 th , 2020
Treatment 3	February, 5 th , 2020	February, 6 th , 2020
Treatment 4	February, 11 st , 2020	February, 12 nd , 2020
Post-test	February, 17 th , 2020	February, 18 th , 2020

F. Data Collection Method

Data collection is the process of gathering and measuring information on variables of interest, in an established systematic fashion that enables one to answer stated research questions, test hypothesis, and evaluate outcomes. The researcher uses the instrument to this research is test. Test is an examination to know the students' understanding about the materials and also to get the score for collecting data.

Pretest that given before treatment and to find out the students' speaking skill before the treatment. Post test is the treatment that the researcher use after did pre-test is by using story mapping technique in speaking skill.

Pretest and posttest include tests of understanding talking about descriptive text. The pretest is finding the objects related the material and the posttest is about choose the objects that given by the teacher and the students must make story mapping and describe that. Researchers chose it because it was in accordance with the syllabus of class 8 of the Ministry of Education and Culture 2019. Pretest and posttest were given to get speaking skills scores. After the pretest and posttest are done, researchers can find the data..

G. Data Analysis

Data analysis is an important part of research. In data analysis researchers must analyze the entire data that comes out to describe, illustrate, and evaluate data. Based on the research design, researchers used ANCOVA (Analysis of Covariance) to analyze the data in this study. Two variables investigated in this study are story mapping technique and student scores in speaking skills. After the researcher collect the data, the data analyst by using ANCOVA and SPSS. According to Abbas (2015) Analysis of Covariance (ANCOVA) is a more sophisticated method of analysis of variance. Analysis of Covariance is used to compare response between two or more groups (categorical variables) adjusted for a quantitative variable (covariate), thought to influence the outcome (dependent).

Based on Ary (2010) ANCOVA is a statistical technique used to control the effect of independent variable that connected with the dependent variable. In order to know and analyze the differences between pre-test and post-test, the researcher used analysis of covariance. The researcher uses ANCOVA because the sample is not randomly. In this data analysis, the researcher use SPSS 16 to analyze the data.