CHAPTER III
RESEARCH METODOLOGY

A. Research Design

The design of this research was an experimental research. According to Gay, Mill, and Airasian (2000: 250) experimental research is the only type of research that can test hypothesis to establish cause and effects relationship. In experimental study, the researcher manipulates at least one independent variable, controls other relevant variables, and observes the effect on one or more dependent variable.

Gay (2000: 251) stated that, an experimental research typically involves a comparison of two groups, which are experimental group and control group. The experimental group typically receives a treatment; a treatment under investigation, while the control class usually receives a different treatment or is treated as usual.

There are two classes would be involved in this research. The first is classified as the experimental class (E) and the other one is the control class (C). Both classes got the same topic, the same length of time and the same teacher. The experimental class would be taught by using Student Team Achievement Division Technique and the control class would be taught by using conventional technique. The treatment would be given to experimental class about fifth meeting; every meeting researcher gave different topics. At the end of treatment the researcher gave the students post-test.

In this research, the researcher used posttest only design. The posttest scores are compared to determine the effect of the treatment. According to Sugiyono (2014: 76) this design takes the following form:

Table 3.1

The Research Design of This Research

Group	Treatment	Posttest
Experiment Group	X	T
Control Group	-	T

Note:

X   = Teaching by using Student Team Achievement Division technique

T   = Post-test for experimental and control group

B. Population and Sample

1. Population

Gay et al (2000:122) state that population is the testing sample of the research can allow the researcher to make inferences about the performance of the larger group. Arikunto (2010:173) says that population is all of subject in research. Besides that, Encyclopedia of Educational Evaluation in

Sugiyono (2013:119) say that population is the generalization region that consist of object or subject that have certain qualities and

characteristics, defined by the research to learn and then draw conclusion. The population of this research were all of the first year students at SMPN 1 Koto Balingka in the academic year of 2017/2018. There were three classes and the totals of students' class VIII were 116 students. As shown in the table bellows:

Table 3.2

Population of the Students at the eight grades At Junior High School 1 Koto Balingka

No	CLASS	TOTAL
1	VIII A	28
2	VIII B	27
3	VIII C	31
4	VIII D	30

2. Sample

According to Gay (2000:121) sampling is the process of reflecting a number of individuals for a study in such way that the individual represent the large group which it is selected. He also states that a good sample is the one that representative of the population from which is selected.Population of this research is the second grade of Junior High School 1 Koto Balingka. Researcher selected class VIII A and VIII B of students in Junior High School 1 Koto Balingka as sample.After that, the researcher used coin to determine which one both of experimental and control group.

Table 2.3
Sample of the Students at the eighth grades at
Junior High School 1 Koto Balingka

Class	Amount of the students
VIII- 1	28
VIII-2	27
TOTAL	55

C. Place and Time Research

The research was held at Junior High School 1 Koto Balingka. It was started on May until July 2018 conducted. The research was conducting on six meeting in several weeks by applying Inside Student Team Achievement division technique to saw the effect on students' speaking ability.

D. Instrumentation

Instrumentation is a tool to collect the data from the sample. The instrumentation in this research was by giving speaking test.

1. Speaking Test (Oral Presentation)

This research used test as instrument. This test to know the students speaking skill in speaking aspect: grammar, pronunciation, fluency, vocabulary and comprehension.After six times treatment, researcher gave post test to both of class the post test was oral presentation test. Researcher gave some pictures (people or place). Then they would choose one to present in front of the class for each student of the both of class, experimental class and control class. According to Brown (2004: 179), in oral presentation there are some rules for effective assessment must be involved: a) specify the criterion,

b) set appropriate tasks, c) elicit optimal output and, d) establish practical. For assessing speaking in oral presentation test was related to Huges's scoring.

2. Procedure of the Research

1. Preparing

The researcher used two classes to collect the data, the researcher taught the students by using inside outside circle technique for experimental class, and conventional technique in control class. The material of the teaching was the same material. In short, the researcher was proposed this procedure:

a. Determine the research time.

b. Prepare the lessons plan arranged by curriculum.

c. Explain to the students about the planning in learning process.

d. Prepare the final test.

2. Learning Process

Teaching Procedure for Experimental and Control Group

No	EXPERIMENTAL CLASS	CONTROL CLASS
1	**Pre activities (10 minutes)** Apperception -Greeting -Praying -Checking students attendance **Motivation** -Remanding students about last material. -Teacher ask some question -Teacher introduces learning	**Preactivities (10 minutes)** Apperception -Greeting -Praying -Checking students attendance **Motivation** -Remanding students about last material. -Teacher ask some question -Teacher introduces learning

No	EXPERIMENTAL CLASS	CONTROL CLASS
	objective to studentents -Teacher writes a topic of the lesson on the Whiteboard	objective to studentents -Teacher writes a topic of the lesson on the Whiteboard
2	**Whilst Teaching** **Exploration (60 minutes)** -Teacher introduces learning objective to students -Teacher give example of dialogue -Teacher asks the student to read an example of a dialogue **Elaboration** -The teacher gives the students clearly instruction of what students should do in learning spending. -The teacher divides the student into group to apply STAD technique 1. The teacher presents the material in front of the class in the classical style that focuses on the concepts of matter to be discussed only 2. The formation of study groups (Teams). Students are organized into groups whose members are heterogeneous (both academic ability and	**Whilst Teaching** **Exploration (60 minutes)** -Teacher introduces learning objective to students -Teacher give example of dialogue -Teacher asks the student to read an example of a dialogue. **Elaboration** -The teacher asks to the student to sit in group of 3 member - The teacher ask the students to make dialogue about expressing Agreement and Disagreement.

No	EXPERIMENTAL CLASS	CONTROL CLASS
	gender) 3. Provision of test or quiz (quizzes). After studying the groups completed the test, quiz is held with the objective of identifying, or the ability to measure student learning of the material has been studied. 4. Improved scoring individual (individual improvement score) 5. Award group (team recognition). Award is given to the group to give a gift in appreciation of the efforts that have been made during the study. **Confirmation** -Teacher asks for the students to conclude the material. -After there is no responses from othergroups, the teacher give any critics or suggestion to make betterat future	**Confirmation** -Finally, the teacher ask the brave students to perform in front of the class. -The other may give any response such as comment, question and critics. -Students get the supporting comments from the teacher.
3	**Post-Activity (20 minutes)** -Teacher gives feedback to the teaching process. -Teacher and students conclude the lesson -Teacher give reclection (asking student response about the lesson).	**Post-Activity (20 minutes)** -Teacher gives feedback to the teaching process. -Teacher and students conclude the lesson -Teacher give reclection (asking student response about the lesson).

No	EXPERIMENTAL CLASS	CONTROL CLASS
	-Close the class	-Close the class

3. After the treatment, each of the students would be tested

After doing the learning process, so the final test was post test about expressing opinion. The test was given to the students of experimental and control classes.

3. Technique of Data Collection

a. Post- test

The score of the students post test was data in this research; the data had been collected by following procedures:

1) Teacher gave positive feedback to the students' performance or their expressing about the material

2) Teacher gave praises of reward to the students' success and then gave the score for student (vocabulary, structure, pronunciation, comprehension and fluency).

3) Teacher motivated students who were not successful yet.

4) The score of each component were determined by its own weight, it was based on the five points of rating scale.

5) All of the score of five components were summed up.

b. Scoring

The scoring of this research based on students abilities in speaking such as; pronunciation, vocabulary, grammar, fluency and comprehension.

According to Hughes (1989: 111-113) scoring technique such as:

No	Items	Criteria of Each Item	Score
1	Pronunciation	Pronunciation frequently unintelligible.	0
		Frequent gross errors and a very heavy accent make understanding difficult, require frequent repetition.	1
		"Foreign accent" requires concentrated listening, and mispronunciations lead to occasional misunderstanding and apparent errors in grammar or vocabulary.	2
		Marked "foreign accent" and occasional mispronunciations which do not interfere with understanding.	2
		No conspicuous mispronunciations, but would not be taken for a native speaker.	3
		Native pronunciation, with no trace of "foreign accent"	4
2	Grammar	Grammar almost entirely inaccurate phrases.	1
		Constant errors showing control of very few major patterns and frequently preventing communication.	2
		Frequent errors showing some major patterns uncontrolled and causing occasional irritation and misunderstanding.	3
		Occasional errors showing imperfect control of some patterns but no weakness that causes misunderstanding.	4
		Few errors, with no patterns of failure.	5
		No more than two errors during the interview.	6
3	Vocabulary	Vocabulary inadequate for even the simplest conversation.	1
		Vocabulary limited to basic personal and survival areas (time, food, transportation, family, etc.)	2
		Choice of words sometimes inaccurate, limitations of vocabulary prevent discussion of some common professional and social topics.	3
		Professional vocabulary adequate to discuss special interests.	4
		Professional vocabulary broad and precise	5
		Vocabulary apparently as accurate and extensive as that of an educated native speaker.	6
4	Fluency	Speech is so halting and fragmentary that conversation is virtually impossible.	1
		Speech is very slow and uneven except for short or routine sentences.	2
		Speech is frequently hesitant and jerky; sentences may be left uncompleted	3
		Speech is occasionally hesitant, with some unevenness caused by rephrasing and grouping for words.	4
		Speech is effortless and smooth, but perceptibly non-native in speech and evenness.	5
		Speech on all professional and general topics as effortless and smooth as a native speaker's.	6
5	Comprehension	Understands too little for the simplest type of conversation.	1
		Understands only slow, very simple speech on common social and touristic topics, requires constant repetition rephrasing	2

4. The Technique of Data Analysis

        The researcher used the statistical procedures to analyze the scores. It gives a way to analyze the differences of speaking achievement between control group and experimental group. To find the standard deviation in experimental and control class, the writer used the formula of t-test.

        In this case, T-test means a statistical procedure which is used to determine, whether there was any significant difference between the means of the two sets score from control and experiment class.In analyzing the students' test score; there were some steps that would be done before analyzing the different mean by using t-test formula as follows:

a. This formula was applied to decide mean of students' test score in experimental and control group;

$$\overline{X_1} = \frac{\sum F_1 X_1}{\sum F_1} \text{ (Experimental group)}$$

$$\overline{X_2} = \frac{\sum F_2 X_2}{\sum F_2} \text{ (Control group)}$$

b. This formula was used to decide standard deviation of experimental group;

$$S_1^2 = \frac{n_1 \sum F1\ X1^2 (\sum F1\ X1)^2}{n_1(n_1 - 1)}$$

This formula was used to decide standard deviation of control group;

$$S_2^2 = \frac{n_1 \sum F2\ X2^2 (\sum F2\ X2)^2}{n_2(n_2 - 1)}$$

c. The formula of T-test is as follows (Sudjana: 2005):

$$t = \frac{X_1 - X_2}{S\sqrt{\dfrac{1}{n_1} + \dfrac{1}{n_2}}}$$

With:

$$S = \sqrt{\frac{(n_1 - 1)S_1{}^2 + (n_2 - 1)S_2{}^2}{n_1 + n_2 - 2}}$$

Note:

X_1	=	Mean score of experimental group
X_2	=	Mean score of control group
S_1	=	Standard deviation of experimental group
S_2	=	Standard deviation of control group
n_1	=	Number of experimental group
n_2	=	Number of control group

The t_{table} was employed to see whether there was a significant difference between the mean score of both experimental group and control group. The value of $t_{obtained}$ was consulted with the value of t_{table} at the degree of freedom $(n_1-1) + (n_2-1)$ and the level of confidence of $95\% = 0.05$. If the value of $t_{obtained}$ was less than the value t_{table}, the null hypothesis was accepted; on the contrary, if the value of $t_{obtained}$ is equal or bigger than value of t_{table}, the alternative one was not accepted.