CHAPTER III

RESEARCH METHODOLOGY

In this chapter, researcher discusses research method and some aspects which are used to conduct this study. They are research design, population, sampling and sample, research instrument and instrumentation, validity and reliability testing, normality and homogeneity testing, data collecting method, data analysis and hypothesis testing.

A. Research Design

In this study, the researcher uses pre-experimental research design with one group pretest - posttest design because it does not have random assignment of subject to group or other strategy to control extraneous variable (Ary, 2010: 203). Thus, the researcher takes one group only as subject and involves pretest and posttest to see the effectiveness of the instructional treatment. The effectiveness of the instructional treatment is measured by comparing the score of the pretest and posttest.

There are three steps of pre-experimental research design that the researcher done in conducting this study, they can be seen from the design illustration of pre-experimental research design at the table 3.1 below:

Table 3.1 The One-Group Pretest-Posttest Design

Y1	X	Y2
Pretest	Treatment	Posttest

According to the design illustration at the table 3.1 above, researcher elaborates three steps of pre-experimental research as follows:

1. Administering a pretest with a purpose of measuring speaking ability at the eight grade students of MTs Sunan Kalijogo Rejosari before given treatment.

2. Applying the experimental treatment of speaking ability by using Inside Outside Circle (IOC) technique at the eight grade students of MTs Sunan Kalijogo Rejosari.

3. Administering a posttest with a purpose of measuring speaking ability at the eight grade students of MTs Sunan Kalijogo Rejosari after given treatment.

B. Population, Sampling, and Sample

1. Population

According to McMillan (1996:85), a population is a group of elements or cases, whether individuals, objects, or events, that conform to specific criteria and to which we intend to generalize the results of the research. In this study, the target of populations is all eight grades students of MTs Sunan Kalijogo Rejosari in the academic year 2016/2017 that consist of 4 classes with the total of students are 120. After determining the population, the researcher selects the sample as the representative of population.

2. **Sampling Technique**

   Sampling is a process of selecting a number of the students who will be represent from the large group (Ary, 2010:155). In selecting the sample, researcher uses a certain sampling technique that is purposive sampling. Purposive sampling is used when the researcher is unable to take a probability sampling but it is still able to select subjects to be typical, or representative, are chosen from the population on the basis of the researcher's purpose. Thus, it is used to select the sample because to obtain representative sample from population which provides the sufficient information needed by the researcher. In order to get the representative result, the researcher only chooses one class who can give sufficient information needed and the effectiveness of Inside Outside Circle (IOC) technique can be identified when it is implemented in speaking class.

3. **Sample**

   Sample is a group of subject or participant (students) is chosen from the populations to be a representative (Fraenkel and Wallen, 2009:90). A sample is selected because the population is too large to be studied in its entirety therefore the sample must be taken from population in order it can be representative of the general population. The sample of this study is VIII-B class that consist of 28 students in which the number of male is 17 and female is 11 at MTs Sunan Kalijogo Rejosari in academic year 2016/2017. Researcher chooses VIII-B class because researcher believes that they can give sufficient information needed.

C. **Variables**

According to Ary (2010) variable is an attribute that is regarded as reflecting or expressing some concept or construct. Variable is something that may vary or differs. Related to the title of the study "The effectiveness of using Inside Outside Circle (IOC) technique towards students' achievement on speaking of the eight grade students at MTs Sunan Kalijogo Rejosari Kalidawir", there are two variables in this study:

1. **Independent variable**

Independent variable is the condition that we ourselves vary (Butler: 1985:11). The independent variables are the characteristics that the researcher manipulates in his or her attempt to ascertain their relationship to observed phenomena. In this study, the independent variable is the use of Inside Outside Circle (IOC) technique.

2. **Dependent Variable**

Dependent variable is those whose response we are measuring (Butler: 1985:11). The dependent variables are the measured changes in students' performance to the influence of the independent variables. In this study, the dependent variable is students' achievement in speaking.

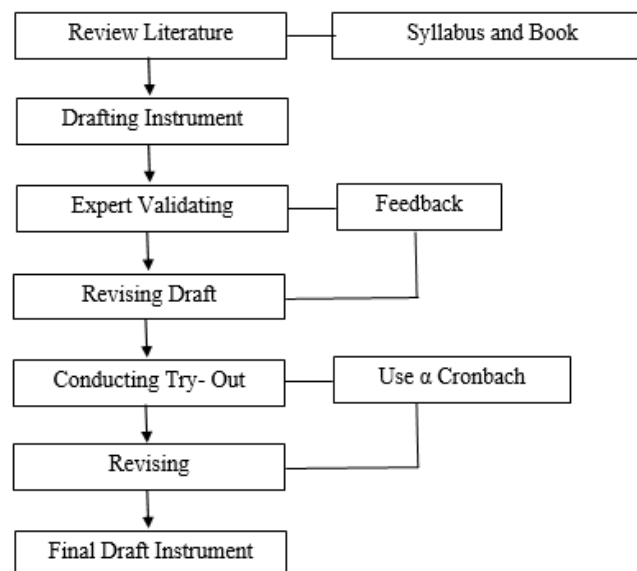D. **Research Instrument and Instrumentation**

1. **Research Instrument**

Research instrument is the tools to measure something that we observe in order to obtain the data and answer the research problems (Sugiyono: 2011). In this study, the researcher uses test as an instrument to

measure the students' score in speaking before and after implementing the Inside Outside Circle (IOC) technique in speaking class.

2. Research Instrumentation

In order to get a good instrument, there are several steps to develop the reserach instrument which can be seen at the diagram 3.2 below:

Diagram 3.2 Instrumentation

The steps of instrumentation are elaborated as follows:

1. Review Literature

The first steps, the researcher reviews some literatures from syllabus and text book used in Junior High School to get information that the researcher need to draft the instrument related to the materials of Junior High School at the eight grades in second semester. As a result of reviewing literatures, the researcher knows that the speaking material used

in the second semester of eight grades is about simple monolog to interact with the surrounding environment in the form of recount text.

2. Drafting Instrument

   In this case, the researcher starts to draft the instrument based on the information got from reviewing literature so that the instrument will be appropriate with the material of Junior High School at eight grade in second semester.

3. Expert Validating

   After finishing the drafting instrument, the instrument should be validated by an expert such as English teacher or lecturer to get some feedbacks and validation guide. There are some feedbacks that the researcher get, the first is about face of instrument which is not good enough and the second is about the instructions which are not clear and there are some grammatical errors.

4. Revising Draft

   In this step, the researcher uses some feedbacks collected from the expert validation to revise the draft of instrument.

5. Conducting Try- Out

   After revising the draft of the instrument, the researcher tries the instrument out to the eight grade students of MTs Sunan Kalijogo who has common characteristics with the subjects of this study. Then, the result of trying the instrument out is used as the data to know the reliability and validity of the instrument. The data is analyzed by using Alpha Cronbach

because reliability and validity of the instrument can be objectively computed by using the formula of Alpha Cronbach. They are explained specifically in the next discussion.

6. Revising

In this step, researcher do not do revising because the result of Alpha Cronbach shows that the instrument has been reliable. The result will be shown specifically in the discussion of reliability.

7. Final Draft Instrument

In the last step, researcher has final draft instrument which has revised once. Thus, it can be said that the final draft instrument has a good quality.

E. Validity and Reliability Testing

Harris (1969: 13) stated that all good tests possessed two qualities: validity and reliability. Hence, to know whether the test is good or not, there are two important characteristics that should to be considered:

1. Validity

The validity of a test concerns whether it is measuring what we think and say it is measuring (Allison, 2002:85). In this study, the researcher uses content validity and face validity to know the validity of the test.

a. Content validity

A test is said to have content validity if it includes a proper sample of the structure or content which is relevant with the purpose of the test. Thus, the researcher adjusts this test with the course objective in the syllabus in which contains of standard competence and basic

competence of eight grade of MTs Sunan Kalijogo Rejosari in second semester. Therefore, this test can be said valid in term of content validity. The content validity in this study can be seen at the table 3.3 as follows:

Table 3.3 Content Validity

Standard competence	Basic competence	
1.Expressing meaning in oral functional text and simple short monolog in the form of recount text to interact with surrounding environment	1.2 Expressing the meaning in simple monolog by using variety oral language accurately, fluently, and appropriately to interact with the surrounding environment in the form of recount text	
Indicator	Speaking Task	Rubric
- The students are able to tell the story based on generic structure of recount text; orientation, event, reorientation - The students are able to use varied vocabulary - The students are able to use appropriate language pattern of recount in speaking; simple past tense, conjunctions, etc., - The students are able to pronounce the word or sentences fluently	Prompt: tell your experience orally based on the topic that teacher has decided! to decide the topic, count 1 up to 3 which is started from the students sitting on the front row! Topic : • Student who says 1 should tell the experience in the school. • Student who says 2 should tell the experience in the house. • Student who says 3 should tell the experience about holiday.	Students were assessed based on 5 elements as follows : vocabulary, content/idea, fluency, pronunciation, and grammar

b. Face validity

Ary (2010) mentioned that face validity refers to the extent to which examines believe the instrument is measuring what is supposed to measure. Therefore, the test is said to have face validity if examiners believe the instrument measures what is supposed to measure. Hence, the test which have no face validity may be refused by test-takers, teachers, or advisor. In this study, researcher has the face validity by consulting with advisor as expert. Then, researcher makes some revisions on the instrument based on some feedbacks from the advisor as the expert. The points of view that should be revised by the researcher are about the instructions that are not clear enough and the grammatical errors on the instruction.

2. **Reliability**

Reliability is the stability of test scores; a test cannot measure anything well unless it measures consistently (Harris, 1969: 14). Thus, reliability is necessary characteristic of any good test: for it to be valid all, a test must first be reliable as a measuring instrument (Heaton, 1989:162). To know whether the instrument is reliable or not, the researcher tries the instrument out.

The instrument consists of some instructions for speaking. Hence, the way how to try the instrument out is by having interview with the students. The items of try-out test is about telling personal experience in the form of recount. Thus, the researcher shows the instructions to the students first

before they tell their experience. Those items are same with the items of pre-test and post-test.

Besides, the researcher uses inters rater reliability where the researcher involves two raters in scoring the students' speaking ability. The two raters here are the researcher herself and one of eight semester students of IAIN Tulungagung of English department. The researcher chooses the rater because she can understand every point in the scoring rubrics. Further, the researcher uses Alpha Cronbach's in SPSS 16.0 for windows to analyze the correlation of two set scores which is gained from the try-out test that is done on March, 27th 2017 to the ten students of VIII-C class which is not the class that is used as the sample of this study in order to know the reliability of the test instrument.

In addition, Ridwan (2004:118) mentioned that there are five criterias of reliability instrument that can be used to check whether the intrument realiable or not, they are as follows:

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

Table 3.4 shows the students' score obtained from the tryout. Score 1 is taken by the first rater and score 2 is taken by the second rater. Those

scores are used to check the reliability of the test and the result is presented

on the next table (table 3.5).

Table 3.4 The Scores Obtained from The Try Out

No.	Students	Score 1	Score 2
1	A	7	8
2	B	8	10
3	C	10	10
4	D	10	8
5	E	13	12
6	F	5	7
7	G	8	9
8	H	8	7
9	I	9	8
10	J	10	7
		$\sum X = 88$	$\sum X = 86$

The result of the reliability testing conducted by the researcher can be

seen in the table 3.5 as follows;

Table 3.5 Result of Reliability

Reliability Statistics

Cronbach's Alpha	N of Items
.759	2

Based on the result of reliability statistics of SPSS 16.0 for windows,

the value of Alpha Cronbach is 0,759. It can be conclude that the test used

by the researcher is reliable.

F. Normality and Homogeneity Testing

    1. Normality Testing

        Normality testing is used to determine whether the data gained is normal distribution or not. In this study, researcher uses SPSS 16.0 with One- Sample Kolmogorov – Smirnov to test the normality of the data gained. The normality of the data can be seen based on the significant value (α) = 0.050 rules as follows:

      ➢ If the value of significance > 0.050, means data is normal distribution.

      ➢ If the value of significance < 0.050, means the distribution data is not normal distribution.

    2. Homogeneity Testing

        Homogeneity testing is conducted to know whether the data gained has a homogeneous variance or not. The computation of homogeneity testing uses *Test of Homogeneity of Variances* in SPSS 16.0 for windows by the value of significance (α) = 0.050. The homogeneity of data can be decided based on the hypothesis of homogeneity as follow:

      ➢ If the value of significance > 0.050, means data is homogeneous.

      ➢ If the value of significance < 0.050, means data is not homogeneous.

G. Data Collecting Method

        Data Collection is done by observing a situation, setting or interaction using the constructed instrument (Muijs, 2004:22). In this study, the data is collected by administering the test. Researcher uses speaking test to get the

students score as the data. The researcher uses two kinds of test, those are pretest and posttest.

Pretest is given to the students before the researcher gives the treatment in order to know their erlier ability in speaking. The test of pretest is about telling a personal experience with allocation of the time is (08.21-09.40) in the second periode and it is conducted on March 30th, 2017. After conducting the pretest, researcher gives the students treatment by implementing Inside Outside Circle (IOC) technique in speaking class.

Further, researcher gives posttest to the students after they got the treatment. Posttest is conducted on April 22nd, 2017. It is used to compare the average score of students' speaking before and after being taught by using Inside Outside Circle (IOC) technique and to know whether Inside Ouside Circle (IOC) technique can give significant effect toward the students' achievement in speaking or not.

H. Description of Treatment

In this study, the treatment conducted four meetings since the researcher has no authority to conduct more than it moreover the class is not belong to the researcher herself. The first meeting is conducted on April 6th, 2017 at the 3-4 period (08.21 – 09.40), the second meeting is conducted on April 08th, 2017 at the 1-2 period (07.00 – 08.20), the third meeting is conducted on April 13th, 2017 at the 3-4 period (08.21 – 09.40) and the fourth meeting is conducted on April 15th, 2017 at the 1-2 period (07.00 – 08.20). The procedures of treatment can be seen below;

- Teacher asks a half of the students in the class to stand up and make circle as inside circle so they have to face out. Teacher names the students of inside circle such as 1, 2, 3, 4, and so on.

- Another half of students make another circle outside the first circle (as inside circle) so they have to face in. Teacher names the students of outside circle such as A, B, C, D, and so on.

- In this case, the students of inside circle will have pair with students outside circle such as student 1 will be in pair with students A and so on.

- Students do conversation in pair about their personal experience based on questions guide from teacher. The Questions Guide for the first up to fourth meeting are as follows:

  Topic: Good Experience in the last Holiday

  1. Where did you go in the last Holiday?

  2. When did you go?

  3. With whom did you go?

  4. How did you go?

  5. How was your feeling in your holiday?

  Topic: Good Experience at Home

  1. What did you do at home yesterday?

  2. What time did you do?

  3. With whom did you do?

  4. How did you do?

  5. How was your feeling when you were at home yesterday?

Topic: Bad Experience in the last Holiday

1. Where did you go in the last Holiday?

2. When did you go?

3. With whom did you go?

4. How did you go?

5. How was your feeling in your holiday?

Topic: Bad Experience at Home

1. What did you do at home yesterday?

2. What time did you do?

3. With whom did you do?

4. How did you do?

5. How was your feeling when you were at home yesterday?

- Teacher asks the students of outside circle to move one step continually after two minutes so that they face a new partner such as student 1 with student B and so on and they do conversation as previous step.

- Teacher does monitoring to the students' activity and help them when they got difficulties in speaking such as pronouncing the certain English words.

I. Technique of Data Analysis

In this research, the researcher uses a quantitative data analysis technique to analyze the data collected which is gained from the score of pretest and postest. In this case, the reseracher uses statistic method through paired sample T test at SPSS (Statistic Product and Statistic Solution) 16.0 for

windows. It is used to examine whether there is significant difference of students' speaking achievement before and after being taught by using Inside Outside Circle (IOC) technique or not.

J. **Hypothesis Testing**

The last step is examining the hypothesis. The hypothesis of this study is as follow:

1. If the significant value is less than 0.05, the alternative hypothesis (H_a) is accepted and null hypothesis (H_0) is rejected. It means that there is significant difference between students' speaking achievement before and after being taught by using Inside Outside Circle (IOC) technique.

2. If the significant value is more than 0.05, the null hypothesis (H_0) is accepted and alternative hypothesis (H_a) is rejected. It means that there is no significant difference between students' speaking achievement before and after being taught by using Inside Outside Circle (IOC) technique.