CHAPTER III

RESEARCH METHOD

In this chapter, the researcher describes the research method. It consist of research method, research design, population and sample, Instrument and Instrumentation, validity and reliability testing, data collection method, normality and homogeneity testing and data analysis.

A. RESEARCH METHOD

This study was conducted in term of quantitative approach. "Research is a process of inquiry which the answers are solves the questions of interest to the researchers" (Benson: 2015). "Research design is a design which the writer makes some step to guide the writer in carrying out the research" (Arikunto: 2006). This research used experimental research design. "Experimental design is anexperiment which can be defined as: a test under controlled conditions what is made to demonstrate a know or truth or examine the validity of a hypothesis" (Muis : 2004). Experimental research design has two variables is being conducted, are: independent and dependent variable.

The independent variable is a condition which influences other variable. This variable called X variable. While, the dependent variable is a condition which influenced by experimental. This variable called Y variable. In the dependent variable before the manipulation of the independent variable X, it is usually a pretest (before the experimental group is given treatment) and after the manipulation of the independent variable X, it is usually a posttest (after the

experimental group is given treatment), stated by (Donald : 2010). The two variables are:

1. Independent Variable (X): Think Aloud Strategy

2. Dependent Variable (Y): Reading Comprehension

This study used an Experimental Research Design especially used **Pre-experimental Design.** The design of this research used "**One Group Pretest-Posttest Design**." This study used pre-experimental because it does not have random assignment of subject to group or other strategy to control extraneous variable. That is why in this study the researcher just take one group or class and uses pretest and posttest to see the result of the treatment.

There are three steps of this design, are:

1. Administering a pretest measuring the dependent variable.

2. Applying the treatment X to the experimental group.

3. Administering a posttest measuring the dependent variable.

The One Group Pretest- Posttest Design as follows:

Table 3.1. The One Group Pretest- Posttest Design

Pretest	Independent	Posttest
Y_1	X	Y_2

Where :

Y_1 : Pretest

Y_2 : Posttest

X   : Treatment on the experimental group

This research intended to investigation the effectiveness of using *Think aloud strategy* in teaching reading skill at MTsN Tulungagung in academic years 2016/2017. The uses of the treatment is aimed at proving whether the increase scores possibly got by the researcher. Thus, the effectiveness of treatment will be known the significant score when the students taught using *Think aloud strategy*.

B. THE PLACE AND TIME OF RESEARCH

The research was held in MTsN Tulungagung which is located in Ki Hajar Dewantara, Beji, Boyolangu, Tulungagung, Jawa Timur. This research was carried out for a month, start from January 4th, 2017 to February 3rd, 2017.

C. POPULATION, SAMPLING AND SAMPLE

1. POPULATION

Population is represent entire / all subject research. Nawawi (2003) in Iskandar (2009 : 118) population is grand total of subject research which can be consisted of by the human being, object, animal, flora, symptom, assess the test or event as data source owning certain characteristic in a research. While according to Sudjana (2005 : 74) population is totality of all value which possible, result of counting/calculating or measurement, quantitative and also qualitative hit the certain characteristic from all clear and complete corps member is which wish learned by the nature

In this research, the population of the research includes all the eight grade students in MTsN Tulungagung students in the academic year 2016/2017. Total of the population consist of 340 students.

2. SAMPLING

Sample is shares or proxy from accurate population (Arikunto, 2006 : 87). While in big dictionary of Indonesian, sample is an used by example of from the lion's share. While according to Sugiyono (2003 : 56) sample is "some of amount and characteristic owned by population, As for becoming sample of at this research is all student of eighth grade class".

Suharsimi (2006) stated that if the subject is less than one hundred it is better to take the entire subject. Furthermore, if the subject is more than one hundred it can be taken between 10-15% or 20-25% or more than it. In this research, the researcher take for class C because the material in eight class is suitable and has been taugh before by the English' teacher. There are eight classes in 8th, here the researcher used purposive sampling technique. Purposive sampling technique is a type of non probablity sampling where the researcher consciously selects particular elements or subjects for addition in a study so as to make sure that elements ill have certain characteristics pertinent to the study. It normally targets a particular group of people. Purposive sampling is sample which is taken because researcher believes that she could give sufficient information. The

researcher uses purposive sampling they have sufficient knowledge on English material. Thus, the researcher believe that VIII − C class of MTsN Tulungagung can give sufficient information.

3. **SAMPLE**

Selected of the sample is very important step in conducting a research study. According to Arikunto (2006:109), a sample is part of population of representative of it. Based on Ary (2002:163) a sample is a person of a population. It means that a good sample must be representative of the entire as possible, so that the generalization of the sample as true as population. According the explanation above, the sample of this research is C class that consist of 34 students at MTsN Tulungagung in academic year 2016/2017. Before the researcher does research in MTsN Tulungagung, the class which researcher would used to do experimental research suggested by the teacher (Ifan Amirullah Habib) who taught English in class VIII − C. The teacher suggested to used class of VIII − C with the consideration that as an excellent class consist of students having better input. This can be assumed that they can study longer than students of regular class. Moreover, students of excellent class are also better in terms understanding English material. Therefore, the researcher wants to know whether TAS effective to increase students reading comprehension of three kinds of text, namely: descriptive text, recount text and report text.

D. INSTRUMENT AND INSTRUMENTATION

In this research, the researcher uses test as the instrument to see the effectiveness of *Think Aloud Strategy* to improve students' reading mastery. The instrumentation diagram to show the validity and reliability of the test can be seen below (see **Figure 3.1**)
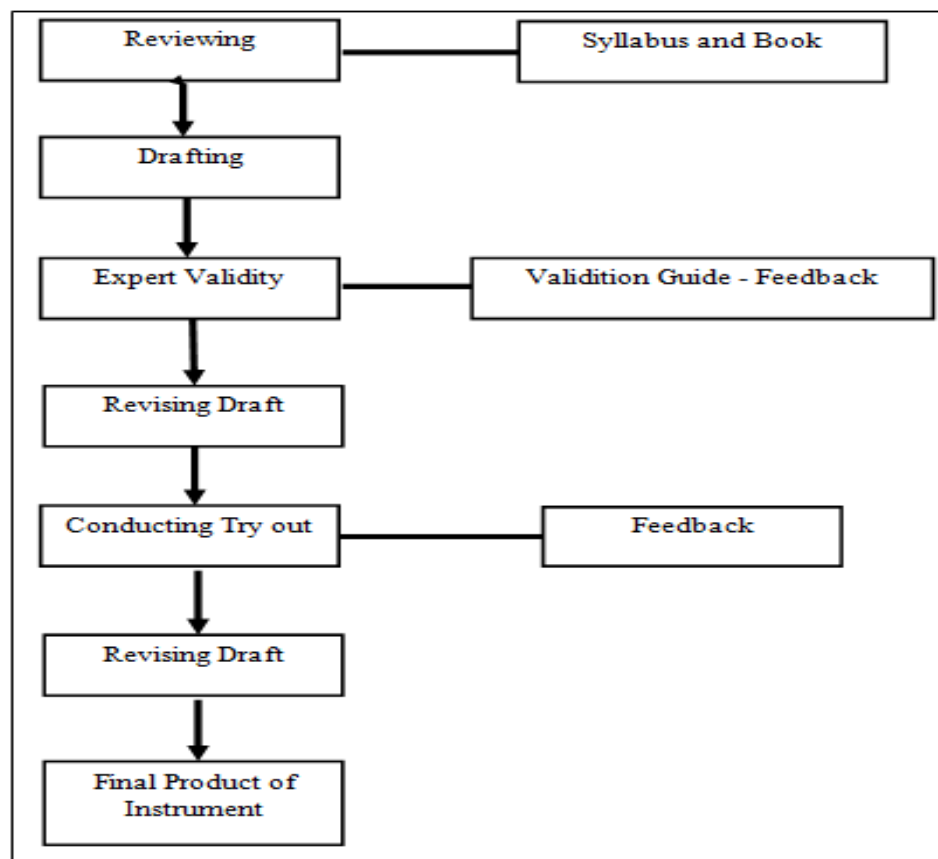
Figure 3.1 Instrumentation

Based on the picture above, The steps of Instrumentation are:

1. Review Literature

The first steps to get valid and reliable test is reviewing literature concerning with the vocabulary mastery especially that in Junior High School. Therefore, the researcher reviewed some

literatures from syllabus and book used in Junior High School to get some important information as sources to drafting instrument that related with the materials of Junior High School.

2. Drafting Instrument

   After getting some information from reviewing literature, the researcher start to draft instrument that appropriate with the materials of Junior high school.

3. Expert Validating

   After finishing the drafting instrument, the instrument should be validated by the expert like English teacher or lecturer where master the reading materials especially descriptive text, recount text and report text. The purpose of the expert validating is to know how much valid the instrument is either related with its construct validity, face validity, or content validity. So, in this steps the researcher get feedback and validation guide.

4. Revising Draft

   In revising draft of the instrument, the researcher uses feedback collected from the expert validation.

5. Conducting Try- Out

   After revising the draft of the instrument, the researcher conduct try the instrument out to the eighth grade students of MTsN Tulungagung consist of 40 students who share common characteristics with the subjects of this research. Try out of the

instrument was held on January 2, 2017. The result of try out which is analyzed using Alpha Cronbach is used to revise the draft to be the valid instrument because the reliability and validity of the instrument can be objectively computed by using the formula of Alpha Cronbach.

6. Revising

In revising, it part to revising the instrument again based on the feedback to get the final draft instrument. So, I will revising the instrument to make the questions ideal or not easy or too easy, difficult or too difficult.

7. Final Draft Instrument

The last step is final instrument means that the instrument has good or best quality where the instrument is appropriate.

In this study, the researcher applied pre-test and postest. Pre-test was given before teaching by using TAS, in this pre-test students were given task during 45 minutes on January 4, 2017 and for the 45 minutes again for giving treatment to the students. The next treatment given the second meeting during 45 minutes on January 19, 2017. Post-test which was given after teaching by think aloud strategy, in this post-test the students given task by reading think aloud strategy during 45 minutes after the last meeting for giving treatment on February 3, 2017.

To get the data, which is VIII - C class that becomes an experimental group the researcher as a teacher teaches the students during three meetings. First meeting, in the teaching learning process the teacher give pre-test in reading comprehension. Second meeting, the teacher teaches reading comprehension by using reading think aloud strategy. In the end, the teacher gives post-test in reading comprehension to the students.

The validity and reliability of the test can be measured by SPSS Alpha Cronbach. We can click analyze > scale > realibility analysis, then enter all of variable x to items (Alpha model) and click OK. If the result shows alpha > 0,05 it mean that the realibility is sufficient, while if the alpha < 0,05. It meant that the reliability is not sufficient or not reliable. In this case, the researcher gave the students reading test in using Think aloud strategy.

This study aim at knowing the students achievement in reading comprehension, where the students was asked to tell by using Think aloud Strategy was used to make the students achievement in reading skill (Nurgiantoro, 1995: 229).

E. VALIDITY AND RELIABILITY

1. Validity

Heaton (1989:159) defines the validity of a test as extent to which it measures what it is supposed measure and nothing else.

To measure whether the test has a good validity, the researcher analyzed the test from content validity and construct validity.

a) Content validity

A test is said to have content validity if its contents constitutes a representative sample of language skills, structures, etc being tested. In order to judge whether or not the test has content validity, we need a spesification of the skills or structure being tested. A comparison of test spesification and test content is basis for judgment for content validity. The researcher made this test based on the course objectives in the syllabus of second years of MTsN Tulungagung. Therefore, this is valid in term of content validity.

b) Construct validity

The construct validity of test which is capable of measuring certain spesific characteristic in accordance with a theory of language behavior and learning. Based on the theory above, in the test the researcher asked the students to answer the multiple choice based on descriptive text, report text and recount text to measure the student's comprehension in reading and this is fulfill the construct of reading test therefore, valid in term of construct validity.

Besides, the researcher tried to check the empirical validity by using SPSS 16.0 after trying out the instrument (pre-test and

post-test). In this research, the researcher used SPSS 16.0 for windows to know the validity of test instruments. It can use corrected item-total correlation formulation. According to Ridwan (2004:110), the criteria of validity of the instrument can be divided into 5 classess as follows:

1. If the *item-total correlation* score 0.00-0.20: less valid

2. If the *item-total correlation* score 0.21-0.40: rather valid

3. If the *item-total correlation* score 0.41-0.60: enough valid

4. If the *item-total correlation* score 0.61-0.80: valid

5. If the *item-total correlation* score 0.81-1.00: very valid

From the calculation, it was found that items have validity in pre-test and post-test. In pre-test there are 2 items less valid and post test there are 2 items less valid too. So, the researcher revised those items.

After revised the items of questions, the researcher give the multiple-choice test to measure students' ability in reading comprehension. The researcher made this test based on the course objectives in the syllabus of eighth grade of MTsN Tulungagung. Therefore, this test is valid in term of content validity.

The content validity in this research can be showed as below:

Table 3.3 Result of Validity

No	Competence	Test Item	Percentage
1	Students are able to do multiple choice test of describtive text, recount text and report text	20	5%

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
soal_1	13.50	9.833	.069	.637
soal_2	13.10	10.322	-.066	.648
soal_3	13.20	9.733	.118	.629
soal_4	13.40	8.267	.587	.559
soal_5	13.00	10.000	.111	.626
soal_6	13.30	8.456	.533	.569
soal_7	13.20	8.844	.433	.586
soal_8	13.00	10.667	-.215	.653
soal_9	13.20	10.178	-.029	.648
soal_10	13.10	10.322	-.066	.648
soal_11	13.50	7.833	.769	.530
soal_12	13.40	8.933	.353	.596
soal_13	13.20	9.067	.351	.598
soal_14	13.30	9.344	.225	.615
soal_15	13.30	8.678	.453	.581
soal_16	13.20	8.844	.433	.586
soal_17	13.10	9.878	.101	.629
soal_18	13.10	10.100	.017	.639
soal_19	13.00	10.667	-.215	.653
soal_20	13.00	10.000	.111	.626

2. Reliability

Based on Horizon(1983:10) says that the reliability of the test is its consistency. Thus, reliability is a measure of accuracy, consistency, dependability or fairness of scores resulting from administration or particular examination. According to Heaton (1989:162) reliability is necessary characteristic oof any good test: for it to be valid all, a test must first be reliable as a measuring instrument. Ary (2002:250) states that reliability is concerned with the effect of such random errors of measurement on the consistency of scores.

Actually, the ideal test should be both reliable and valid. In this research, the researcher also used SPSS 16.0 for window to know the reliability of test instruments.

According to ridwan(2004:118), the criteria of reliability instrument can be divided into 5 classess as follows:

1. If the *alpha cronbach* score 0.00-0.20: less reliable

2. If the *alpha cronbach* score 0.211-0.40: rather valiable

3. If the *alpha cronbach* score 0.41-0.60: enough reliable

4. If the *alpha cronbach* score 0.61-0.8: reliable

5. If the *alpha cronbach* score 0.81-1.00: very reliable

The result of reliability testing by using SPSS 16.0 can be seen from the table:

Table 3.4 Result of reliability

Reliability Statistics

Cronbach's Alpha	N of Items
.628	20

To know the items is reliable or not it can be seen from Alpha Cronbach's column. The Alpha Cronbach's score = 0,628 means that it is reliable.

F. Normality and Homogenity Testing

1. Normality Testing

Normality testing is conducted to know whether the gotten data is normal or not. The computation of normality testing in this research using SPSS Statistics 16 is One-Sample Kolmogrov-Smirnov test by the value of significance (α) = 0.05. Testing of data normality is conducted by the rules as follow:

- If the value of significance > 0.05, so the distribution data is normal.
- If the value of significance < 0.05, so the distribution data is not normal.

If the distribution data is normal, so next to homogeneity testing.

2. Homogeneity Testing

Homogeneity testing is conducted to know whether the gotten data has a homogeneous variance or not. The computation of homogeneity testing

using SPSS Statistics 16 is One-Sample Kolmogrov-Smirnov test by the value of significance (α) = 0.050. before doing homogeneity testing, the researcher decides hypothesis in this homogeneity as follow:

H_0 : 1 variance (Experimental group) are same.

H_a : 1 variance (Experimental group) are different.

There is also certainty in taking decision of homegeneity testing, as follow:

The value of significance > 0.050, so H_0 is accepted means that the data of sample has same variance.

G. TECHNIQUE OF DATA COLLECTION

When we talk about the kind of methods and data, actually it is quite same when we talk about doing evaluation. It has the purpose to get data and then it can be measured by the researcher. The data collecting method is the method to obtain the data in the research. The aim of the data collecting in conducting scientific research was to get material that needed by the research the technique of collecting data was clarified as follow:

1. Pre-test

A pre-test provides a measure on some attribute or characteristic that you assess for participant in an experimental before they receive a treatment, Creswell (2008:301). At the first meeting, the researcher gave a pre-test to the students. It was conducted to know how

far the students score in reading. This test is given in

order to know how far the students ability in reading

comprehension of descriptive text, report text and

recount text. The pre-test comprised 20 items, in the

form of multiple choices items.

2. Treatment

    After conducting the pre-test, the researcher gave

    the treatment to the students during 45 minutes. The

    researcher applied the technique or treatment using

    think aloud strategy. Here the steps of the treatment:

Table 3.2. Steps in *Think Aloud Strategy*

No	Steps	Teacher activities	Student activities
1	Opening	Greeting	• Answer greeting • Brain storming
2	Main strategy	Introducing and reviewing the materials about descriptive text, report text and recount text.	• Pay attention
		Giving explanation about Think Aloud Strategy • Give conclusion of TAS • Assign to the students • Ask students to read the text aloud and look for the important information, such as: what, who, where, when, etc.	• Listening the explanation from the teacher
		After the students finish to read all of the text which given by the teacher, As a teacher's class, read the	• Listening and understanding the text which read by the

		text aloud in front of the class and let students follow along in their heads.	teacher.
		Model the questions related to the topic and posed the questions for the students.	• Answering questions from the teacher.
3	Closing	Asking the students about conclusion of the lesson.	• Giving explanation about TAS and conclude the lesson which has been taught just now.

3. Post-test

The post-test is a measure on some attribute or characteristic that is assessed for participants after a treatment, Creswell (2008:301). The researcher conducted post-test after conducting the teaching through TAS. The post-test comprised also 20 items, in the form of multiple choice items.

The test of those three aspects of reading comprehension was compiled by the writer herself collecting information about the subjects, which are learned at MTsN TULUNGAGUNG. For those reason, the writer has compiled 20 items of multiple choice question taken from various sources of text which has been choosen and ready to test for the students, the kind of the text are : Descriptive text, Report text and Recount text. Every items of text contain of 6 up to 8 questions only. Thus, total of all questions is 20. Those choices from multiple choice questions are as follows:

a. Factual questions   : 7 items

b. Determining a tittle   : 5 items

c. Determining the main idea : 8 items

   Total all of questions is 20 items and every question is valued at 5 points, thus a total of all is 100 points.

There are 4 band scales to measure reading comprehension test in essay questions described by Lucky Prang, an Australian PhD candidate (2003), there are as follows:

1. Not able to create a tittle, Main idea of the text lost

2. Tittle of reading passage is not very fitting, Difficulties in connecting the different passage

3. Tittle of reading passage suitable but not perfect, Some difficulties in understanding some of the passage

4. Suitable tittle of reading passage given, Idea of the text understood.

H. TECHNIQUE OF DATA ANALYSIS

   In this research, the researcher used statistical data analysis technique to know the different score between the student's achievement in reading ability before and after being taught by using think aloud strategy.

   Analyzing data is a process of analyzing the acquired from the result of the research. The data which is needed in this research is students' comprehensing about the text of the eighth grade students of

MTsN Tulungagung in the academic year 2016-2017 before and after taught by using Think Aloud Strategy. To analyze the data, the writer will used statistically calculation of the test to determine the final calculation which it will be done to measure the last score of the research test.

Data analysis is a time - consuming and difficult process, because typically the researcher faces massive amounts of field notes, interview transcripts, reflections, and information from documents to examine and interpret (Ary : 2010). The data obtained from research result is the results of student's test that were analyzed quantitatively. Quantitative analysis was done using statistics which is called statistical analysis or inferential statistics. The quantitative data of this research in analyzed using statistical computation. This technique was used to find the significant difference on the students' reading comprehension after being taught by using small group discussion technique.

The researcher used T- test according to Ary (2006) with the following formulation:

Formulation:

$$t = \frac{MD}{\sqrt{\dfrac{\sum D^2 - \dfrac{(\sum D)^2}{N}}{N(N-1)}}}$$

Where:

t   : the value of T_{count}

MD   : average difference

$\sum D^2$: different score squared then summed

$(\sum D)^2$: different score summed then squared

N   : number of samples

  The researcher choose to used the formula's above because it is suitable with technique and questions which has been tested in Junior high school. The formula above can help the researcher to count the value to get get the valid result about *the effectiveness of using think aloud strategy in reading comprehension.* To find the result, the formula above has a function to help the researcher know which more bigger t_{count} or t_{table} and Is H_a will be accepted or rejected. It means that the formula above has a function to find out is there any significant effect before and after being taught using think aloud strategy toward students reading achievement of descriptive text, report text and and recount text. The technique of data analysis which used by the researcher belonged to quantitative data analysis and the data were analyzed statistically by using T-test.