CHAPTER III

RESEARCH METHOD

This chapter presents the research method. It focuses the method used in conducting this study which covers (a) Research Design, (b) Population, Sample and Sampling, (c) Variable of the Study, (d) Data Collecting Method, (e) Research Instrument, (f) Validity and Reliability Testing, and (g)Data Analysis.

A. Research Design

This design of this research is an experimental research. Based on Sukardi (2003:3) Research is a way of observation or inquiry and has the objective to find the answer of problems or discovery process. This study belongs to a pre-experimental research with quantitative approach. Pre-experimental research design does not have random assignment of subject to group or other strategies to control extraneous variables. Pre-experimental research is a research design involved one group which is pre-tested and post-tested. (Ary *et al,* 2002: 302). In other words, the goal of experimental research is to determine whether causal relationship exists between two or more variables.

This research is classified into pre-experimental research that uses one group pre-test and post-test. The pre-test and post-test are given to take the score of the students' comprehension before and after being taught DARTs. The researcher only uses one class as the subject of the study without control group or comparison group. The reason why the researcher uses pre-experimental design is because the limited of time and cost.

The research design can be illustrated by Donald et al (2006: 327-328) as follow :

Table 3.1 The Illustration of Research Design One group Pre-test Post Test

Pre-test	Independent variable	Post-test
Y1	*DARTs*	*Y2*

The procedures of experimental research that use one group pre-test and post-test design in this study are described as follows :

1. Administering pre-test (Y1) with a purpose of measuring students' reading comprehension ability before applying DARTs.

2. Applying experimental treatment teaching reading comprehension by using DARTs (X).

3. Administering pre-test (Y2) with a purpose of measuring students' reading comprehension ability after applying DARTs.

This study was an experimental study about the effectiveness of directed activities related to text on students' reading comprehension ability at the seventh grade of MTsN 2 Tulungagung. The researcher wants to know the effectiveness of directed activities related to texts on students' reading comprehension ability. Thus, The effectiveness was known after finding out the significant difference between the students reading comprehension ability before being taught by using directed activities related to texts and after using directed activities related to texts by comparing pre-test and post-test score.

B. Population, Sample and Sampling

This section discusses the popilation of the study, the sample which was drawn from the population, the sampling technique applied and the variables of the study.

1. Population

According to Sugiyono (2011:80) population is not only people, but also all of the quantity of object or subject that be learnt, but also involve the whole of characteristics of the subject or object. The population of this research was the all of the seventh grade students at MTsN 2 Tulungagung, which consist of ten classes (A, B, C, D, E, F, G, H, I, J). They are 366 students.

2. Sample and Sampling

Sample are as part of population. According to Arikunto (2002: 109), sample is small group in population being observed. In other words, sample is the representative of population (Sukardi, 2003:54).

The technique in taking sample is called sampling (Sugiyono, 2006:90). In this research, the researcher used purposive sampling as the process of sampling. Ary et al (2010: 169) states that purposive sampling-also referred to as judgment sampling-sample elements judged to be typical, or representative, are chosen from the population.

In purposive sampling, the researcher uses expert judgment to take some representatives or typical cases from population. The English teacher said that all

students have similar conditions. Anyway, DART has never been taught in teaching reading to the classes. Finally the researcher decided to choose VII D class that consists of 36 students recommended by the English teacher. The English teacher recommended that class because the students are active and cooperative. However, they need an improvement in reading skill.

C. Variable of the Study

Santrock (2004: 47) explained that a variable is the characteristic or attribute of individual, group, or educational system that researcher is interested in. According to Suharsimi (2006; 118) variable is object of research or that become point of research.

There are two variables in this study. They are independent variable and dependent variable. Arikunto (2010: 162), independent variable is a variable that has function to cause the other variable that will be researched/ observed. So, independent variable is a factor that affects a dependent variable. In this study, the independent variable is the teaching method, namely directed activities related to the texts. The dependent variable of this study is a variable that researcher is interested in to change or to be affected. Craswell (1994: 129) state that the dependent variable is the response or the criterion variable presumed to be "caused" or influenced by the independent treatment condition. Here, the dependent variable is the students' reading comprehension ability.

D. Data Collecting Method

Data collection method is a systematical and standard procedure used to collect data Tanzeh 2011: 57). In this research, the researcher used a test reading as an instrument to get the data. The researcher applied pre-test and also post-test. The researcher administered both pre-test and post-test as follows:

1. Pre-test

Pre-test was given to the students before the researcher taught by using DARTs. Pre-test is needed to know the basic competence for students and how far the students know about the subject that will be taught. There are 20 question; the form of pre-test is multiple choices and short answer. The students must answer correctly based on information on the text.

2. Treatment

The treatment was conducted after the administration of the pre-test. The purpose of treatment is to help students in understanding English text, especially in descriptive text. The experimental class was taught by using Directed Activities Related to the Texts (DARTs).

3. Post-test

After taught by using directed activities related to the texts strategy on students' reading comprehension ability, post-test was given to the students. It is intended to know the mean scores of experimental class. The researcher asks to te

students to answer twenty questions. The form of post-test is multiple choices and short answer.

E. Research Instrument

Research instrument refers to any equipment used to collect the data (Arikunto, 2010:262). As an experimental research, the instrument used in this research was test. There were two kinds of tests for this study, those were pre-test and post-test. Pre-test was intended to measure students' reading comprehension ability before being taught by DARTs, while post-test was to measure students' reading comprehension ability after being taught by DARTs.

The test was constructed by the researcher (researcher-made test). To score the objective tests the writer treats them without any difference. It means, scoring for test only one correct answer for each items. Meanwhile, for scoring of the test, the researcher used the common manual computation:

Score= *Correct answers x 5 points = 100 points*

20 x 5 = *100 points.*

The test uses to measure the students achievement in reading comprehension before and after they taught by DARTs in MTsN 2 Tulungagung.

F. Validity and Reliability Testing

As previously mentioned, the researcher used test as the research instrument. The test should fulfill some factors to get the data as well. The factors tested here are validity and reliability of the tests. By using a valid and reliable

instrument to collect the data, it was expected that the data and the result of the research itself also valid and reliable.

1. Validity

Validity is the most important consideration in developing and evaluating measuring instrument. Ary et al (2010:225) defines validity as the extent to which as instrument measured what it claimed to measure. In other words, validity can be defined as the instrument that measures what is supposed to be measured. In this study, to ensure test validity the researcher used content validity.

Content validity is a kind of a validity which depends on careful analysis of language being tested of the particular test. According to Gay, (1992: 156) content validity is degree to which a test measures an intended content area. **The Core Competence and Basic Competence of the school Based Curriculum of the seventh grade.**

Core Competence

KI 4 : Trying, processing, and serving in a concrete realm (using, parsing, composing, modifying, and creating) and abstract realm (writing, reading, computing, drawing and composing) with those studied in schools and other sources in the same angel view or theory.

Basic Competence

4.7.1 Capturing contextually meaning related to social function, text structure, and linguistic element of descriptive oral and written text, very short and simple, related to people, animals, and object.

Competence Indicator

1) Students are able to determine the main idea.

2) Students are able to determine the topic of the text.

3) Students are able to determine the purpose of the text.

4) Students are able to determine the specific information of the text.

A test said to have content validity if its content constitutes a representative sample of language skill, structure, and etc. that being tested. The researcher made this test based on the Core Competence and Basic Competence of the school based curriculum of the seventh grade in MTsN 2 Tulungagung. Therefore, this test is valid in term of content validity. Therefore, this test is valid in term of content validity.

2. Reliability

According to Howit and Cramer (2000:28) reliability is the extent to which the measure will give the same response under similar circumstances. In other words, reliability shows a measure of consistency in measure the same phenomenon. To measure the realibility of test item, before conducted the real test, the researcher firtsly gains Try-out. It is to know whether the instrument

suitable or not. A good test must be valid and reliable. According to Ridwan(2014: 118), the criteria of reliability's degree can be seen on Table below on as follows;

Credibility Index	Explanation
0.90 – 1.00	Very reliable
0.70 – 0.90	Reliable
0.40 – 0.70	Quite reliable
0.20 – 0.40	Rather reliable
0.00 – 0.20	Less reliable

In this research, the researcher tried to check the reliability by using Cronbach's Alpha in SPSS 16.0 for windows in calculating the tryout's session score Testing is done before treatment and post-test. Test is done outside the sample, but still in one population. From the answer of student response in try out test the researcher then analyze using reliability test based on Cronbach's Alpha

Table 3.2 Reliability testing for Tryout 1

Reliability Statistics

Cronbach's Alpha	N of Items
.768	38

Table 3.3Reliability testing for Tryout 2

Reliability Statistics

Cronbach's Alpha	N of Items
.654	35

The result of calculation in SPSS, the reliability value of try out 1 was 0,768 based on the Cronbach scale in table 3.2. It can be said that the instrument was reliable. And the reliability Tryout 2 was 0,654 based on the Cronbach scale in table 3.3. So, it can be said that the instrument was reliable.

G. Try Out of the Instrument

Try out test was conducted before the researcher conducted the pre-test and post-test. It was implemented to know whether the test was reliable or not. Try-out was administrated in another class which was not involved during the research process. The researcher gave the test about descriptive text, the test consist of 15 multiple choice and 5 short answer test based on the text. Every items on multiple choice has four choices, there were A, B, C, and D. The time location was about 60 minutes. The researcher conducted a try out test on Wednesday, 16 January 2019. And then, the researcher revision the instrument of the test. From the 20 questions the researcher was change two questions because from the 73 students, they are can not answer the question with the true answer.

H. Technique of Data Analysis

Data analysis is a process to identify the topics that related with the research. The data is obtained from the student's score that will be analyzed quantitatively. Data analysis is a review of a series activities, grouping, systematization, interpretation, and verification of the data so that a phenomenon has social value, academic, and scientific (Suprayoga in Tanzeh 2009:69).

The researcher use the application SPSS statistics 16 for windows to analyzed the score of data.In the experimental design, the data analyses are experimental one group, used pre-test and post-test. The data analysis in this research is using t-test. The researcher uset-test to analyze the data, because the researcher would like to compare two means and to find out which one is more effective between before the students' being taught by using DARTs and after the students being taught by using DARTs. If the post-test on the students' reading test is higher than pre-test, it means that teaching reading by using DARTs is effective.

After getting the data from both pre-test and post-test, the researcher will analyze the data by using *Paired SampleT-test* formula. Because the researcher hope to find out the effect of DARTs in teaching reading comprehension. The researcher used *paired sample T-test* at SPSS because this research used only one group of students and to know the significant difference effect before and after being taught by using directed activities related to the texts on the students' reading comprehension ability.