

## **CHAPTER III**

### **RESEARCH METHOD**

In this chapter the researcher presents some points related to this research include research design, data and data source, population, sampling and sample, research variable, research instrument, validity and reliability, data collection, techniques of data analysis, and normality and homogeneity testing.

#### **A. Research Design**

The data of this research in the form of quantitative research. Ary (2002:22) states the quantitative research uses objective measurement and statistical analysis of numeric data to understand and explain phenomena. In quantitative research there are experimental and non-experimental research design. Experimental research involves a study of the effect of the systematic manipulation of one variable on another variable and non experimental research, the researcher identifies variables and may look for relationship among them, but does not manipulate the variable (Ary, 2002:24)

The design in this research the writer used pre-experimental research design (one group pretest-post-test design) that consist of pre-test, treatment and post-test. The pre-test and post-test were given to take the score of the student's achievement.

**Table 3.1 Randomized group, pre-test and post-test**

Pre-test	Treatment	Post-test
Y1	X	Y2

Notes :

Y1 = pre-test

X = Treatment

Y2 = post-test

This research was intended to investigate the effectiveness of using Think aloud strategy in the teaching reading comprehension at SMAN 01 Campurdarat academic year 2017/2018. The uses of the treatment was aimed at proving whether the increase scores possibly got by the researcher. Thus, the effectiveness of that treatment was be known the significant score when the students taught using Think Aloud strategy.

## **B. Data and Data Source**

The data in this research is quantitative data and the kind of this data is interval data because the data were taken from the students score in the pre-test and post-test. This data is to know whether there are significant difference before and after taught by using think aloud strategy. The researcher uses data sources from primary data collected directly from the sample. In conclusion, the primary data sources of this research of this research are taken from students test during pre-test and post-test.

### **C. Population, Sampling and Sample**

The population of this research are all of the first grade students at SMAN 1 Campurdarat which consist of four natural science classes and four social science classes. The population consisted of 8 classes. Each class consisted of 30 students and the total population is 240 students. Here the researcher use random sampling to choose one of the class to conduct research. The researcher use piece of paper, then the researcher writes the class in the paper, after that the paper fold and the researcher choose one of the paper randomly. Therefore, in this study choose class X IPA 5 that consist of 30 students.

### **D. Research Variable**

Santrock (2004:47) explained that a variable is the characteristic or attribut of individual, group or educational system that the researcher is interested. There are two types of variables that are independent variable and dependent variable. Independent variable is a factor that affects a dependent variable. Meanwhile, dependent variable is a variable that the researcher interested to change or to be affected. In this study, the independent variable is think aloud strategy and the dependent variable is students reading comprehension.

## E. Research Instrument

Research instrument is a tool of collecting data that should be valid and reliable. According to Arikunto (2006:126) the device the researcher uses to collect data is called instrument. The instrument in this research was a test and the kind for this test was short answer-task. Arikunto (2006:127) states that “test is a series question, exercise or other means which are used to measure the skill, knowledge, intelligent, ability or talent that have by individual or group”. Thus a test was a method to gain the data by giving some questions to the respondent. In this study, the researcher used *Discriminating Power* to analyze the 40 test items that has been constructed by the researchcer before the test is used to collcet the pretest and posttest data. The *Discriminating Power* is used to determine the level of difficulty whether the test item is used or discarded. The calculation analysis of the test items can be seen on the appendix 2.

From 40 test items there are 25 items of test that can be used for this research. Those items included main idea, time and place of the story happened, mentioning the appropriate title, describing the character, determine the moral value, tells the certain information from the text and also decide the ending of the story. The assessment of this questions is based on totally true and false answer. The scoring guide for this test is as the formula below :

$$\text{Score} = \text{number of correct items} \times 4$$

If the students can answer one true answer, they will get 4 points. It can be said that each true answer will get 4 points and the false answer will get zero point. So, if the students can get true answer for all items, they will get the excellent point or 100 points. On the contrary, if they do not get no one true answer, they will get poor result or zero point.

## **F. 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 the language skills, structures, etc. being tested. In order to judge whether or not the test has content validity, we need a specification of the skills or structure being tested. A comparison of test specification and test content is the basis of judgment for content validity. The researcher made this test based on the students course objective of the first grade in SMAN 1 Campurdarat. Therefore, this is valid in term of content validity.

#### b). Construct Validity

Construct validity of test which is capable of measuring certain specific characteristics 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 short-answer task based on the narrative text to measure the students' reading comprehension and this is to fulfill the construct of reading test and therefore valid in term of construct validity. The construct validity can be seen below:

**Table 3.2 Blueprint of Reading Narrative Text**

<b>Construct</b>	<b>Dimension</b>	<b>Sub Dimension</b>	<b>Variable</b>	<b>Indicator</b>	<b>Item Number</b>
Social Function	Narrative reading purpose	Entertain and inform the reader with a story	<ul style="list-style-type: none"> <li>Engage the reader in an imaginative experience</li> </ul>	Be able to determine certain information in the reading text.	5, 16, 17, 18
Narrative Text	Orientation	Set the scene: where and when the story happened Introduce the participants: who and what is involved in the story	<ul style="list-style-type: none"> <li>Main idea</li> <li>Supporting sentence</li> </ul>	Be able to determine the time and place that happened in the story. Be able to determine the participant such as who and what is involved in the story.	1, 2, 3, 4, 7, 10, 11, 20, 22, 23
	Complication	Tells the beginning of the problems	Sequence of events Plot Setting Characteristic	Be able to determine the problem in the story.	6, 9, 12, 14, 21
	Resolution	The problems resolved,	Understanding the	Be able to determine the problem	13

		either in a happy ending or in sad ending	context of the story	resolved in the ending of the story.	
Reading	reading a narrative	Identify the appropriate title Identify the specific characters and place in the story.  Describe of the characters and setting in the story.  Decide moral value from the story		Be able to identify the appropriate title in the story Be able to identify the characters of the subject in the story.  Be able to describe the characters of the subject in the story.  Be able to determine the moral value of the story.	8, 15, 19, 24, 25.

#### d). Face Validity

The test is said to have face validity if it measure what is supposed to measure. This research was done to know the effectiveness of using think aloud strategy to increase the students' reading comprehension, so the test should in the form of reading test. Related to this research, the researcher asked students to read a kind of narrative text. It showed that the test was valid base on face validity.

e). Reliability

Reliability is a measuring instrument is the degree of consistency with which it measures whatever it is measuring. This quality is essential in any kind of measurement (Ary, 2003: 236). In this study, the researcher conduct try out before pre-test and post-test. After that the researcher use SPSS statistics 17.0 to calculate the score during try out session. The researcher conducted try out to ten students of X IPA at SMAN Campurdarat on 24<sup>th</sup> April 2018. The criteria of validity of the instrument can be divided into 5 classes as follows (Ridwan: 2004);

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

Based on the tryout of the test that has been done on 24<sup>th</sup> April 2018, the researcher can find the result of the reliability of the test. The researcher use SPSS programe to calculate it and the result of the test can be seen as follow :

**Table 3.3 The Result of Reliability Testing by Using Cronbach's Alpha**

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.686	.686	10

From the table above, it showed that the Alpha value was 0.686, thus the value is included in *item-total correlation* score 0.61-0.80, it can be concluded that the test has valid reliability.

## **G. Data Collection**

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 researcher. The technique of collecting data was clarified as follow in the next page:

### **1. Pre-test**

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 narrative text before they are taught by using think aloud strategy. The pre-test comprised 25 items, in the form of short-answer task. This test was done on April, 25<sup>th</sup> 2018. The researcher ask the students to answer the questions for about 60 minutes.

### **2. Post-test**

The researcher conducted post-test after conducting the teaching through think aloud Strategy that was on May, 1<sup>st</sup> 2018. The post-test comprised also 25 items, in the form of short-answer task. The researcher ask the students in class X

IPA 5 to answer the questions for about 60 minutes. This test conducted to know how far their ability in reading after giving the treatment. It was done to know the final score and also to know the difference achievement before and after treatment.

## **H. Techniques of Data Analysis**

Data analysis is a review of a series of activities, grouping, systematization, interpretation and verification of data so that a phenomenon has social value, academic, and scientific (Tanzeh, 2009:69). The data is obtained from the student's score that will be analyzed quantitatively. Quantitative analysis is done by using statistical computation that is SPSS statistics 17.0. This technique is to find out the significant difference on the students vocabulary mastery after being taught by using think aloud strategy.

After getting the data from both pre-test and post-test, the researcher will analyze the data by using *t-test* formula.

## **I. Normality and Homogeneity Testing**

### **1. Normality**

Normality test is to determine whether the data from population normally or not. Normality test is done by the researcher after getting the result of pre-test and post-test. The researcher uses One-Sample Kolmogorov-Smirnov test by using SPSS Statistics 17.0 to know the normality. The determination of testing is if the probability or Asymp. Sig. (2-tailed) higher than level of significant or 0.05, it

means that the test distribution is normal. The computation result can be seen on the table below:

**Table 3.4. The Result of Normality Testing**

		One-Sample Kolmogorov-Smirnov Test	
		PRETEST	POSTTEST
N		30	30
Normal Parameters <sup>a,b</sup>	Mean	58.53	76.67
	Std. Deviation	13.390	8.668
Most Extreme Differences	Absolute	.110	.117
	Positive	.084	.117
	Negative	-.110	-.116
Kolmogorov-Smirnov Z		.604	.641
Asymp. Sig. (2-tailed)		.859	.807

a. Test distribution is Normal.

b. Calculated from data.

According to the table, it showed that for the pre-test is 0.859, while the post-test is 0.807. All the Sig. (2-tailed) result were bigger than significant 0.05. Therefore, it can be concluded that the scores of both pretest and posttest has normal distribution.

## 2. Homogeneity

Homogeneity testing is used to know that the sample class is homogen class. To analyze the homogeneity the researcher used *One Way Anova* in SPSS Statistic 17.0 version. As a test criteria, if the Sig bigger than significant 0.05, in consequence the sample class is homogen. The computation result can be seen on the table below:

**Table 3.5. Test of Variances****Test of Homogeneity of Variances****Test of Homogeneity of Variances**

Score

Levene Statistic	df1	df2	Sig.
4.262	1	58	.043

**ANOVA**

Score

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	4576.267	1	4576.267	37.450	.000
Within Groups	7087.467	58	122.198		
Total	11663.733	59			

According to the table above, it show that the significant is 0.043. Thus, Sig 0.500 > 0.05. Because the Sig is bigger than significant 0.05, it can be concluded that the sample class is homogent.