CHAPTER III
RESEARCH METHOD

This chapter focuses on the discussion of the aspects of research methodology that cover research design, the subject selection stage, data collection and data analysis.

3.1. Research Design

The research design of this study uses quantitative research and it refers to experimental research design because this study is to investiget the effectiveness of using text-based task on reading comprehension for young learners. In experimental research, it is usual to differentiate between the independent variable and the dependent measure. Dependent variable is what will be measured. It is what the researcher thinks will be affected during the experiment. While independent variable is what is varied during the experiment. It is what the researcher thinks will affect the dependent variable. In this study, the researcher wants to know the effect of using text-based task on reading comprehension towards young learners at sixth grade in SDN Tambak Beras. So that, the independent variable is text-based task and for the dependent measure is reading comprehension.

The experimental research in this study uses pre-experimental research design. Because in this study involves one group, that is experimetal group only so the researcher uses One-Group Pretest-Posttest Design. The first step which should be done by the researcher is to give pre-test. The second is the researcher gives the treatment that is text-based task on reading comprehension. For giving

the treatment the researcher will do for six times. The purpose of the treatment is to know the sixth graders reading comprehension after being taught by text-based task. And for the last the researcher gives post-test.

The design of this research could be illustrated as follows:

Group	Pre-test	Treatment	Post test
EG	O_1	X	O_2

One-Group Pretest-Posttest Design

Where:

EG   : Experimental group

O_1 : Observation 1- Pre test

O_2 : Observation 2-Post test

 X   : Treatment

As stated before, there is only one group namely experimental group. And the researcher gives the experimental group with the following treatment: First, the researcher divides the students in pair or small groups. Then she gives the text. After that the researcher gives the students pre-task or pre-reading activity, explore the topic and students note down useful words and prhases. During the task-cycle, the researcher asks the students to do the task in pair or small groups, prepare to report to the class and then present reports. In the last activities are analysis and practice the task. The researcher does the treatment six times with different theme of the text.

3.2. Population and Sample

McMilan and Schumacher (1993) define that population is the group to which the research would like the result of the study to be generalized. McMilan and Schumacher (1993) also state that sample is the group of the subjects on which information is obtained. Rhakasandy (2012:31) stated that if the number of the respondents is less than a hundred, it is better to take all the subjects. On the other hand, if the number of the respondents is more than a hundred, it is allowed to take 10%-15% or 20%-25% or more population as the respondents. Because the number of the sixth grade students of SDN Tambak Beras in academic year 2012/2013 is 12 students (see appendix 2). So the researcher takes all of the population as sample that is called as sampling population.

3.3. Data Collection

It discusses about research instrument and procedure of how the researcher conducts this research.

3.3.1. Research Instrument

Research instrument is an important role in doing the research. In this study the researcher uses test in collecting the data. There are two tests that are used by the researcher, those are pre-test and post-test. Pre-test will be administered before the researcher conducts the treatment and it is to find out the initial different of the experimental group. And post-test will be administered after the researcher conducts the treatment and gives some exercise the experimental group in a period of time. It is to find out whether the learners make progress in

their reading comprehension. The items of pretest and posttest are 40 items of multiple choices. The test can be elaborated as follows:

1) Pre-test

Pretest is done by the experimental group. It is conducted for knowing the previous ability of experimental group in their reading comprehension. They are asked to read the text and answered the questions followed. The items of pre-test are 20 items of multiple choices. They have limited time to conduct it. Book and dictionary are not allowed. The questions of the pre-test are related to their English material in second semester. It is about holiday, experience and daily activity. (see appendix 5)

2) Post-test

It is like pretest. Posttest is also done by the experimental group. The procedure of the posttest has the same procedure with the pretest. But this posttest was administered after giving the all treatment. It is to measure the result of the treatment. It is success or not. The items and topic of pretest are same with the items and topic given to the experimental group in pretest. (see appendix 6)

3.3.2. The Validity of the Test

Before conducting posttest and pretest as instrument of this study, the test should be tried out in terms of its validity and reliability. According to Ary (1985) validity refers to the extent to which an instrument measures what it is intended to measure. In this study, validity was measured by using content validity. Ary (1985) also states that content validity referred to the extent to which the instruments represents the content of interested. A test has content validity when it

measured the specific purpose according to the lesson. The lesson was derived from the curriculum and the test was created according to what curriculum said.

In academic year 2012-2013, SDN Tambak Beras used Kurikulum Tingkat Satuan Pendidikan (KTSP) standard of content 2006. That is why, the test should be shyncronized by using KTSP 2006. Standard of content of Elementary School 2006 said that the sixth graders on even semester were able to understand the short functional text, pictured descriptive text, pictured narrative text to get interaction in the context of daily life. Here, the researcher took all of the text genres in even semester to be tested. The students were asked to read the text and answer the questions followed in terms of multiple choices.

For knowing the criteria of validity items, the researcher used SPSS 16.00 to compute the test statistic. The validity was examined by analyzing item was good or not. The researcher used in testing the validity by using Heaton's formula:

$$F.V = \frac{R}{N}$$

Where:

$F.V$ = the index of items difficulty

R = the students who answer correctly

N = the numbers of students taking the test

The criteria used to interpret the result according to Heaton (1988):

0,00 - 0,30   = Difficult (D)

0,31 - 0,70   = Moderate (M)

0,71 - 1,000   = Easy (E)

Based on the result of validity, the researcher determines the validity of item into two steps. First, the researcher sees *Corrected Item-Total Correlation* column. The item which have the value under 0,31 is considered as bad item, it means that it must be rejected. Second, the researcher sees in *cronbach's alpha* value. If the item value is less than *cronbach's alpha value,* it must be rejected. (see appendix 9)

3.3.3. The Reliability of the Test

Heaton (1988) states that reliability is a necessary characteristic of any good tests, for it be valid at all, a test must first be reliable as a measuring instrument. The reliability of the test can be estimated by using Heaton's formula (1988).

$$r_{11} = \left[\frac{N}{N-1} \right] \left[1 - \frac{m(N-m)}{Nx2} \right]$$

Where:

N = the number of items in the test

n = the mean score on the test for all the testers

x = the standard deviation of all the testers

Criterion:

$0.0 \le \text{rkk} < 0.20$ is the lowest reliability

$0.20 \le \text{rkk} < 0.40$ is the low reliability

$0.40 \le \text{rkk} < 0.60$ is the quite reliability

$0.60 \le \text{rkk} < 0.80$ is the high reliability

$0.80 \le \text{rkk} < 1.00$ is the highest reliability

The result of the reliability value from the pre test of tryout got 0,859 so it

means that the reliability value from the pre test of the tryout is the highest reliability. Besides that, the result of the reliability value from the post test of tryout got 0,881 so it means that the reliability value from the post test the try out is the highest reliability.

3.3.4. Procedure

Before administering the tests, the researcher asks permission to the principal at the school and explains the purpose of this study. After getting his approval, the tests are given to students. But before administering the pre-test, the researcher tried out the test to find out the validity and reliability of those items. After find out the validity and reliability, the researcher conducts her research. For the first the researcher gives pre-test to find out the initial different on the experimental group. After giving pre-test, the researcher gives the treatment for experimental group. It is conducted six times. And post-test will be administered after the researcher conducts the treatment and gives some exercises the experimental group in a period of time. It is to find out whether the learners make progress in their reading comprehension or not.

1) Try Out

Before conducting pre-test and post-test, try out was done by the researcher. The purpose of try out is to know whether the reliability and validity are good or not. Try out was done to the other students that are not included in this research. The researcher conducted try out to sixth grade in SDN Banjar Sari. The researcher chose that school because the characteristic and the ability of the

students in SDN Banjar Sari are same with the students in SDN Tambak Beras, although SDN Banjar Sari has good facilities than SDN Tambak Beras. 60 items were administered to the try out. 30 items were for pre-test try out and 30 items were for post-test tryout. After administering the tryout, the researcher analyzed those items based on the result of pretest and posttest tryout.

Based on the result of pretest tryout, there were 21 accepted items, and 9 discarded items. The 21 accepted items were items number 1, 5, 6, 7, 8, 12, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, and 29. The 7 discarded items were items number 2, 3, 4, 9, 10, 11, 13, 14, and 30. Because there were 21 accepted items, meanwhile the researcher only needed 20 items for pretest, so the researcher must discard 1 item from 21 accepted items. That was item number 12.

Based on the result of posttest tryout, there were 23 accepted items, 1 discarded, and 6 revised items. The 22 accepted items were items number 1, 2, 4, 5, 6, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 26, 27, 28, 29, and 30. The 8 discarded items were items number 3, 7, 8, 9, 10, 11, 16, and 25. Because there were 22 accepted items, meanwhile the researcher only needed 20 items for posttest, so the researcher must discard 2 items from 22 accepted items. Those were items number 17 and 30.

2) **Schedule**

During doing this study, the researcher has schedule as follow:

No.	Time	Activity
1.	June 18th, 2013	Giving pre test
2.	June 19th, 2013	Giving first treatment

3.	June 20th, 2013	Giving second treatment
4.	June 21st, 2013	Giving third treatment
5.	June 22nd, 2013	Giving fourth treatment
6.	June 24th, 2013	Giving fifth treatment
7.	June 25th, 2013	Giving sixth treatment
8.	June 25th, 2013	Giving post test

3.4.   Data Analysis

Getting the data, the researcher analyzed them to answer the research

questions stated in chapter 1.

3.4.1. Hypothesis Testing

The goal of hypothesis testing is to determine the possibility that a

population parameter, such as the mean, is likely to be true. It describes the four

steps of hypothesis testing, those are:

Step 1: State the hypotheses.

Step 2: Set the criteria for a decision.

Step 3: Compute the test statistic.

Step 4: Make a decision.

Step 1: State the hypotheses. In hypothesis testing, the researcher starts by

assuming that the hypothesis testing is true. This is stated in the null hypothesis.

So in this study, the researcher states the null hypothesis is there is a significant

different in text-based task on reading comprehension towards young learners at sixth grade in SDN Tambak Beras.

Step 2: Set the criteria for a decision. To set the criteria, the researcher states the level of significance for a test. In hypothesis testing, the researcher collects data to know the null hypothesis. To make a decision, the researcher compares the p-value to the criterion. When the p-value is less than 5% (p<.05), the null hypothesis can be rejected. But, when the p-value is greater than 5% (p>.05), The null hypothesis cannot be rejected. The decision to reject or retain the null hypothesis is called significance.

Step 3: Compute the test statistic. In this step uses a test statistics to determine the null hypothesis. Specifically, the researcher uses SPSS 16.00 to compute the test. In this study, the researcher uses t-test to analyze the data by comparing pre-test and post-test. So, the researcher uses paired t-test to analyze the data.

Step 4: Make a decision. In this step uses the value of the test statistic to make a decision about the null hypothesis. To make a decision, the researcher compares the p-value to the criterion. When the p-value is less than 5% (p<.05), the null hypothesis can be rejected. But, when the p-value is greater than 5% (p>.05), The null hypothesis cannot be rejected.

The data analysis that is used by the researcher in this study is t-test. T-test is used to analyze the data and to compare the mean difference of the pre-test and post-test. Besides that, the researcher wants to know the effectiveness of using text-based task on reading comprehension towards young learners at sixth grade in SDN Tambak Beras. T-test is calculated to find out the effect of using text-

based task on reading comprehension by comparing of two means between pre test and post test.The formula of t-test used in this study is based on Bartz (1976) as follow:

$$t = \frac{\bar{X}_1 - \bar{X}_2 - 0}{s_{d_{\bar{x}}}}$$

T-test itself has two kinds, those are paired t-test and independent t-test. The paired t-test is used when we have a paired design, meanwhile the independent t-test is used when we have an independent design. So, in this study the researcher uses paired t-test for measuring this experiment. The formula of paired t-test that is used in this study is as follow:

$$t = \frac{\Sigma d}{\sqrt{\frac{n\left(\Sigma d^2\right) - \left(\Sigma d\right)^2}{n-1}}}$$