

III. METHOD

This chapter describes the method that is used in conducting the data of the research such as design, population and sample, research instruments, validity and reliability of the instrument, research procedure, data analysis, and hypothesis testing.

3.1. Design

This research was a quantitative in nature. The researcher used one group pretest-posttest design (Hatch and Farhady, 1982: 20). One group pretest-posttest design was a research design where one group of participants was pre-tested on the dependent variable and then post-tested after the treatment condition has been administered. The pre-test was conducted to measure students' reading comprehension achievement before treatment and the post-test was conducted to find the students' reading comprehension achievement after being taught using Guessing Meaning from Context strategy. Then, the means score of both pre-test and post-test was compared to find out the progress before and after the treatment.

The researcher used one class as the experimental class and as the try out class. The researcher used simple random probability sampling to determine one experimental class and try out class.

The research design is represented as follows:

T1 X T2

Where:

T1 : Pre-test

X1,X2,X3 : Treatments

T2 : Post-test

(Hatch and Farhady, 1982)

Pretests are administered before the treatments of teaching reading by using recount text. Pretests are implemented in order to see the students' reading skill. Then, the researcher will give treatment that is teaching reading by using recount text. After the researcher give the treatment and the last is post- test. Posttest will administrate after treatments.

3.2. Subject

The subject of this research is the second grade students of SMPN 6 Metro. There are seven classes of the second grade students in 2014/2015 academic year. Each class consists of about 30 students. The sample is one class as control class VIII E. The researcher applies the class by using random sampling.

3.3. Variables

In order to assess the influence of the treatment in research, variables can be defined as dependent and independent variables. Hatch and Farhady (1982: 15) state that the independent variable is the major variable that a researcher hopes to

investigate and the dependent variable is the variable that the researcher observe and measure to determine the improvement of the independent variable.

The research consists of the following variables:

1. Guessing Meaning from Context as independent variable (X)
2. Students' Reading Skill as dependent variable (Y)

3.4. Research Instruments

The instrument of this research is reading test. The researcher administers a pre-test, treatments, and post-test. Pre-test and post-test that the researcher administers are the same test. Then, the data is analyzed from the result of those two activities which can be clarified as follows:

1. Pretest

Pre-test is conducted in order to find out the students' reading skill before the treatments. The purpose of this test is to know where the students have the same effect of reading recount text. The type of the test will be the multiple choice in which the students is asked to choose one correct answer from the option a, b, c, or d. In this pre-test the students will be given 30 items of reading comprehension and it will be conducted within 60 minutes.

2. Treatments

Treatment is conducted in order to teach the students about Guessing Meaning from Context strategies. The purpose of this treatment is how the students applied Guessing Meaning from Context strategies in reading texts especially in recount

text. In this treatment students will be taught in 3 meetings, in each meeting students will be taught about Guessing Meaning from Context strategies (Definition, Restatement, Punctuation marks, Examples, Contrasts, Similarity, Surrounding words, Pictures, Experience, Imagination). First meeting students will be taught about definition, restatement, and punctuation marks. Second meeting students will be taught about examples, contrasts, and similarity. Third meeting students will be taught about surrounding words, pictures, experience, and imagination. This treatment will be given in 40 minutes.

3. Test After Treatment

Test after treatment is three times test that will be given after treatment. The aim of this tests is to find out whether students understand about the treatments. The first test will be given after first treatment which discussed about definition, restatement, and punctuation marks. The second test will be given after second treatment which discussed about examples, contrasts, and similarity. The third test will be given after the third treatment which discussed about surrounding words, pictures, experience, and imagination. This tests consists of 20 items of multiple choices for 20 minutes.

4. Posttest

The aim of this test is to determine the effect of the treatments towards the students' reading comprehension after being given the treatments. This test consists of 30 items of multiple choices for 60 minutes.

3.5. Data Collecting Technique

In collecting the data, the researcher uses the procedure that can be described as follows:

1. Planning

The procedure of making planning of this research can be seen as follows:

a. Preparing the Try-out

In the first meeting, the researcher gave a test in experimental class. In try out class, the researcher provided 40 items in 90 minutes. It was done in order to know whether the test items were applicable or not, by finding out the validity, reliability, level of difficulty, and discrimination power. Split-half method was used to measure the reliability in which requires the researcher to provide the items into two same groups, first half and second half.

b. Preparing the Pre-Test

In the second meeting, the researcher administered the pre-test in experimental class. This test was administered to find out the students' basic reading comprehension before treatment. It used an objective test in form of multiple choices with 30 items in 60 minutes. 30 items were taken from the result of try-out test.

c. Preparing the Treatments

After giving the pre-test for the students, the researcher conducted treatment for six times by using Guessing Meaning from Context strategy. The materials of this research were based on the School Based Curriculum 2006 for second grade student, that is recount text. There were three lesson plans

in the process of teaching reading, which involved recount text inside. Hopefully, those lesson plans in teaching reading process were able to generate a good reading comprehension.

d. Preparing the Test After Treatment

The researcher administered the test after treatment in control class. This test was administered three times after treatment to find out the students' basic reading skill after treatment. It used an objective test in form of multiple choices with 20 items in 30 minutes. 30 items were taken from the result of try-out test.

e. Preparing the Post-Test

In the last meeting, the post-test was distributed in the experimental class to determine the result of students' reading comprehension after being taught by using Guessing Meaning from Context strategy. The researcher used an objective test in form of multiple choice items in 60 minutes. It consisted of 30 items to find out whether there was a significant increase on the students' reading comprehension achievement after the treatments.

2. Application

After making a plan, there are some steps that have been applied:

a. In the first meeting, try out is given.

The test papers are administered to the students and the students are asked to do the test. And the last, they are asked to hand in their test. This test is in the form of multiple choices that consist of 45 items and allocated within 90 minutes.

b. In the second meeting, Pre-Test is given.

In this test, the researcher asks students to do multiple choices tests that consist of 40 items of recount text in 60 minutes.

c. Conducting treatments

After giving the pre-test, the treatment is conducted in three meeting which 2 x 45 minutes. The students are given the different assignments for each session and the materials which are about recount text.

d. Test After Treatment

Test after treatment in experimental class. This test was administered three times after treatment. It used an objective test in form of multiple choices with 20 items in 30 minutes. 30 items were taken from the result of try-out test.

e. In the last meeting, Post-Test is given.

The post-test will be multiple choice which consists of 25 items of recount text in 40 minutes.

3.6. Try Out of the Instruments

There are four criteria of good test namely, validity, reliability, level of difficulty, and discrimination power.

3.6.1. Validity

Validity refers to the extent to which the test measures and to what is intended to measure. There are two basis types of validity; content validity and construct

validity (Hatch and Farhady, 1982:250). A test can be considered to be valid if it can precisely measure the quality of the test.

There are four kinds of validity those are:

1. Face validity, concerns with the lay out of the test
2. Content validity, depends on a careful analysis of the language being stated;
3. Construct validity, measures certain specific characteristic in accordance with a theory of language learning;
4. Criterion-related validity, concerns with measuring the success in the future as in replacement test.

According to the types of validity above, the researcher uses content and construct validity. Both of them are explained as follows:

a. Content Validity

Content validity is intended to know wheter the test items are good reflection of what will be covered or not. The test items which are adopted from the materials that have been taught to the students should be constructed as contain a representative sample of the course (Heaton, 1988). To get the content validity of reading comprehension, the researcher tried to arrange the materials based on the standard competence in syllabus for third grade of junior high school students. In order to establish the content validity of measuring instrument, the researcher identify the overall content to be represented.

The validity of instruments is referred to the content and construct validity in which the question represents five sort reading skills, i.e. determining main idea, finding the detail information, reference, inference, and vocabulary (Nuttal, 1985). All test items which has good validity is used to collect the data for this research and the bad one should be revised.

The content of try out is presented in table of specification below:

Table 3.6. Reading Specification (Aspect of Reading)

No.	Reading Skills	Items Numbers	Total
1.	Determining main idea	2,3,10,17,22,27,33,37,44	9
2.	Identifying details	1,9,12,18,19,23,28,29,30,34,42,43	12
3.	Determining inference	4,11,25,31,32,38,41,45	8
4.	Reference	5,6,24,35	4
5.	Understanding vocabulary	7,8,13,14,15,16,20,21,26,36,39,40	12
Total		45 items	

From the table specification of try out above there are 45 items that divided into 5 objectives, they are identifying main idea 9 items, identifying details 12 items, making inference 8 items, reference 4 items, and understanding vocabulary 12 items.

b. Construct Validity

Construct validity concerns whether the tests are true reflection in line with the theory of what to know the language (Shohamy, 1985: 74). If a test has construct validity it is capable of measuring certain specific characteristic in accordance with a theory of language behaviour and learning. This type of validity assumes the existence of certain learning process theories or constructs underlying the acquisition of abilities and skills (Heaton, 1988: 161).

3.6.2. Reliability

Reliability refers to the extent to which the test is consistent in its score and gives us an indication of how accurate the test score are (Hatch and Farhady, 1982: 244). In other words, how far it can measure the subject at separated time, but it shows the same result relatively (Setiyadi. 2006: 113). Reliability can be defined as the extent to which a test produce consistent results when administered under similar condition (Hatch and Farhady. 1982: 244). The test is determined by using Pearson Product Moment which measures the correlation coefficient of the reliability between odd and even number (reliability of half test) in the following formula:

$$r_{xy} = \frac{\sum xy}{\sqrt{(\sum x^2)(\sum y^2)}}$$

Where:

r_{xy} : coefficient of reliability between odd and even numbers items

x : odd number

y : even number

$\sum x^2$: total score of add number items

$\sum y^2$: total score of even number items

$\sum xy$: total score of odd and even number

After getting the reliability of the half test, the researcher used “ Spearman Bown’s Prophecy formula” (Hatch and Farhady, 1982: 247) to determine the reliability of the whole tests, as follows:

$$r_k = \frac{2 r_{xy}}{1+r_{xy}}$$

Where :

r_k : the reliability of the whole tests

r_{xy} : the reliability of half tests

The criteria of reliability as follows:

0.90 – 1.00 = high

0.50 – 0.89 = moderate

0.0 – 0.49 = low

(Hatch and Farhady, 1982:127)

3.6.3. Level of Difficulty

Level of difficulty relates to how easy or difficulty the item taken from the point of view of the students who take the test. It is important since test items which are too easy (that all students get right) can tell us nothing about differences within the test population (Shohamy, 1985: 79).

Moreover, the difficulty level of an item shows how easy or difficult that particular item does by the participants Heaton (1975:182). The students are divided into two group that are upper and lower groups. The students' scores of try out are listed from the highest score and lowest score:

It is calculated by the following formula:

$$LD = \frac{U+L}{N}$$

Where:

LD : level of difficulty

U : the number of upper group who answer correctly

- L : the number of lower group who answer correctly
 N : the total number of students in upper and lower groups

The criteria are as follows:

- <0.03 : difficult
 0.03 – 0.07 : average
 > 0.07 : easy

(Shohamy, 1985: 79)

3.6.4. Discrimination Power

Discrimination power is used to indicate how accurate the test items can really differentiate between the successful (upper) and fail (lower) students who take the test. The discrimination power (DP) is the proportion of the high group students getting the items correct minus the proportion of the low-level students who get the items correct. In calculating the discrimination power of each item the following formula is used:

The discrimination power is calculated by this following formula:

$$DP = \frac{\text{Correct Upper} - \text{Correct Lower}}{1/2 N}$$

Notes:

- DP = Discrimination Power.
 U = The number of upper group who answer correctly.
 L = The number pf lower group who answer correctly.
 N = Total number of the students.

The criteria are:

DP	: 0.00 - 0.19	= Poor
DP	: 0.20 - 0.39	= Satisfactory
DP	: 0.40 - 0.69	= Good
DP	: 0.70 - 1.00	= Excelent
DP	: - (Negative)	= Bad items, should be omitted

(Heaton, 1975: 182)

3.7. Scoring System

The scoring system that Is used in this research is dividing the right answer by total items timed 100. In scoring the students' result of the pre-test and post-test, the formula by Arikunto (1997: 212) is employed:

$$S = \frac{R}{N} \times 100$$

Were :

- S : score of the test
- R : number of right answer
- N : total number of items on test

3.8. Data Analysis

In order know the students' progress in comprehending the text and the students' score are computed by doing three activities:

1. Scoring the pretest and posttest
2. Tabulating the result of the test and calculating the mean of pretest and the post test. The mean is calculated by applying the following formula:

$$M = \frac{\sum X}{N}$$

Notes:

M = mean (average score)

$\sum X$ = the total students' score

N = total number of students

(Hatch and Farhady: 1982)

1. Drawing conclusion from the tabulated results of the test given, that was by statistically analyzing the data using statistical computerization i.e paired T-Test of statistical Package for Social Science (SPSS) to test whether the increase of students' gain is significant or not, in which the significance is determined by $p < 0,05$. It is used as the data from one sample. (Hatch and Farhady, 1982: 117). In order to know whether the students get any progress, the formula was as follows:

$$I = X_2 - X_1$$

Notes:

I = the increase of students' reading comprehension achievement

X₂ = the average score of post-test

X₁ = the average score of pr-test

3.9. Hypotesis Testing

The pre test and post test are compared in order to know the increase of students' reading skill after treatments. The researcher used Repeated Measure T- test towards the average score of pre test and post test. Moreover, the result of t-test is used to investigate the difference on reading comprehension ability before and after treatments and to prove whether the proposed hypothesis is accepted or

rejected. In this case, the researcher is significant level of 0.05 in which that the probability of error in the hypothesis is only about 5%.

The hypothesis are drawn as follows:

H_0 : There is no difference on students' reading skill after gave treatments by Guessing Meaning from Context strategy.

H_1 : There is significance difference on students' reading skill after gave treatments by using Guessing Meaning from Context strategy.

(Hatch and Farhady, 1982: 111)

The criteria for accepting the hypothesis are as follows:

1. H_0 is accepted if the t-value is lower than T- ratio.
2. H_1 is accepted if the t-value is higher than T- ratio.