III. RESEARCH METHODS

This chapter discusses the methods of research used in this study, that are: research design, variables, population and sample, data collecting technique, research procedures, scoring system, and data analysis.

3.1 Research Design

In doing this research, the researcher conducted quantitative research based on the experimental class. The researcher applied one group pretest-posttest design. The researcher selected two classes, one as try out class and another as the experimental class. The researcher conducted this research to see whether there was significant increase of students' reading comprehension achievement after being taught through retelling. The researcher conducted pretest, three treatments, and posttest. In this design, pretest and posttest were administered to see whether retelling teaching technique could be used to increase students' reading comprehension or not.

The design of the research was follows:

T1   X   T2

Where:

T1 = Pretest

X   = Treatments (using retelling)

T2 = Posttest

Pretest   : reading test in form of multiple choice with the text of recount, it consist of 35 items and done in 45 minutes. Pretest conducted to measure the students reading comprehension before the treatment.

Treatment : teaching reading comprehension by using technique of retelling and the material was recount text, the treatment was held in three meetings.

Posttest   : reading test after hole of the treatments. The items are the same with the pretest before. Posttest conducted to measured the increase of the students reading comprehension after tought through retelling.

<div align="right">(Hatch and Farhady, 1982: 20)</div>

3.2 Variables

This research consisted of the following variables:

1. Students' reading comprehension achievement of recount text as dependent variables (Y).

2. Retelling as independent variables (X).

3.3 Population and Samples

The population of this research was all the first year students, there were three classes of SMAN 2 Tulang Bawang Udik Tulang Bawang Barat. One class of them were used as the sample. The class was selected randomly by using lottery

since there was no stratified and priority class. It was applied based on the consideration that every student in the population has the same chance to be chosen in order to avoid the subjectivity in the research (Setiyadi, 2006:39). The first class was as try out class, and the second class was as experimental class, the class which was given the treatments by using retelling.

The steps were as follow:

1) Writing the three classes' code in three pieces of paper and to be rolled.

2) The rolled paper were entered into the box and shaken.

3) The researcher asked the teacher to take two rolled paper. The first paper as try out class, and the second paper as experimental class.

3.4 Research Procedures

To make this research ran well, it was suggested to make the research procedures, they were:

1. Determining the research problems

   The problem of the research intended to find out whether retelling can increase students' reading comprehension of recount text.

2. Determining the population and sample

   The population of this research was all the first year students of SMAN 2 Tulang Bawang Udik, Tulang Bawang Barat. Three classes of them were used as the sample. One class was selected as an experimental class. The class was selected randomly by using lottery since there is no stratified and priority class.

3. Selecting and determining the materials

The materials in this research were based on the school based curriculum (KTSP) 2006 for the first year students. The materials were taken from textbook and internet. The topics were about reading. The researcher used one type of reading text that was recount text.

4. Administering the tryout test

It was conducted to measure the reliability of pretest and posttest and to make sure whether the test was good or bad for the students. The test was tried out to the students whose level was equal to the sample of the research. It was administered to find out the quality of the test before it was used, whether the items were good or not in validity, reliability, level of difficulty, and the discrimination power. The test was multiple choices that consisted of fourthy items with four alternative options A, B, C, D. The try out test was conducted for sixty minutes.

5. Administering the pretest

The pretest was administered from the result of try out test by preparing how many items, and what material that was given to the students before treatments. The test was multiple choices that consisted of thirty five items and it was conducted for forty five minutes.

6. Conducting the treatments

After giving the pretest to the students, the researcher conducted the treatment for three meetings, which took 90 minutes in every meeting. The researcher taught reading comprehension of recount text by using retelling teaching technique to the students in the experimental class.

7. Administering the posttest

   Posttest was used to evaluate the students' reading comprehension achievement after giving the treatments. The test was multiple choices that consisted of thirty five items and it was conducted for forty five minutes.

8. Analyzing the data

   Both of pretest and posttest results of the class were analyzed by using Repeated Measures t-test to compare the data of the two means score (Hatch and Farhady, 1982:108). The researcher analyzed the improvement by comparing the scores of pretest and posttest from the experimental class. If the score of posttest was better than pretest, it meant that there was a progress of the students' reading comprehension.

3.5 Data Collecting Techniques

The instrument of this research was reading test using recount text. The reading tests consisted of two kinds, pretest and posttest. In giving the treatments, the researcher used reading texts. The texts were taken from English book for the first year students of Senior High School and internet. In collecting the data, the researcher used the following steps:

1. Administering the pretest

   After getting the result of try out class, the researcher gave the pretest. Pretest was administered in order to find out the students' reading comprehension before the treatments. It required 45 minutes for the test. The test was multiple

choices that consisted of thirty five items with the option A, B, C, D. The materials were recount text.

2. Administering the posttest

This test was administered after conducting the treatments to the students. The researcher gave posttest in order to know the result of this class in teaching learning process whether they had progress or not. The aim of this test was to find out the students' reading comprehension after three times treatments. It required 45 minutes for the test. The test was multiple choices that consisted of thirty five items with the option A, B, C, D. The materials were recount text.

3.6 Instrument

The two reading tests were given to the students to check their reading comprehension. They were pretest and posttest. The researcher used objective test. It was multiple choice (MC) tests consisted of four options (A, B, C, D), to make it easy to correct and to give score. The material was about recount text. The researcher gave 35 items for pretest and 35 items for posttest. The purpose of pretest was to know the students' reading comprehension before treatments. The purpose of posttest was to know the students' increase of reading comprehension after treatments.

Criteria of a Good Try Out Test

To know whether the test was good or not, some criteria should be considered. The criteria of a good test were: validity (content validity and construct validity), reliability, level of difficulty and discrimination power.

3.6.1 Validity

Validity is the extent to which an instrument really measures the objective to be measured and suitable with the criteria (Hatch and Farhady, 1982:250). A test can be considered to be valid if it can precisely measure the quality of the test. In this research, to measure whether the test has good validity or not, the researcher was analyze the content and construct validity.

The writer will take content and construct validity for this research. It will be considered that the test should be valid and in line with reading theory and material.

3.6.1.1 Content Validity

Content validity is the extent to which a test measures a representative sample of the subject matter content, the focus of content validity is adequacy of the sample and simply on the appearance of the test (Hatch and Farhady, 1982:251).

It was intended to know whether the test is a good reflection of what has been taught and of the knowledge which the teacher wants the students to know, the researcher compare the test with table of specification.

In this research, the researcher will formulate table of specification, so every test items can be match with the goal and the materials have been taught. The content of the items is presented in the table of specification below:

Table 1. Table of specification of Data Collecting Instrument

No	Skills of Reading	Item Number	Percentage of item
1	Determining the main idea	1, 5, 9, 11, 14, 17, 24, 28, 40	22,5%
2	Finding specific information	7, 12, 20, 26, 31, 38	15%
3	Reference	3, 13, 16, 21, 29, 32, 35, 36	20%
4	Inference	2, 6, 8, 22, 30, 34, 39	17,5%
5	Vocabulary	4, 10, 15, 18, 19, 23, 25, 27, 33, 37	25%
	Total		**100%**

3.6.1.2 Construct Validity

Construct validity is concerned with whether the test is actually in line with the theory of what reading comprehension means to know the language. (Hatch and Farhady, 1982:251).

To know whether the test is true reflection of the theory of language that is being measured, it means that the items should really test the students whether they have mastered the reading text.

3.6.2 Reliability

According to Hatch and Farhady (1982:243), the reliability of a test can be defined as the extent to which a test procedures consistent result when administered under similar conditions. To estimate the reliability of the test, the split-half method was used in order to analyze the odd (x) and even (y) of the test items.

To measure the coefficient of the reliability between odd and even number (reliability of half test), the researcher used Pearson Product Moment (Henning, 1987: 60), in the following formula:

$$R_{xy} = \frac{N\Sigma XY - (\Sigma X)(\Sigma Y)}{\sqrt{(N\Sigma X^2 - (\Sigma X)^2)(N\Sigma Y^2 - (\Sigma Y)^2)}}$$

Notes:

R : the correlation of coefficient of reliability between odd and even

   numbers

N : the number of the students who take part in the test

X : the total number of odd number items

Y : the total number of even number items

X^2 : the square of X

Y^2 : the square of Y

ΣX : the total score of odd number

ΣY : the total score of even number

(Henning, 1987: 60)

(see appendix 14)

After getting the reliability of half test, the researcher then used "Spearman Brown's Prophecy Formula" (Hatch and Farhady, 1982: 246) to determine the reliability of the whole test as follows:

$$Rk = \frac{2rxy}{1 + rxy}$$

Where:

R$_K$ = the reliability of the whole test

rxy = the reliability of the half test

(Hatch and Farhady, 1982: 198)

The criteria of the reliability are:

0.80 up to 1.00 is very high

0.60 up to 0.79 is high

0.40 up to 0.59 is average

0.20 up to 0.39 is low

0.0 up to 0.19 is very low

(see appendix 14)

3.6.3 Level of Difficulty

Level of difficulty (LD) relates to "how easy or difficult the items is from point of view of the students who take the test" (Shohamy, 1985:79).

The level of difficulty can be determined by dividing the number of students who get it right by the total number of students (Shohamy, 1985:79).

$$LD = \frac{R}{N}$$

Where :

LD = Level of Difficulty

R = The number of students who answer correctly

N   = The number of the students

The criteria of difficulty level are :

1. 0.00- 0.30   = difficult

2. 0.30-0.70   = average

3. 0.71-1.00   = easy

(see appendix 13)

3.6.4 Discrimination Power

The discrimination power (D) is the proportion of the high group students getting

the items correct minus the proportion of the low-level students who getting the

items correct. The discrimination power of an indicate item the extent, to which

the item discriminates between the test taken from the less able. The formula of

the discrimination power is:

$$D = \frac{U - L}{1/2\,N}$$

Notes:

D   : discrimination power

U   : the number of students from the upper who answer correctly

L   : the number of students from the lower who answer correctly

N   : the number of the students

(Shohamy, 1985:82)

The criteria of discrimination power are:

1. If the value is positive, it has positive discrimination because large number or more knowledge students than poor students get the item correct. If the value is zero, it means that there is no discrimination.

2. If the value is negative, it has negative discrimination power because lower and higher level of the students gets the item correct.

3. In general, the higher discrimination index is better. In the classroom situation most items should be higher than 0.20 indexes.

(Shohamy, 1985:82)

(see appendix 13)

3.6.5 Scoring System

In scoring the results of students' work, the researcher used the persentage of correct items (Lyman, 1971:95). The percentage of correct item was used in reporting the result of classroom achievement tests. The researcher calculated the average score of the pre-test and post-test by using the formula:

$$X_{\%c} = \frac{R}{T}\,100$$

(Lyman, 1971:95)

Where :

$X_{\%c}$: persentage of correct score.

R   : number of right answers.

T   : total number of items on test.

3.7 Data Analysis

The data was analyzed in order to see whether the students' reading comprehension achievement was increase or not. The researcher examined the students' scores using the following steps:

1. Scoring the pre-test and post-test.

2. Tabulating the result of the test and calculating the scores of the pretest and posttest.

3. Drawing conclusion from the tabulted-result of the pretest and posttest that was administered, that was by statistically analyzing the data using statistical computerization. i.e. Repeated Measure t-test of Statistical Package for Social Science (SPSS) version 17.0 for windows to test whether the improve of students' gain was significant or not, in which the significance was determined by p>0.05.

3.8 Hypothesis Testing

The hypothesis was tested by using Repeated Measure t-test through computing with Statistical Package for Social Science (SPSS) version 17.0 for window. To see the significance, the researcher used the following formula:

$$t = \frac{x1 - x2}{s_D}$$

Where :

X1   : Mean from pretest

X2   : Mean from posttest

S_D : Standard error of differences between means

(Hatch and Farhady, 1982: 114)

The criteria are:

1. If the t-ratio is higher that t-table: H_1 is accepted

2. If the t-ratio is lower than t-table: H_0 is rejected