

III. RESEARCH METHOD

3.1 Research Design

In doing this research, the researcher conducted quantitative research based on the experimental method. She used *one group pretest-posttest* design. She used one class as the experimental class. The research was conducted to see whether there was an increase of students' listening comprehension after being taught using narrative text. The researcher conducted pretest, treatments, and posttest. The design was presented as follow:

T1 X T2

Where,

T1 = Pre-test

X = Treatments

T2 = Post-test

(Setiyadi, 2004: 40)

3.2 Population of the Research

Population of the research was the third year of MTs Nurul Ulum Kotagajah, which has five classes. Each class consists of 40 students. The researcher used two classes, one class as an experimental class (IX A) and another one class as a try out class (IX C). Those classes were chosen by lottery.

3.3 Research Procedure

1. Planning

Before the researcher applied the research procedure, she made some planning to make the application run well. There were some steps that should be planned by the researcher. The procedure of making planning of this research could be seen as follows:

a. Preparing the Try-out

The researcher prepared a kind of test (called Try-out test) that was given to the students. She prepared the total number of test items and material that was tested. It used an objective test in form of 30 items in 80 minutes time.

b. Preparing the Pre-Test

The researcher prepared a kind of test (called Pre-Test) that was given to the students. The researcher used an objective test in form of 30 multiple choices items in 80 minutes time.

c. Determining the material to be taught

The researcher determined the material that should be taught to the students, of course, the material was about narrative text. Each treatment was held for 80 minutes.

d. Preparing the Post-Test

The researcher prepared a kind of test (called Post-Test) that was given to the students. This aimed to measure the increase of students' listening achievement after taught through narrative text. The researcher used an objective test in form of 30 multiple choice items in 80 minutes time.

2. Application

After making the planning, the researcher applied the research procedure that had already been planned. There were some steps that should be applied such as:

a. In the first meeting, the researcher gave try-out

She administered the test papers to the students and asked the students to do the test and last asked them to hand in their test. This test was multiple choices that consisted of 30 items.

b. In the second meeting, the researcher gave pre-test.

She administered the test papers to the students and asked the students to do the test and last asked them to hand in their test. This test was multiple choices that consisted of 30 items.

c. After giving the pre-test to the students,

The researcher conducted the treatments consisting of three meetings.

d. In the last meeting, the researcher gave post-test.

She administered the test papers to the students and asked the students to do the test and then asked them to hand in their test. This test was multiple choices that consisted of 30 items.

3.4 Data Collecting Technique

In collecting the data, the researcher used the following procedures which could be described as follows:

1. Giving Try-out Test

It was done in order to know the level of difficulty and discrimination power, and also to find out the reliability. Therefore, the researcher arranged and made 30 items before being given for pre-test and post-test items. The researcher used the same items for pre-test and post-test taken from try-out items.

2. Giving Pre-Test

Pre-test was given before treatments in order to know the students' listening comprehension.

3. Treatments

The treatments were given three times.

4. Giving Post-Test

Post-test was given after giving treatment. The researcher gave the post-test in order to know the result of this class in teaching learning process whether they had progressed or not.

3.5 Research Instrument

The research instrument for collecting the data is the pre-test and post-test. The researcher uses objective test; it is a multiple choice (MC) test which items consisted of four options (A, B, C, and D), since it is easy to correct and to give

the score. The material to be tested is about narrative text; the researcher used 30 items for pre-test and 30 items for post-test.

3.6 Criteria of Good Test

In doing this research, to find out whether the test items are applicable or not, the researcher finds out the validity and the reliability, and also finds out the level of difficulty and discrimination power of the test. It is done in order to know that 30 items before being given for pre-test and post-test items had a good quality or not.

3.6.1 Validity of the Test

In this research, to measure whether the test had good validity or not, the researcher analyzed its content and construct validity.

Content validity means that the test is good reflection of what has been taught and the knowledge which the teacher wants the students to know (Shohamy 1985: 74).

It means that the items of the test should present the material being discussed.

To get the content of validity, the test has been taken from students' book based on the objective of narrative text. Then, the test is determined according to the materials that have been taught to the students. In other words, the test is based on the materials in the English curriculum, so that it can be said that the test has content validity since the test is good representation of material studied in the classroom.

Construct validity examines whether the test is actually in line with the theory of what it means to know certain language skill (Shohamy, 1985: 74). It means that the test items should really test the students or the test items should really measure

the students' ability in listening comprehension. Therefore to know the construct validity of test, then the researcher used table of specification to judge the validity of the test in order to know whether the test represent the materials that had been discussed (Appendix 2).

3.6.2 Reliability of the Test

To find out the reliability of the test, the researcher used split-half technique which requires her to split the test in two similar parts, first and second half (Hatch and Farhady, 1982: 246). To measure the coefficient of the reliability between first and second half, the researcher used Pearson Product Moment formula. The formula was:

$$r_1 = \frac{\sum xy}{\sqrt{\sum X^2 \sum Y^2}}$$

Where,

r_1 = coefficient reliability between 1st half and 2nd half

X = total number of the 1st group

Y = total score of 2nd group

X^2 = square of x

Y^2 = square of y

(Lado, 1964: 32)

Then to know the coefficient correlation of the whole items, the researcher used

Spearman Brown formula:

$$r_k = \frac{2r_1}{1 + r_1}$$

r_k = reliability of full test

r_1 = reliability of half of the test

The criteria of reliability are:

0.80 – 1.00 = very high

0.60 – 0.79 = high

0.40 – 0.59 = average

0.20 – 0.39 = low

0.00 – 0.19 = very low

(Hatch and Farhady, 1982: 246)

3.6.3 Level of Difficulty

To know whether the test items were easy or difficulty from the students' perception that take the test, then the researcher found out the level of difficulty.

To see the level of difficulty, the researcher used this formula:

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

Where,

LD = Level of difficulty

R = Number of the students who answer correctly

N = Total number of the students

The criteria are:

LD < 0.30 = Difficult

LD = 0.30 - 0.70 = Satisfactory

LD > 0.70 = Easy

(Heaton, 1986: 178)

3.6.4 Discrimination Power

To see the discrimination power, the researcher used the following formula:

$$DP = \frac{\text{correctUpper} - \text{correctLower}}{\frac{1}{2}N}$$

D = Discrimination Power

Correct U = The number of upper group students who answer correctly

Correct L = The number of lower group students who answer correctly

N = The total number of students who take the test

The criteria are:

D: 0.00 – 0.20 = Poor items

D: 0.21 – 0.40 = Satisfactory items

D: 0.41 – 0.70 = Good items

D: 0.71 – 1.00 = Excellent items

D: - (Negative) = Bad items, should be omitted

(Heaton, 1975: 180)

3.7 Data Analysis

In order to know the students' progress in attempt to master the listening comprehension through narrative text, the researcher computed the students' score by doing three activities:

- a. Scoring the pre-test and the post-test
- b. Tabulating the result of the test and finding the mean of the pre-test and the post-test.

- c. Drawing conclusion from the tabulated result of the test given, that was by statistically analyzing the data using statistical computerization i.e. *repeated measures T-Test of SPSS (Statistical Package for Social Science) version 12.0 for Windows* to see whether or not the difference between pre-test and the post-test is significant, in which the significance was determined by $p < 0.05$. It was used as the data come from the same sample or known as paired data (Hatch and Farhady, 1982: 114).

3.8 Hypothesis Testing

After getting the mean of the pre-test and the post-test, the research analyzed the data by using Repeated Measures T-test in order to know the significance of the treatment effect.

Hypothesis of this research:

“There is a significant increase of the students’ listening comprehension of narrative text after they are taught through plot”.

The hypothesis was statistically analyzed using Repeated Measure T-test that was used to draw the conclusion at the level of 0.05 ($p < 0.05$).