# CHAPTER III

# RESEARCH METHOD

## A. RESEARCH DESIGN

Research design played an important role in a research because the quality of research greatly depended on the design. In this research, the researcher used the form of quantitative approach to analyze the data. According to Michael J Wallace, sates, "Quantitative is broadly used to describe what can be counted or measured and can therefore be considered objective".[1]

1. Experimental research

Experimental research is an attempt by the researcher to maintain control over all factors that may affect the result of an experiment. In doing this, the researcher attempts to determine or predict what may occur. An experimental research involved two groups: experimental group and control group. An experimental group received a new treatment while control group received a usual treatment.

An experimental group received a new treatment while control group received a usual treatment. According to Nunan, "experiment is designed to collect data in such a way that threats to the reliability and validity of the research is ministered".[2] This study used pre-test and post-test.

The experimental group is the tenth grade of A class MA Matholi'ul Huda Pucakwangi in the academic year of 2011/2012, and the control group is B class. This research the researcher gave post-test to both groups to collect data.

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[1] Michael J Wallace, *Action Research for Language Teacher*, (Cambridge: Cambridge University Press, 1998), p. 38.

[2] David Nunan, *Research Method in Language Learning*, (Cambridge: Cambridge University Press, 1992), p. 47.

The design of the experiment could be described as follow:

$$\frac{E\ 01\ X\ 02}{C\ 03\ Y\ 04}$$

Adopted from Arikunto.[3]

Where:

E = experimental group

C = control group

01 = pre-test for experimental group

02 = post-test for experimental group

03 = pre-test for control group

04 = post-test for control group

X = treatment by using video clip

Y = treatment without video clip

From the design above, subjects of research were grouped into an experimental group (top line) and a control group (bottom line). The quality of subjects was first checked by pre-testing them (01 and 03). Then, the experimental treatment (taught by using video) was applied to the experimental group, while the control group was taught without video. The test was held in the form of composition. The results of post-test (02 and 04) were then computed statistically. Activities should be conducted in experimental and control class as follows:

2. The activities of experimental group

   a. Pre-test

      Pre-test was given before the treatments. First, the researcher came to the class. Then, teacher explained to the students what they

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[3]Suharsimi Arikunto, *Prosedur Penelitian Suatu Pendekatan Praktek,* (Jakarta: Pt Rineka Cipta: 2006)., p. 86.

had to do. Finally, she distributed the instruments and asked them to do the test.

b. Activities in experimental group

There were some activities in experimental group (Class X A) as follows:

| No. | Activities | Time allotment |
|---|---|---|
| 1 | 1) Teacher explained the generic structure of news item and gave the example of it.<br><br>2) Teacher asked students to arrange jumble paragraph.<br><br>3) Teacher played video about news item | 2 x 45 |
| 2 | 1) Teacher explained social function and lexicogrammatical feature of news item and gave the example of it.<br><br>2) Teacher asked students to arrange jumble paragraph.<br><br>3) Teacher asked students to identify generic structure and lexicogrammatical features of news item based on video seen | 2 x 45 |
| 3 | 1) Teacher reviewed material about news item texts.<br><br>2) Teacher asked students to identify generic structure and lexicogrammatical features of news | 2 x 45 |

| | item based on video seen | |
|---|---|---|
| | | |

c. Post-test

Post-test was held after all treatments were conducted. This test was used to measure students' achievement after they were given treatments. The result of test was analyzed statistically.

3. The activities of control group

a. Pre-test

Pre-test was given before the treatments. First, the researcher came to the class. Then, teacher explained to the students what they had to do. Finally, she distributed the instruments and asked them to do the test.

b. Activities in control group

There were some activities in experimental group (Class X A) as follows:

| No. | Activities | Time allotment |
|---|---|---|
| 1 | 1) Teacher explained the generic structure of news item and gave the example of it.<br><br>2) Teacher asked students to arrange jumbled paragraph.<br><br>3) Teacher played recording about news item. | 2 x 45 |

| 2 | 1) Teacher explained social function and lexicogrammatical feature of news item and gave the example of it. <br><br> 2) Teacher asked students to arrange jumble paragraph. <br><br> 3) Teacher asked students to identify generic structure and lexicogrammatical features of news item based on video listened. | 2 x 45 |
|---|---|---|
| 3 | 1) Teacher reviewed material about news item texts. <br><br> 2) Teacher asked students to identify generic structure and lexicogrammatical features of news item based on video listened. | 2 x 45 |

c. Post-test

Post-test was held after all treatments were conducted. This test was used to measure students' achievement after they were given treatments. The result of test was analyzed statistically.

## B. RESEARCH SETTING

The researcher conducted the experimental research on the second semester in the academic year of 2011/2012 for about 1 month began from March to April. It was conducted in MA Matholi'ul Huda located at Tiwongso Timur Street Sokopuluhan Pucakwangi Pati.

## C. POPULATION AND SAMPLE

1. Population

"Population is generality areas which consist of object/subject which has certain quality and characteristic which decided by the researcher to study and than collected the summary".[4] In my view, population is any group of individuals that has one or more characteristic in common that interest to be investigated. Population of this research is tenth year students of MA Matholi'ul Huda Sokopuluhan Pucakwangi Pati in the academic year of 2011/2012 which consisting of five classes. The total population was 185 students.

**List of population**

| Class | Male | Female | Total |
|-------|------|--------|-------|
| X A   | 36   | 12     | 24    |
| X B   | 36   | 15     | 21    |
| X C   | 42   | 17     | 25    |
| X D   | 38   | 21     | 17    |
| X E   | 33   | 13     | 20    |
| Sum   | 185  | 78     | 107   |

2. Sample

A sample is a group in research study on which information is obtained. Because the population of the study is very big, the researcher did not take all the subject of population. The researcher took some subjects from the population. The research is an experimental research, so the researcher needs to take two classes that will be an experimental and control class as the sample from five classes of the population. To

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[4]Sugiyono, *Metode Penelitian Pendidikan: Pendekatan Kuantitatif, Kualitatif dan R&D*, (Bandung: Alfa beta, 2008), p.80.

determine the two classes, the researcher used cluster random sampling technique. as a sample which X A as an experiment class and X B as a control class. Each class consisted of 36 students.[5] The consideration that the researcher tried to complete in preliminary research was the sample that will be chosen has to be homogeny, so that the research will be a good and valid research. Because we know that something that can be compared is something that has the similar characteristic. The researcher took class X A and X B, because based on the result of the summative test of the first semester, these two classes gained similar average achievements and considered as homogeneous class. Each class consisted of 36 students. Students in class X A was using video and considered as experimental group. While students in class X B was taught without using video.

## D.  VARIABLE AND INDICATOR

According to Fred D. Kerlinger as cited by Arikunto, state, "that all experiments have one fundamental idea behind them; to test the effect of one or more independent variables on a dependent variable (it is possible to have more than one dependent variable in experiments)".[6]

This research, that used video as method in teaching listening on news item text, had two variables. Those variables were:

1.  Dependent variable

Dependent variable is variable that was affected or that be the result because of the existence of the independent variable.[7] According to David Nunan, dependent variable is the variable which the independent variable

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[5]Suharsimi Arikunto, *Prosedur Penelitian Suatu Pendekatan Praktek,* P. 141-142

[6]Suharsimi Arikunto, *Prosedur Penelitian Suatu Pendekatan Praktek,* P. 119.

[7]Suharsimi Arikunto, *Prosedur Penelitian Suatu Pendekatan Praktek,* P. 119.

is acting. [8] The dependent variable of this study was the students' achievement in the listening test score in news items text.

2. Independent variable

Independent variable is variable that influences or those to be cause of change the dependent variable. [9] David nunan also states that independent variable is the label of variable which influence the other. [10] The independent variable of this research was the use of video in teaching listening on news items text.

The indicators of this research using video are:

1) Students are able to understand the generic structure of news items text.

2) Students are able to understand social function and language feature of news items text.

3) Students are able to identify generic structure of news items text which has been heard.

4) Students are able to identify social function and language feature of news items text which has been heard.

E. DATA COLLECTION TECHNIQUE

The researcher will carry out activities to gain the data containing treatment for the experiment group and post test. The researcher developed the instrument of research and administered it to the students to collect the data. The instrument is:

a. Test

Test is used to asses and measure students' achievement; mainly the cognitive side related the students' mastery on learning as aim of

[8]David Nunan, *Research Method in Language Learning*, P.25.

[9]Suharsimi Arikunto, *Prosedur Penelitian Suatu Pendekatan Praktek,* P. 119.

[10]David Nunan, *Research Method in Language Learning*, P.25.

education and teaching.[11] Test is containing number of questions. In this research, test will be done twice for each group, control and experiment groups. They are pre-test and post-test. Pre-test will be done to know the students understanding before a treatment do. Test both control and experiment group before experiment to make sure that the groups are the same. This test is to measure students' achievement on news items text both of control group and experiment group. Whereas the purpose giving post-test to know the students understanding on news item text after the teaching learning process. Test which is used is multiple choice tests with five options answer. This test is given to both of experiment group and control group to answer hypothesis in this research.

b. Documentation

Another data is needed to help the researcher run the research. In addition to do that, data will be collected though documentation of the students' previous examination scores from the school. It will be used to valid the sample.

Documentation of students' listening test recording is used to evaluate students' listening skill.

## F. DATA ANALYSIS TECHNIQUE

a. Pre-requisite test

Initial state of data analysis aimed to determine the initial conditions and the experimental class control class before getting a different treatment, whether two classes from a homogenous sample or not. Therefore, the researcher used previous examination tests of both the experimental class and

It was meant to get the assumption that sample of research came from a control class.same condition or homogenous.

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[11] Nana Sudjana, *Penilaian Hasil Proses Belajar Mengajar*, (Bandung: PT Remaja Rosdakarya, 1999), 6th Ed, p. 35

1) Test of Data Normality

Before doing the research, the first step that had to be done was testing the data normality. It was aimed to know whether the data came from normal distribution or not. The researcher used Chi-Square formula.

Steps for the data normality as follow:

a) Hypothesis that be used

$H_0$ : the data is normal

$H_a$ : the data is not normal

b) Choose the statistic method that be used

The formula that be used to count the normality of students' result is Chi-quadrate.

c) Using α

The alpha significance that be used in this research is 5 % and dk = k-3.

d) Determine the criteria of hypothesis test

$H_0$ is accepted if $X^2_{score} < X^2_{table}$

Ha is accepted if $X^2_{score} \geq X^2_{table}$ [12].

e) The formula that be used as follow

$$X^2 = \sum_{i=1}^{k} \frac{(Oi - Ei)^2}{Ei}$$

Adopted from Sudjana.[13]

Where:

$X^2$ = Chi-quadrate

[12] Suharsimi Arikunto, *Prosedur Penelitian Suatu Pendekatan Praktik*, hlm. 318.

[13] Sudjana, *Metoda Statistika*, (Bandung: Tarsito, 2002), P.273.

$O_i$     = Frequency that was obtained from data

$E_i$     = Frequency that was hoped

k     = the sum of interval class


2)   Test of Homogeneity

Test of homogeneity was meant to get the assumption that sample of research came from a same condition or homogenous. The researcher used the formula as follow:

$$F = \frac{Biggest\ Variance}{Smallest\ Variance}$$

Cited from Sugiyono.[14]


With varians formula:

$$S^2 = \frac{\Sigma f \left( x - \bar{x} \right)^2}{n-1}$$

To measure the sample homogenous or not, the researcher use F-table score with significant 5% and dk= k-1 of significance. If $F_{score} \leq F_{table}$, Ho was accepted.[15] So, both of experimental and control group had similar variants (homogenous).


b.  Hypothesis Test

Firstly, the test was done in both groups, experimental and control group before are given different treatment. Secondly, the result of the test was scored by using analytic scale. Thirdly, the means score of the two groups were determined. Finally, the two means were compared by

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[14]Sugiyono, *Statistika Untuk Penelitian*, (Bandung: Alfabeta, 2007), p. 140

[15]Sudjana, *Metoda Statistika*, P.250.

applying t-test formula. T-test was used to differentiate if the students'
result of students' listening skill in news item text by using video and
without video was significant or not.

$$t = \frac{\overline{x}_1 - \overline{x}_2}{s\sqrt{\dfrac{1}{n_1} + \dfrac{1}{n_2}}}$$

Where:

$$s = \sqrt{\frac{(n_1 - 1)\, s_1^2 + (n_2 - 1)\, s_2^2}{n_1 + n_2 - 2}}$$

Cited from Sudjana.[16]

Where:

$\overline{x}_1$ = the mean score of the experimental group

$\overline{x}_2$ = the mean score of control group

$n_1$ = the number of the experimental group

$n_2$ = the number of the control group

s = standard deviation

$s^2$ = variance

If the obtained score was higher than t-table score by using 5% alpha of
significance, Ho was rejected. It means that Ha was accepted: "There was a
significant difference in listening achievement between the experimental and
control group.

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[16]Sudjana, *Metoda Statistika,* p. 239.