CHAPTER IV
FINDINGS AND DISCUSSION

Having gained the whole needed data, the researcher then did analysis which refers to the statistical data analysis to find out whether or not there is a difference of students' achievement on listening on news items text and their understanding between students taught using video and those taught using without video. The researcher analyzed the gathered data by employing statistical tool of t-test formula to respond to the objective of the study.

However, before testing the hypothesis that is to compare the difference of students' academic achievement, the researcher would like to carry out pre requisite test, they are normality and homogeneity test. In support to the measurement of students' achievement result, the observation concerning to the students' understanding during the experiment was interpreted as well.

A. Data Analysis

In this analysis represents the result of pre-test and post-test that was done both in experimental and control group. This analysis will answer the research question "how is the effectiveness of teaching listening on news item texts using video?". Researcher concluded that using video is effective when the result of post test of the experimental class and control class has significant differences or the assumption that those classes is equal is not fulfilled.

Before the researcher tested the hypothesis that had been mentioned in the chapter two, the researcher analyzed and tested hypothesis prerequisites which contained of normality test and homogeneity test. Second analysis dealt with normality test, homogeneity test, and t-test (test of difference two variants) in pre-test and post-test.

1. Analysis of Pre-test

This analysis had purpose to know the first condition both of experimental group and control group before given different treatment. The first analysis is homogeneity test of the sample. Researcher gave pre

test to students of X A as experimental group and students of X B as control group. The analysis was meant to get the homogeneous class of X A and X B. In this study, the homogeneity of the test was measured by comparing the obtained score (F_{score}) with F_{table}. Thus, if the obtained score (F_{score}) was lower than the F_{table} or equal, it could be said that the Ho was accepted. It meant those the classes were homogeneous. The obtained score from X A, the maximum score was 85 and the minimum score was 40, R = 40, number of interval class was 1 + 3.3 log 36 = 6.136 (6), length of interval class was 7.5 (8). For the clear data of the analysis of homogeneity test could be seen in appendix 16.

Table. I. List of Distribution Frequency from Experimental Class Data

No.	Interval	Upon limits	Absolute frequency	Relative frequency (%)
1	80 – 87	87.5	2	5 %
2	72 – 79	79.5	5	12.5 %
3	64 – 71	71.5	10	25 %
4	56 – 63	63.5	7	17.5 %
5	48 – 55	55.5	9	22.5 %
6	40 – 47	47.5	3	7.5 %

From grade X B, got the maximum value = 80 and minimum value 40, (R) = 40, number of interval class was 1 + 3.3 log 36 = 6.136 (6), length of interval class was 6.67 (7). For the clear data of the analysis of homogeneity test could be seen in the table below:

Table.2. List of Distribution Frequency from Control Class Data

No.	Interval	Upon limits	Absolute frequency	Relative frequency (%)
1	75 – 81	81.5	3	7.5 %

2	68 – 74	74.5	5	12.5 %
3	61 – 67	67.5	5	12.5 %
4	54 – 60	60.5	16	40 %
5	47 – 53	53.5	6	15 %
6	40 – 46	46.5	1	2.5 %

The analysis which was done is below:

1) Normality test

Based on the normality calculation of grade X A MA Matholi'ul Huda using *Chi Kuadrat,* got X A χ^2_{count} = 1.813 on appendix 14, and grade X B χ^2_{count} = 7.251 on appendix 15. With α = 5% and df = 6 - 3 = 3. From table found *Chi Quadrate* χ^2_{table} = 7.815 so, $\chi^2_{count} < \chi^2_{table}$ and it can be concluded that sample were derived from population which were normal distribution. For the clear explanation can be seen on the table below:

Table. 3

Normality test

Pre test data from both of grade X A and grade X B

No	Class	Ability	$\chi^2 count$	χ^2_{table}	Exp.
1	VIIA	Pre test	1.813	7.815	Normal
2	VIIB	Pre test	7.251	7.815	Normal

For the complex calculation can be seen ion appendix 14 and 15.

2) Homogeneity test

By knowing the calculation on appendix 16, the researcher was able to test the similarity of the two variants with the homogeneity test from students' previous score between X A and X B. The computation of the test of homogeneity as follows:

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

$$= \frac{127.36}{84.98}$$

$$= 1.4987$$

On a 5% with df numerator (nb - 1) = 36 – 1 = 35 and df denominator (nk – 1) = 36 – 1 = 35, it was found F_{table} = 1.96. Because of $F_{score} \leq F_{table}$ (1.4987 ≤ 1.96, so it could be concluded that both X A and X B had no differences. The result showed both groups had similar variants (homogenous).

For the further calculation can be seen on appendix 16.

3) Test of difference two variants in pre-test between experiment and control group

It could be concluded that both group have no differences in the test of similarity between two variances in pre-test score. To know the differences between 2 classes used *t-test*

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

Where:

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

Researcher had to find out S by using the formula above:

$$S = \sqrt{\frac{(36-1)127.36 + (36-1)84.98}{36+36-2}}$$

$$= 10.3039$$

After S was found, the next step was to measure t-test:

$$t = \frac{61.81 - 60.14}{10.3039 \sqrt{\frac{1}{36} + \frac{1}{36}}}$$

$$= 0.686$$

After getting t-test result, then it would be consulted to the critical score of t_{table} to check whether the difference is significant or not. For a = 5% with df 36 + 36 – 2 = 70, it was found t_{table} = 1.671. Because of t_{score} < t_{table} (0.686 < 1.671), so it could be concluded that there was no significance of difference between the experimental and control group. It meant that both experimental and control group had same condition before getting treatments.

2. **Analysis of Post-test**

The experimental group was given post test on April 9, 2012 and control group was given a post test on April 12, 2012. Post-test was conducted after all treatments were done. Video was used as technique in the teaching of listening on news item texts to students in experimental group. While for students in control group, they were given treatments without video. Post-test was aimed to measure students' ability after they got treatments.

a. **Normality test**

Test of normality was used to find out whether data of control and experimental group, which had been collected after they got treatments, come from normal distribution normal or not. The formula, that was used, was Chi-quadrate. The result computation of Chi-quadrate (X^2_{score}) then was compared with table of Chi-quadrate (X^2_{table}) by using 5% alpha of significance. If X^2_{score} < X^2_{table} meant that the data spread of research result distributed normally.

Based on the research result of X A students in the Experimental group after they got treatments by using video in the teaching listening on news item text, they reached the maximum score 90 and minimum score 50. The stretches of score were 40. So, there were 6 classes with length of classes 7. From the computation of

frequency distribution, it was found X^2_{score} = 6.503. Based on the Chi-quadrate table (X^2_{table}) for 5% alpha of significance, it was found X^2_{table} = 7.815. Because of $X^2_{score} < X^2_{table}$, so the data of experimental group after getting treatments distributed normally.

While from the result of X B students in control group, after they were taught without video, was found that the maximum score was 90 and minimal score was 45. The stretches of score were 45. So, there were 6 classes with length of classes 8. From the computation of frequency distribution, it was found X^2_{score} = 3.375. Based on the Chi-quadrate table (X^2_{table}) for 5% alpha of significance, it was found X^2_{table} = 7.815. Because of $X^2_{score} < X^2_{table}$, so the data of control group after getting treatments distributed normally.

Table. 3

Normality test

Post test data from both of grade X A and grade X B

No	Class	Ability	χ^2_{score}	χ^2_{table}	Exp.
1	VIIA	Post test	6.503	7.815	Normal
2	VIIB	Post test	3.379	7.815	Normal

For the complex calculation can be seen on appendix 22 and 23.

b. Homogeneity test

By knowing the calculation on appendix 16, the researcher was able to test the similarity of the two variants with the homogeneity test from students' previous score between X A and X B. The computation of the test of homogeneity as follows:

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

$$= \frac{108.57}{65.00}$$

$= 1.6703$

On a 5% with df numerator (nb - 1) = 36 − 1 = 35 and df denominator (nk − 1) = 36 − 1 = 35, it was found F_{table} = 1.96. Because of $F_{score} \leq F_{table}$ (1,6703 ≤ 1.96, so it could be concluded that both X A and X B had no differences. The result showed both groups had similar variants (homogenous).

For the further calculation can be seen on appendix 24.

c. Test of difference two variants in post-test between experiment and control group

After counting standard deviation and variance, it could be concluded that both group have no differences in the test of similarity between two variances in post-test score. So, to differentiate if the students' results of listening on news item texts in experimental and control group after getting treatments were significant or not, the researcher used t-test to test the hypothesis that had been mentioned in the chapter two. To see the difference between the experimental and control group, the researcher used formula:

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

Where:

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

Researcher had to find out S by using the formula above:

$$S = \sqrt{\frac{(36-1)\, 65.00 + (36-1)\, 108.57}{36 + 36 - 2}}$$

$$= 9.3159$$

After S was found, the next step was to measure t-test:

$$t = \frac{74.17 - 70.00}{9.3159\sqrt{\dfrac{1}{36} + \dfrac{1}{36}}}$$

$$= 1.898$$

After getting t-test result, then it would be consulted to the critical score of t_{table} to check whether the difference is significant or not. For a = 5% with df 36 + 36 – 2 = 70, it was found t_{table} = 1.67. Because of $t_{score} > t_{table}$ (1.898 > 1.67), so it could be concluded that there was significance of difference between the experimental and control group. It meant that experimental group was better that control group after getting treatments.

Since the obtained t-score was higher than the critical score on the table, the difference was statistically significance. Therefore, based on the computation there was a significance difference between teaching listening on news item texts using video and teaching listening on news item texts without video for the tenth grade students of MA Matholi'ul Huda Sokopuluhan. Teaching listening on news item texts using video is more effective than teaching listening on news item texts without video. It can be seen from the result of the test where students who had been taught listening on news item texts using video got higher scores than students who had been taught listening on news item texts without video,

B. Discussions

The data were obtained from the students' achievement scores of the test of listening on news item text. They were pre-test and post-test scores from the experimental and control group. The average score for experimental group was 61.81 (pre-test) and 74.17 (post-test). The average score for control group was 60.14 (pre-test) and 70.00 (post-test).

1. **Students' Condition in Control Group**

In this study, source of data that become as control group was class X B. In control group, there was not a new treatment in a teaching learning process. They were given a usual treatment. They were taught listening on news item texts using conventional method. By using recording of news, teacher had used a grammar translation method that could not increase students' listening skill on news item texts. Students could not enjoy in practicing their skill in listening because they only listen and write those speakers' said that unfamiliar words and different pronunciation. It was proven with the control group's average in the post-test (70.00) which was lower than the experimental group (74.17).

2. **Students' Condition in Experimental Group**

   a. **Analysis Students' listening Ability Before Treatment (Pre-test)**

In pre-test, students' listening ability on news item texts was low. Pre-test was conducted before the treatment. From the result of pre-test, it was known that students faced many difficulties in listening on news item texts. Pronunciation of words or sentences which are listened by students is quite different of written words and sentences. Moreover they don't know what the speaker have said when they were listening the news. Students' ability was in low level when they had to analyze the content of news based on recording. It meant that the news was not clearly stated and the sentences were not understandable to be analyzed.

   b. **Analysis Students' Listening Ability After Treatment (Post-test)**

Based on the analysis of students' ability, it was found that students' ability on listening after getting treatment was improved. In the treatment, students were listening news item texts using video were more attractive and understand the news well. The vocabulary choice, sentences' arrangement, and the way they produce the word were good and relevance to the topic or (their meaning) so the

meaning were easy to be understood. They could compare each word with speaker's pronunciation.

The finding that shows students' ability is namely the increasing of students' average score. So, it could be concluded that the use of video in teaching listening on news item texts was effective. It was proven with students' average score in experimental group was higher than control group. By considering the students' final score after getting treatment, the teaching of listening on news item texts using video as medium was better than conventional method.

Based on t-test analysis that was done, it was found that the t-score (1.898) was higher than t-table by using 5% alpha of significance (1.67). Since $t_{score} > t_{table}$, it proved that there was a significant difference between the improvement of students achievement that was given a new treatment (using video) and the improvement of students achievement that was given a usual treatment.

3. Limitation of Research

The researcher realized that there were some hindrances and barriers in doing this research. The hindrances and barriers occurred was not caused by inability of the researcher but caused by the limitation of the research like time, fund, and equipment of research.