

CHAPTER IV

RESEARCH FINDING 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 Speaking report text and their understanding between students taught by means of film as media and those taught by means of non film media. 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. Besides, the researcher also interpreted non statistical data which refers to the result of interview to investigate the students' responses concerning to the use of film as media in classroom. 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 of Students Pre-Test Score of the Experimental Group (Class XI Science 1) and the Control Group (Class XI Science 1)

Based on the test given to the class 3 XI Science 1 and 3 XI Science 3, the pre test scores was gained from the students before the experiment was administered. The average score reached by class 3 XI Science 1 was 61,25 while the class 3 XI Science 3 reached 57,37 as their average score. The students' scores in detail can be looked at the attachment.

The result shown by the two group might XI be interpreted that the students' competence level or their understanding on English passive voice was equivalent. It could be seen from the mean score of each group which was not far differed.

From the pre test score result, the pre requisite test then could be done before testing the researcher's hypothesis.

1. Normality Test

The computation of normality test can be sequenced as follow.

Table 7

**Data of Pre-Test Score for the Experimental Group (class x7)
and Its Normality Test Computation**

NO	xi	fi	fkum	ZI	Z Table	F (ZI)	S (ZI)	F (ZI)-S (ZI)
1	48	4	4	-1.61	0.4463	0.0537	0.125	0.0713
2	52	2	6	-1.11	0.3665	0.1335	0.1875	0.054
3	56	4	10	-0.61	0.2291	0.2709	0.3125	0.0416
4	60	10	20	-0.11	0.0438	0.4562	0.625	0.1688
5	64	5	25	0.392	0.1517	0.6517	0.78125	0.12955
6	68	1	26	0.893	0.3133	0.8133	0.8125	-0.0008
7	72	4	30	1.394	0.4177	0.9177	0.9375	0.0198
8	78	2	32	1.895	0.4706	0.9706	1	0.0294
	496	32						

$$S_1^2 = \frac{\sum x_1^2}{n-1} = \frac{1948}{31} = 63.725$$

$$S_1 = \sqrt{S_1^2}$$

$$= \sqrt{63.725}$$

$$= 7.982845$$

Based on the computation above, then the highest value is determined which can be seen in last row. The value of L_o is 0.1688. Meanwhile, by the number of subject (n) = 32 at the significance level of 5%, the value of L_{table} is 0,211. Because $L_o = 0,1688 \leq L_{table} = 0,211$, it can be said that the sample taken from the population is normally distributed or have normal distribution. It means that H_o is accepted.

To consult to the appropriate Lilliefors table, the details computation to get the value of L_{table} is as follow.

$$n = 32$$

$$\text{at significance level of 5\%, value of } L_{table} = \frac{0,886}{\sqrt{n}}$$

$$L_{table} = \frac{0,886}{\sqrt{32}}$$

$$= \frac{0,886}{5.656}$$

$$= 0.1566$$

Table 8

**Data of Pre-Test Score for the Control Group (Class XI Science 3)
and Its Normality Test Computation**

fi	f kum	zi	z tabel	F (zi)	S (zi)	F (zi)-s (zi)
6	6	-1.21595	0.17	0.33	0.1875	-0.1425
9	15	-0.69715	0.1406	0.3594	0.46875	0.10935

3	18	-0.17834	0.091	0.409	0.5625	0.1535
3	21	0.340467	0.016	0.516	0.65625	0.14025
6	27	0.859274	0.0596	0.5596	0.84375	0.28415
3	30	1.37808	0.1217	0.6217	0.9375	0.3158
2	32	1.896887	0.1591	0.6591	1	0.3409
32	149					

$$S_2^2 = \frac{\sum x_2^2}{n-1} = \frac{1844}{31} = 59.467$$

$$\begin{aligned} S_2 &= \sqrt{S_2^2} \\ &= \sqrt{59.567} \\ &= 7.711533 \end{aligned}$$

Regarding to the computation above, the highest value is determined which can be seen in last row. The value of L_o is 0.28415. Meanwhile, by the number of subject (n) = 32 at the significance level of 5%, the value of L_{table} is 0,211. Because $L_o = 0.28415 \leq L_{table} = 0,211$, it can be said that the sample taken from the population is normally distributed or have normal distribution. It means that H_o is accepted.

To consult to the appropriate Lilliefors table, the details computation to get the value of L_{table} is as follow.

$$n = 42$$

$$\text{at significance level of 5\%, the value of } L_{table} = \frac{0,886}{\sqrt{n}}$$

$$\begin{aligned}
 L_{\text{table}} &= \frac{0,886}{\sqrt{32}} \\
 &= \frac{0,886}{5.656} \\
 &= 0.1566
 \end{aligned}$$

2. Homogeneity Test

The computation of homogeneity test for the variance of population can be sequenced as follow.

- a. Make the table of Barlett test

Table 9

The computation of values needed in Barlett test

$$H_0 : \sigma_1^2 = \sigma_2 = \dots \sigma_k^2$$

Sample	Dk	1/dk	S_i^2	Log S_i^2	(dk) Log S_i^2
Experimental	31	0,032	63,726	1.8043	55,0025
Control	31	0,032	59,467	1,774	54.995
Sum (Σ)	62	0,064			109.9975

Having completed the table above, the values needed to compute are as follows.

- b. Merge variance from the entire sample

$$\begin{aligned}
 S_i^2 &= \frac{\sum (n_i - 1) S_i^2}{\sum (n_i - 1)} \\
 &= \frac{31(163,726) + 31(59,467)}{31 + 31}
 \end{aligned}$$

$$= \frac{5075.506 + 1843,477}{62}$$

$$= \frac{13826,43}{82} = 111.5965$$

c. Calculate $\text{Log } S_i^2 = \text{Log } 111.5965 = 2.047$

d. Calculate the unit of B

$$B = (\text{Log } S_i^2) \Sigma (n_i - 1)$$

$$= (2.047) (62)$$

$$= 126,954$$

e. Calculate χ^2 (chi square) using the formula

$$\chi^2 = (\ln 10) \{B - \Sigma (n_i - 1) \text{Log } S_i^2\}$$

$$= (2,3026) \{126,954 - 109.9975\}$$

$$= (2,3026) \{16.9565\}$$

$$= 39.044$$

Computed the calculation procedures above, the result is then consulted to the appropriate table of χ^2 by comparing $\chi^2_{\text{calculated}}$ with χ^2_{table} by the chance of 0,05. At the significance level of 5% by the degrees of freedom (df) = $k - 1 = 2 - 1 = 1$, the result of $\chi^2_{\text{calculated}}$ is 0,0094 while the χ^2_{table} is 3.84 or it might be put in another way that $\chi^2_{\text{calculated}} \leq \chi^2_{\text{table}}$ ($39.044 > 3,84$). Thus, it could be interpreted that both groups of sample come from is not homogeny population and it also means H_0 is rejected.

B. Data of Students Post Test Score of the Experimental Group (Class XI Science 1) and the Control Group (Class XI Science 3)

Based on the test given to both groups after being treated by different means of teaching technique, the post test score was gained from the students. The average score reached by the experimental group (class XI Science 1) was while the control group (class XI Science 3) reached as their average score. It could be seen that the final score of each group was relatively so different. However, it should be measured using statistical procedures. Thus, the researcher analyzed the post test data to test the hypothesis that have been stated. The details of the score are appended.

1. Hypothesis Test

Having gained the mean of the two groups, the researcher then tested the hypothesis that has been determined that can be stated as follows.

H_0 : The using of film is not more effective to improve the students' understanding on speaking report text than non film

H_a : The using of film is more effective to improve the students' understanding on speaking report text than non film

To test the hypothesis stated above, t-test formula was employed. Following is the procedures.

Table 10
The Computation of t-Test Derived From the Post Test
of Experimental and Control Group

Experimental Group			Control Group		
	Post Test Score (X_1)	X_1^2		Post Test Score (X_2)	X_2^2
E-1	72	5184	C-1	60	3600
2	68	4624	2	64	4096
3	72	5184	3	68	4624
4	64	4096	4	56	3136
5	64	4096	5	60	3600
6	72	5184	6	64	4096
7	64	4096	7	60	3600
8	56	3136	8	60	3600
9	76	5776	9	68	4624
10	72	5184	10	68	4624
11	56	3136	11	48	2304
12	52	2704	12	68	4624
13	60	3600	13	72	5184
14	64	4096	14	64	4096
15	60	3600	15	68	4624

16	56	3136	16	64	4096
17	60	3600	17	68	4624
18	52	2704	18	64	4096
19	60	3600	19	64	4096
20	72	5184	20	72	5184
21	52	2704	21	64	4096
22	76	5776	22	64	4096
23	48	2304	23	52	2704
24	56	3136	24	48	2304
25	64	4096	25	52	2704
26	60	3600	26	56	3136
27	64	4096	27	64	4096
28	72	5184	28	52	2704
29	64	4096	29	48	2304
30	64	4096	30	52	2704
31	76	5776	31	76	5776
32	60	3600	32	52	2704
Sum	2028	130384	Sum	1960	121856

Based on the table arranged above, the mean and standard deviation of both group are then computed as can be seen in the following table.

Table 9. The computation of students' mean and standard deviation.

Experimental Group	Control Group
$M_1 = \frac{\sum X_1}{N}$ $= \frac{2028}{32}$ $= 63.375$	$M_2 = \frac{\sum X_2}{N}$ $= \frac{1960}{32}$ $= 61.25$
$X_1^2 = \sum X_1^2 - \frac{(\sum X_1)^2}{N}$ $= 130.384 - \frac{(2028)^2}{32}$ $= 130.384 - 128.524,5$ $= 1859,5$	$X_2^2 = \sum X_2^2 - \frac{(\sum X_2)^2}{N}$ $= 121.856 - \frac{(1960)^2}{32}$ $= 121.856 - 120.050$ $= 1806$
$S_1 = \sqrt{\frac{X_1^2}{N-1}}$ $= \sqrt{\frac{1859,5}{32-1}}$ $= \sqrt{59.98}$ $= 7,74$	$S_2 = \sqrt{\frac{X_2^2}{N-1}}$ $= \sqrt{\frac{1806}{32-1}}$ $= \sqrt{58,258}$ $= 7,63$

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Having calculated the mean and the standard deviation of both groups, the computation result could be continued to the following t-test computation step by step.

$$t = \frac{M_1 - M_2}{\sqrt{\frac{S_1^2}{N_1} + \frac{S_2^2}{N_2}}}$$

$$t = \frac{76 - 76}{\sqrt{\frac{7,74^2}{32} + \frac{7,63^2}{32}}}$$

$$t = \frac{2}{\sqrt{\frac{59,9076}{32} + \frac{58,2169}{32}}}$$

$$t = \frac{2}{\sqrt{1,872 + 1,819}}$$

$$t = \frac{2}{3,691}$$

$$t = 0,541$$

Thus, the t-value in this case is about 3.1. By 62 degrees of freedom (df), the t-value could be looked in the t-test table. Because the exact degrees of freedom (df) of 62 is not shown in the table, the researcher took the closest value above it which is 120. In that row, the critical value for t at the 0.05 level of significance is 1.98. The t-value calculated for the difference between students speaking understanding taught by means of film and those taught by means of non film was 0,541 and that value is greater than the critical value

found in the table at 0.05 level of significance. It means that H_0 is accepted and H_a is rejected.

C. Observation Interpretation

The observation was carried out during the experiment focused on the students' understanding on the English speaking skill using report text. The concern was given by viewing the students' observable behavior appeared in class within the presentation or teacher's explanation and teamwork phase. In this case, the researcher saw their activeness, through the questions pertaining to the report text.

Questioning, here, has many purposes in report text teaching and learning. It came from two sides; from teacher and from the students as well. Firstly, the question which was given to the students provided the teacher information about their understanding on speaking report text in each meeting during the experiment and enabled the teacher to measure their understanding through their speech delivery in front of class .

This research shown that approximately 17 of 32 students gave good speech when the students delivery their report in front of class while there has been about 15 students who gave bad speech in content, fluency, mastery grammar, mastery vocabulary and pronunciation .

Secondly, the question came from the students' side. Based on the research observation, the information and measurement of students' understanding was gained. The responses toward the questions which came from them was featured on the explanation from other student whether gave correct, incorrect, or partially correct explanation.

Regarding to this research, it has been shown that of the 32 students, it was about 50% who give answer correctly to other's question, about less than 20% who gave explanation and answer incorrectly to other's question. While during the teamwork, the observation result shown that it was about 60%-80% of students who gave explanation and answered the question on given material correctly and about less than 20% answered incorrectly to other students'.

There has been also students who tried to give more explanation and answered the questions which came from other group. It was about 20%-40% of them.¹

D. Further Analysis : Different Score of the Two Groups and the Benefits of using film

Having known the result of t value, and consulted it to the appropriate t table, it has been found that there is a no significant difference between two groups. This indicates that the difference of two groups' mean probably did not happen accidentally. It could be said in another way; this result means that the mean of students taught by means of using film is higher than the mean of the students taught by means of non film media

Based on the post test score of the students related to their achievement on speaking report text , it can also be seen that the mean between the two groups was different in which the experimental group's score (class 3 science 1) was higher than the control one (class3 science 3). Meanwhile, it has been seen that at the first time before they were given the treatment, they were in equal capabilities and had equivalent level of competence.

That difference result was caused by some factors, that could be analyzed through the teaching and learning they have experienced during the experiment. The higher mean score gained by the experimental group was caused by the students' activeness they have practiced in class through film as media . As stated earlier that the activities offered in film as media allowed the experimental group (class 3 science 1) to receive the teacher presentation or explanation and share their knowledge related to the English speaking skill through teamwork. Those activities enabled them to get more understanding because their understanding might come from two sides that were from the teacher and from their teammates. It might support the students to do their best in working out with the given subject matter. In contrary, it could be seen that the control group (class 3 science 3) were merely taught by means of non film which is usually refers to the lecturing. The students received the explanation

¹ *Observation result gained from experimental group.*

only from one side that was from their teacher. The role of teacher, here, was said dominantly. Whereas the students' potentials in giving explanation could be taken benefit from. This situation could not explore the students' cognitive potentials and their activeness maximally. As the result, the work result they gained in working out with English passive voice assignment was lower than the experimental group. This evidence suited to the view point about the learner centered instruction stating that the activeness of students in classroom affected their cognitive achievement positively.²

²National Capital Language Resource Center (NCLRC), "The Essential of Language Teaching", Retrieved from <http://www.nclrc.org/essentials/goalsmethods/learntcentpop.html> on Mei, 2013.