CHAPTER IV
RESEARCH FINDING AND DISCUSSION

A. Description of Research Finding

Having gained the whole needed data then the researcher analyze the statistical data analysis to find out whether or not there is a difference of students' achievement on spoken narrative text between students taught using flash animation and students taught without using flash animation.

The implementation of this research was divided into two classes. They were experimental class (X1) and control class (X2). Before the activities were conducted, the researcher determined the material and the lesson plan of learning. In this research, there were two tests; pre-test and post-test. The pre-test was given before the students followed the learning process that was provided by the researcher. After the learning process, post-test was given to experimental and control class to obtain the data that will be analyzed.

The researcher did some treatments for experimental group and control group. There are some differences students' achievement between experimental group and control group:

1. Students' achievement of experimental group after was taught by flash animation.
   a) Students are more enjoyable in teaching learning process because using flash animation is very interesting.
   b) Students get some new vocabularies from flash animation.
   c) Students can learn how to pronounce some vocabularies as a native speaker.
   d) Students have idea when they present and retell narrative text orally.
   e) Students are more fluency in speaking narrative text.
2. Students' achievement of control group after was taught without flash animation.

a) Students feel bored in teaching learning process because using text book only.
b) Teacher has to explain narrative text hardly because students just read a text and they get difficulties to understand narrative text.
c) Students lost meaning when they have to present narrative text orally. They get difficulties to memorize vocabulary from text book.

It was the researcher's analysis after done some treatments for experimental and control group. Actually, they are some reasons that flash animation is effective to facilitate students in teaching speaking narrative text.

B. First Analysis

Before doing second analysis, the researcher analyzed and tested hypothesis pre-requisite test as the first analysis which contained of normality test and homogeneity test to make sure that class X1 and class X2 were normally and homogeneous.

1. Test of Normality

Test of normality in pre-requisite test was used to find out whether data of class X1 and class X2 which had been collected from the previous examination score from the teacher came from normal distribution or not. The result computation of Chi-quadrate (χ^2_{score}) then was compared with table of Chi-quadrate (χ^2_{table}) by using 5% alpha of significance. If $\chi^2_{score} < \chi^2_{table}$ meant that the data spread of previous examination result normally.

Based on the previous examination result of class X1, before they were chosen as the experimental class, was found that the maximum score was 80 and minimal score was 60. The stretches of score were 20. So, there were 6 classes with length of classes 4. From the computation of frequency distribution, it was found ($\Sigma f_{i.} x_i$) = 2169, and ($\Sigma f_{i.} x_i^{\,2}$) = 157790. So, the average score ($\overline{X}$) was 72.3 and the standard deviation (S) was 5.785833. After counting the average score and standard deviation, table of observation frequency was needed to measure Chi-quadrate (χ^2_{score}).

Table 1. Table of the Observation Frequency of Experimental Class X1

Class	Bk	Z_i	$P(Z_i)$	Ld	Ei	Oi	$\frac{(O_i - E_i)^2}{E_i}$
	59.5	-2.21	0.4865				
60 – 65				0.1065	3.2	5	1.0211
	65.5	-1.18	0.3801				
66 – 71				0.3251	9.8	6	1.4437
	71.5	-0.14	0.0550				
72 – 77				0.2606	7.8	14	4.8870
	77.5	0.90	0.3156				
78 – 83				0.1579	4.7	5	0.0144
	83.5	1.94	0.4736				
					χ^2	=	7.3663

Based on the Chi-quadrate table (χ^2_{table}) for 5% alpha of significance with df 6 –1 = 5, it was found χ^2_{table} = 11.07. Because of $\chi^2_{score} < \chi^2_{table}$, so the initial data of X1 class distributed normally.

While from the previous examination result of class X1 before they were chosen as the control class, was found that the maximum score was 80 and minimal score was 60. The stretches of score were 20. So, there were 6 classes with length of classes 4. From the computation of frequency distribution, it was found ($\Sigma f_{i.} x_i$) = 2073, and ($\Sigma f_{i.} x_i^{\,2}$) = 144350. So, the average score ($\overline{X}$) was 69.1 and the standard deviation (S) was 6.17336. After counting the average score and standard deviation, table of observation frequency was needed to measure Chi-quadrate (χ^2_{score}).

Table 2. Table of the Observation Frequency of Control Class X2

Class			Bk	Z_i	$P(Z_i)$	Ld	Ei	Oi	$\frac{(O_i - E_i)^2}{E_i}$
			59.5	-1.56	0.4400				
60	–	65				0.2199	6.6	11	2.9370
			65.5	-0.58	0.2201				
66	–	71				0.3714	11.1	8	0.8857
			71.5	0.39	0.1513				

72	–	77				0.5645	16.9	8	4.7134
			77.5	1.36	0.4132				
78	–	83				0.0770	2.3	3	0.2067
			83.5	2.33	0.4902				
							χ^2	=	8.7429

Based on the Chi-quadrate table (χ^2_{table}) for 5% alpha of significance with dk 6 – 1 = 5, it was found χ^2_{table} = 11.07. Because of $\chi^2_{score} < \chi^2_{table}$, so the initial data of class X2 distributed normally.

2. Test of Homogeneity

Test of homogeneity was done to know whether sample in the research came from population that had same variance or not. In this research, the homogeneity of the test was measured by comparing the obtained score (F_{score}) with F_{table}. Thus, if obtained score (F_{score}) was lower than F_{table} or equal, it could be said that the Ho was accepted. It meant that the variance was homogeneous.

Table 3. Test of Homogeneity

Variants Sources	Control Class	Experimental Class
Sum	2068	2165
N	30	30
$\overline{X}$	68.93	72.16
Variance (S^2)	37.23	31.86
Deviation standard (S)	6.10	5.64

The researcher was able to test the similarity of the two variants in the previous examination between X1 class and X2 class by knowing the mean and the variance. The computation of the test of homogeneity as follow:

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

$$= \frac{37.23}{31.86}$$

$$= 1.\ 1685$$

On a 5% with df numerator (n - 1) = 30– 1 = 29 and df denominator (n – 1) = 30 – 1 = 29, it was found F_{table} = 3.84. Because of $F_{score} \leq F_{table}$, so, it could be concluded that both X1 class and X2 class had no differences. The result showed both classes had similar variants or homogenous.

C. Second Analysis

The researcher analyzed and tested hypothesis pre-requisites which contained of normality test and homogeneity test before tested the hypothesis that had been mentioned in the chapter two by using t-test (test of difference two variants) in pre-test and post-test.

1. Analysis of Pre-test

The experimental class (class X1) and the control class (class X2) were given a pre-test on 30 July 2012. They were asked to retell a narrative story based on their own word.

a. Test of Normality

The result computation of Chi-quadrate (χ^2_{score}) then was compared with table of Chi-quadrate (χ^2_{table}) by using 5% alpha of significance. If $\chi^2_{score} < \chi^2_{table}$ meant that the data spread of research result distributed normally.

Based on the research result of students in experimental class, before they were taught speaking narrative text by using conventional method, was found that the maximum score was 80 and minimal score was 52 and the stretches of score were 28. So, there were 6 classes with length of 5 classes. From the computation of frequency distribution, it was found ($\Sigma f_i . x_i$) = 2283, and ($\Sigma f_i . x_i^2$) = 175531.5. So, the average score ($\overline{X}$) was 76.1 and the standard deviation (S) was 7.867874. After the researcher counted the average score and standard deviation, table of observation frequency was needed to measure Chi-Square (χ^2_{score}).

Table 4. Table of the Observation Frequency of Experimental Class

Class	Bk	Z_i	$P(Z_i)$	Ld	Ei	Oi	$\frac{(O_i - E_i)^2}{E_i}$
	59.5	-2.11	0.4826				
60 – 65				0.0715	2.1	4	1.6032
	65.5	-1.35	0.4111				
66 – 71				0.1904	5.7	4	0.5137
	71.5	-0.58	0.2206				
72 – 77				0.1500	4.5	8	2.7225
	77.5	0.18	0.0706				
78 – 83				0.2559	7.7	8	0.0136
	83.5	0.94	0.3265				
84 – 89				0.1292	3.9	6	1.1639
	89.5	1.70	0.4557				
						χ^2 =	6.0169

Based on the Chi-Square table (χ^2_{table}) for 5% alpha of significance with dk 6 – 1 = 5, it was found χ^2_{table} = 11.07. Because of $\chi^2_{score} < \chi^2_{table}$, so the initial data of experimental class distributed normally.

While from the result of students in control class, before they were taught speaking narrative text by using conversational method, was found that the maximum score was 80 and minimal score was 52 and the stretches of score were 28. So, there were 6 classes with length of classes 5. From the computation of frequency distribution, it was found ($\Sigma f_{i.} x_i$) = 2025, and ($\Sigma f_{i.} x_i^2$) = 138277.5. So, the average score ($\overline{X}$) was 67.5 and the standard deviation (S) was 7.4045625. After counting the average score and standard deviation, table of observation frequency was needed to measure Chi-quadrate (χ^2_{score}).

Table 5. Table of the Observation Frequency of Control Class

Class	Bk	Z_i	$P(Z_i)$	Ld	Ei	Oi	$\frac{(O_i - E_i)^2}{E_i}$
	51.5	-2.16	0.4846				
52 – 57				0.0731	2.2	3	0.2977
	57.5	-1.35	0.4116				
58 – 63				0.2061	6.2	7	0.1079
	63.5	-0.54	0.2055				
64 – 69				0.0990	3.0	6	3.0900
	69.5	0.27	0.1065				
70 – 75				0.2536	7.6	10	0.7529
	75.5	1.08	0.3600				
76 – 81				0.1106	3.3	4	0.1395
	81.5	1.89	0.4707				
						χ^2 =	4.3881

Based on the Chi-Square table (χ^2_{table}) for 5% alpha of significance with dk 6 – 1 = 5, it was found χ^2_{table} = 11.07. Because of $\chi^2_{score} < \chi^2_{table}$, so the initial data of control class distributed normally.

b. Test of Homogeneity

In this research, 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 that the variance was homogeneous.

Table 6. Test of Homogeneity (Pre-test)

Variants Sources	Control Class	Experimental Class
Sum	2069	2030
N	30	30
$\overline{X}$	68.97	67.67
Variance (S^2)	58.58	54.98
Deviation standard (S)	7.65	7.41

By knowing the mean and the variance, the researcher was able to test the similarity of the two variants in the pre-test between control and experimental class. The computation of the test of homogeneity as follows:

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

$$= \frac{58.58}{54.98}$$

$$= 1.0654$$

On a 5% with df numerator (n - 1) = 30– 1 = 29 and df denominator (n – 1) = 30 – 1 = 29, it was found F_{table} = 3.84. Because of $F_{score} \leq F_{table}$, so it could be concluded that both experimental and control class had no differences. The result showed both classes had similar variants or homogenous.

c. Test of the Similarity Two Variants in Pre-test between Experimental and Control Class

After counted the standard deviation and variance, it could be concluded that both classes have no differences in the test of similarity between two variances in pre-test score. So, to differentiate whether the students' results of speaking narrative text in experimental and control class were significant or not, the researcher used t-test to test the hypothesis. The researcher used formula:

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

Where:

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

Based on table 6, the researcher had to find out s by using the formula above:

$$s = \sqrt{\frac{(30-1)54.98 + (30-1)58.58}{30 + 30 - 2}}$$

$$= 7.53525$$

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

$$t = \frac{67.67 - 68.97}{7.535\sqrt{\frac{1}{30}+\frac{1}{30}}}$$

$$= -0.6682$$

After getting the 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 30 + 30 – 2 = 58, it was found $t_{table(0.975)(42)}$ = 2.00. Because of $t_{score} < t_{table}$, so it could be concluded that there was no significance of difference between the experimental and control class. It meant that both experimental and control class had same condition before getting treatments.

2. Analysis of Post-test

The control class and experimental class were given a post test on 29th of September 2012. Post-test was conducted after doing all treatments. Flash Animation was used as media in the teaching speaking narrative text to experimental class. While for students in control class, the researcher gave treatments without flash animation. Post-test was aimed to measure students' ability in speaking narrative text after treatments. Both classes were asked to retell a story of narrative text.

a. Test of Normality

It was same to test of normality in the pre-test. The result computation of Chi-Square (χ^2_{score}) then was compared with table of Chi-quadrate (χ^2_{table}) by using 5% alpha of significance. If $\chi^2_{score} < \chi^2_{table}$ meant that the data spread of research result distributed normally.

Based on the research result of class X1 students in the experimental class after they were taught speaking narrative text by using flash animation, they reached the maximum score 88, minimum score 60 and the stretches of score were 28. So, there were 6 classes with length of classes 5. From the computation of frequency distribution, it was found ($\Sigma f_{i.} x_i$) = 2283, and

($\Sigma f_{i.} x_i^2$) = 175531.5. So, the average score ($\overline{X}$) was 76.1 and the standard deviation (S) was 7.86787. After seeing the average score of students in experimental class, it could be concluded that there was an improvement of students' score after they got treatments by using flash animation.

After counting the average score and standard deviation, table of observation frequency was needed to measure Chi-quadrate (χ^2_{score}).

Table 7. Table of The Observation Frequency of Experimental Class

Class	Bk	Z_i	$P(Z_i)$	Ld	Ei	Oi	$\frac{(O_i - E_i)^2}{E_i}$
	59.5	-2.11	0.4826				
60 – 65				0.0715	2.1	4	1.6032
	65.5	-1.35	0.4111				
66 – 71				0.1904	5.7	4	0.5137
	71.5	-0.58	0.2206				
72 – 77				0.1500	4.5	8	2.7225
	77.5	0.18	0.0706				
78 – 83				0.2559	7.7	8	0.0136
	83.5	0.94	0.3265				
84 – 89				0.1292	3.9	6	1.1639
	89.5	1.70	0.4557				
					χ^2	=	6.0169

Based on the Chi-Square table (χ^2_{table}) for 5% alpha of significance with dk 6 – 1 = 5, it was found χ^2_{table} = 11.07. Because of $\chi^2_{score} < \chi^2_{table}$, so the data of experimental class after getting treatments distributed normally.

While from the result of class X2 students in control class, after they were taught speaking narrative text by using conventional method, was found that the maximum score was 85, minimal score was 56 and the stretches of score were 29. So, there were 6 classes with length of classes 5. From the computation of frequency distribution, it was found ($\Sigma f_{i.} x_i$) = 2163, and ($\Sigma f_{i.} x_i^2$) = 157531.5. So, the average score ($\overline{X}$) was 72.1 and the standard

deviation (S) was 7.3793. It meant that there was an improvement of students' score after they got treatments.

After the researcher counted the average score and standard deviation, table of observation frequency was needed to measure Chi-Square (χ^2_{score}).

Table 8. Table of the Observation Frequency of Control Class

Class	Bk	Z_i	$P(Z_i)$	Ld	Ei	Oi	$\frac{(O_i - E_i)^2}{E_i}$
	55.5	-2.25	0.4878				
56 – 61				0.0632	1.9	3	0.6429
	61.5	-1.44	0.4246				
62 – 67				0.1911	5.7	6	0.0125
	67.5	-0.62	0.2335				
68 – 73				0.1582	4.7	5	0.0135
	73.5	0.19	0.0752				
74 – 79				0.2668	8.0	12	1.9956
	79.5	1.00	0.3420				
80 – 85				0.1233	3.7	4	0.0246
	85.5	1.82	0.4653				
					χ^2	=	2.6889

Based on the Chi-Square table (χ^2_{table}) for 5% alpha of significance with dk 6 – 1 = 5, it was found χ^2_{table} = 11.07. Because of $\chi^2_{score} < \chi^2_{table}$, so the data of control class after getting treatments distributed normally.

b. **Test of Homogeneity**

By knowing the mean and variance, the researcher was able to test the similarity of the two variance in the post-test between experimental and control class.

Table 9. Test of Homogeneity (Post-test)

Variants Sources	Control Class	Experimental Class
Sum	2153	2289
N	30	30
$\overline{X}$	71.77	76.30
Variance (S^2)	49.56	52.91
Deviation standard (S)	7.04	7.27

The computation of the test of homogeneity as follows:

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

$$= \frac{52.91}{49.56}$$

$$= 1.0675$$

On a 5% with df numerator (n - 1) = 30 – 1 = 29 and df denominator (n – 1) = 30– 1 = 29, it was found $F_{table(0.025)(22:22)} = 3.84$ because of $F_{score} \leq F_{table}$, so it could be concluded that both experimental and control class had no differences. The result showed both classes had similar variance or homogenous.

c. Test of Difference Two Variants in Post-test between Experimental and Control Class

It was same to test of difference two variants in the pre-test that both classes have no differences in the test of similarity between two variances in post-test score. So, to differentiate if the students' results of speaking narrative text in experimental and control class after getting treatments were significant or not, the researcher used t-test. To get the difference between both classes, the researcher used formula:

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

Where:

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

Based on table 9, the researcher had to find out *s* by using the formula above:

$$s = \sqrt{\frac{(30-1)52.91 + (30-1)49.56}{30+30-2}}$$

$$= 7.1575$$

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

$$t = \frac{76.30 - 71.77}{7.1575\sqrt{\frac{1}{30} + \frac{1}{30}}}$$

$$= 2.453$$

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 30 + 30 – 2 = 70, it was found $t_{table(0.95)(42)}$ = 2.00. Because of $t_{score} > t_{table}$, so it could be concluded that there was significance of difference between the experimental and control class. It meant that experimental class was better than control class after getting all treatments.

After doing the analysis, the researcher concluded that 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 the teaching speaking narrative text using flash animation and without flash animation for the tenth grade students of SMA Islam Sultan Agung 1 Semarang. In this research, teaching speaking narrative text with flash animation was more effective than teaching speaking narrative text without flash animation. It can be seen from the result of the test. Where the students taught speaking by flash animation got higher scores than the students taught speaking without flash animation.

D. Discussions

1. Students' Condition in Control Class

In the control class, students were taught by using conventional method, so, there wasn't new experience to students. Teacher used text as an aid in the teaching learning process. Students could not enjoy in speaking and explore their ideas. It was proven with the average of the control class in the post-test was 71.77 which was lower than the experimental class was 76.30 . Although, the average of the control class in the pre-test was 68.97 and the experimental class was 67.67.

2. Students' Condition in Experimental Class

Before getting treatments, the students gave the pre-test. In the pre-test, students' ability in speaking narrative text was low. From the result of pre-test, it was known that students had many difficulties to convey their idea. Sentences, which were used by students to convey the idea, were influenced by Indonesian language. Moreover they don't know what should they say when they want to convey their meaning. They used the wrong grammar and the students' word choice (fluency) was also far from being perfect. To minimize the number of students' mistakes in their speaking, the researcher collected students' speaking in writing form after they perform their speaking ability then gave correction, and returned the paper to them in the next day. From the correction of their mistakes, students were supposed to learn more and improve their ability in speaking English.

Based on the analysis of students' ability, it was found that after getting treatment, students' ability improved. Students were given flash animation in the treatments. They were showed flash animation in classroom. The researcher thought that flash animation were happening and could make students enjoy in their lesson.

The finding showed that students' ability was in good level; although, there were some mistakes that students had made in grammar. It could be concluded that the implementation of using flash animation as media in the teaching speaking narrative text was effective. It was proven with students' average score in experimental class was higher than control class.

Before doing t-test analysis, it was found that the t-score (2.453) was higher than t-table by using 5% alpha of significance (2.00). Since $t_{score} > t_{table}$, it proved that there was a significant difference between the improvement of students achievement that was taught using flash animation and without flash animation.