CHAPTER IV

RESEARCH FINDING AND DISCUSSIONS

A. Description of Research Finding

1. The Implementation of Learning

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' understanding on vocabulary of Adjective between students taught using song and students taught without using song.

The implementation of this research was divided into two classes. They were experimental class (VIII B) and control class (VIII C). Before the activities were conducted, the researcher explained 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 follow the learning process that was provided by the researcher. The researcher will give pre-test to both classes to know how understand the students in the lesson. The test was given to the students was listening test. The teacher asked the students to listen some songs and texts to fill the blanks of vocabulary of Adjective..

In treatment, the researcher will teach the control class by using conventional method and experimental class by using song. After doing the treatment, the researcher will give to both classes post-test that the students ha to revise their exercise to review fill in the blanks of vocabulary of Adjective is appropriate with what they listen. The post-test obtained the data that will be analyzed.

2. Analysis of Pre requisite test

Before the researcher determines the sample, the writer should conduct a normality and homogeneity test by choosing two classes. They are between class VIII B (Experimental Class) between class VIII C

(Control Class) as the sample. This test conducted to determine whether the sample are homogenous or not. After conducted the test, data analysis was carried out to find out the homogeneity of the sample. The Data Analysis of Pre-test Value of the Experimental and the Control Class

Table 4.1

The list of pre-test value of the experimental and the control classes

No	Code	Control Class		Code	Experimental Class	
		Pre test	Post test		Pre test	Post test
1	C-1	C	80	E-1	53	76
2	C-2	50	70	E-2	63	80
3	C-3	70	90	E-3	70	90
4	C-4	56	76	E-4	60	86
5	C-5	60	76	E-5	53	73
6	C-6	63	80	E-6	70	93
7	C-7	53	70	E-7	63	90
8	C-8	66	80	E-8	66	80
9	C-9	56	76	E-9	53	73
10	C10	70	96	E-10	73	100
11	C-11	53	70	E-11	58	83
12	C-12	66	96	E-12	70	93
13	C-13	63	90	E-13	56	80
14	C-14	50	70	E-14	63	90
15	C-15	73	90	E-15	53	76
16	C-16	56	80	E-16	73	93
17	C-17	50	70	E-17	66	90
18	C-18	60	86	E-18	53	76
19	C-19	53	76	E-19	70	100

20	C-20	66	90	E-20	73	90
21	C-21	63	80	E-21	66	83
22	C-22	56	76	E-22	60	80
23	C-23	66	96	E-23	70	93
24	C-24	60	86	E-24	66	90
25	C-25	63	90	E-25	60	83
26	C-26	56	86	E-26	73	100
27	C-27	63	86	E-27	63	83
28	C-28	60	76	E-28	58	93
Sum		1684	2288		1775	2417
Average		60.14286	81.71429		63.39286	86.32143
Variance		40.49735	71.32275		48.24735	64.59656
Standard Deviation		6.363753	8.44528		6.946032	8.037199
Minimum score		50	70		53	73
Maximum score		73	96		73	100
Range		23	26		20	27
Length of the class		4	5		4	5

From the table above, we know that there were 28 students in both experimental class and control class. So, there were 56 students from two classes. The minimum and maximum score of pre test in control class were 50 and 70. And the minimum and maximum score of post test in control class were 53 and 73.

In experimental class, the minimum score both of pre test and post test were 53 and 73. And the maximum score, both of pre test and post test were 73 and 100. The average of control class in pre test and post test were 60.14 and 81.72. And the average of experimental class in pre test and post

test were 63.39 and 86.32. We conclude that there were different student's achievement score in pre test and post test, both of experimental and control classes were increasing score.

a. Search for the normality of initial data in the control class and the experimental class.

The normality test is used to know whether the data obtained is normally distributed or not. Test data of this research to find out the distribution data is used normality test with chi –square.

1) The result of pre request test of control class

Based on the result of pre requisite of Class VIII C as control class, the highest score achieved is 73 and lowest is 50. It means that the range (R)= 23, the number of class is 6, and the length of the class is 4.

The result of the calculation above is, then inputted into the frequency distribution as follow:

Table 4.2. Normality pre test of control class

Class	f_i	X_i	X_i^2	$f_i.X_i$	$f_i.X_i^2$
50 – 53	6	51.5	2652.25	309	15913.5
54 – 57	5	55.5	3080.25	277.5	15401.25
58 – 61	4	59.5	3540.25	238	14161
62 – 65	6	63.5	4032.25	381	24193.5
66 – 69	4	67.5	4556.25	270	18225
70 – 73	3	71.5	5112.25	214.5	15336.75
Sum	28			1690	103231

The table describe that there are six interval classes of pre test in control class. The minimum score is 50 and maximum score is 73. The length of each class is 4. f_i is frequency means students'

score of experimental class in pre test of each interval class. X_i is middle score of each interval class..

a) Calculating of the average Xi ($\bar{x}$) :

$$\bar{X} = \frac{\sum f_i x_i}{\sum f_i}$$

$$= \frac{1690}{28} = 60.357143$$

b) Calculate variance

$$S^2 = \frac{n\sum f_i \chi_i^2 - \left(\sum f_i \chi_i\right)^2}{n(n-1)}$$

$$= \frac{28.103231 - (1690)^2}{28(28\text{-}1)}$$

$$= 45.46031746$$

c) Calculate standard deviation

$$S = \sqrt{45.46031746}$$

$$= 6.742426674$$

Table 4.3. Distribution frequency of control group

Class	Bk	Z_i	$P(Z_i)$	Wide Area	Ei	Oi	$\frac{(O_i - E_i)^2}{E_i}$
	49.5	-1.61	0.4463				
50 – 53				0.1009	3.0	6	2.9196
	53.5	-1.02	0.3454				
54 – 57				0.1813	5.4	5	0.0354
	57.5	-0,42	0.1641				
58 – 61				0.0968	2.9	4	0.4129
	61,5	0.17	0.0673				
62 – 65				0.2099	6.3	6	0.0140

	65,5	0.76	0.2772				
66 – 69				0.1353	4.1	4	0.0008
	69,5	1.36	0.4125				
70 – 73				0.0619	1.9	3	0.7028
	73,5	1.95	0.4744				
						X^2 =	4.0855

For σ = 5%, with dk = 6 - 3= 3 it is obtained X^2_{tabel} = 7.81. If $X^2 < X^2$ table the data is in the normal distribution, because of X^2_{count} = 4.0855 is lower than X^2_{tabel} = 7.81, based on the result above the data is the normal distribution.

2) The result of pre request test of experimental class.

Based on the result of pre requisite of Class VIII B as experimental class, the highest score achieved is 73 and lowest is 53. It means that the range (R)= 20, the number of class is 6, and the length of the class is 4.

The result of the calculation above is, then inputted into the frequency distribution as follow:

Table 4.4. Normality test of pre test of experimental class.

Class	f_i	X_i	X_i^2	$f_i.X_i$	$f_i.X_i^2$
53 – 56	6	54.5	2970.25	327	17821.5
57 – 60	5	58.5	3422.25	292.5	17111.25
61 – 64	4	62.5	3906.25	250	15625
65 – 68	4	66.5	4422.25	266	17689
69 – 72	5	70.5	4970.25	352.5	24851.25
73 – 76	4	74.5	5550.25	298	22201
Sum	28			1786	115299

The table describe that there are six interval classes of pre test in experimental class. The minimum score is 53 and maximum score is 73. The length of each class is 4. f_i is frequency means students' score of control class in pre test of each interval class. X_i is middle score of each interval class..

a) Calculating of the average Xi ($\bar{x}$) :

$$\bar{X} = \frac{\sum f_i x_i}{\sum f_i}$$

$$= \frac{1786}{28} = 63.785714$$

b) Calculate variance

$$S^2 = \frac{n\sum f_i \chi_i^2 - \left(\sum f_i \chi_i\right)^2}{n(n-1)}$$

$$= \frac{28.115299 - (1786)^2}{28.(28-1)}$$

$$= 51.026455$$

c) Calculate standard deviation

$$S = \sqrt{51.026455}$$

$$= 7.1432804$$

Table 4.5. Distribution frequency of experimental group

Class	Bk	Z_i	$P(Z_i)$	Wide Area	Ei	Oi	$\frac{(O_i - E_i)^2}{E_i}$
	52.5	-1.58	0.4429				
53 - 56				0.0968	2.7	6	3.9910
	56.5	-1.02	0.3461				
57 - 60				0.1689	4.7	5	0.0155
	60.5	-0.46	0.1772				
61 - 64				0.1374	3.8	4	0.0061

	64.5	0.10	0.0398				
65 - 68				0.2055	5.8	4	0.5352
	68.5	0.66	0.2454				
69 - 72				0.1434	4.0	5	0.2416
	72.5	1.22	0.3888				
73 - 76				0.0737	2.1	4	1.8171
	76.5	1.78	0.4625				
					X^2	=	6.6065

For σ = 5%, with dk = 6 – 3 = 3 it is obtained X^2_{tabel} = 7,81. If $X^2_{count} < X^2_{table}$, so the data is in the normal distribution, because of X^2_{count} = 6.6065 < X^2_{table} = 7,81, so the data is the normal distribution.

Based on the result of the normality test of experimental class and control class, it can be seen that two classes are normal distribution, because $X^2_{count} < X^2_{table}$, so the data is in the normal distribution.

b. Search for the homogeneity of initial data in the control class and experimental class.

Homogeneity test is used to find out whether the group is homogeneous or not. The data of this research uses Bartlett test. Hypothesis:

$H_o : \sigma_1^2 = \sigma_2^2$

$H_a : \sigma_1^2 \neq \sigma_2^2$

Table 4.6.

Homogeneity test of pre test of experimental and control classes

Variants sources	Control class	Experiment class
Sum	1684	1775
N	28	28
$\bar{x}$	60.14	63.39
Variant (S^2)	40.50	48.25
Standard deviation(S)	6.36	6.95

Table 4.7 Bartlett Test

Sample	Dk	1/dk	S_i^2	Log S_i^2	dk.Log S_i^2	dk * Si^2
1	27	0.0370	40.497	1.607	43.401	1093.428
2	27	0.0370	48.247	1.683	45.454	1302.678
Sum	54				88.854	2396.107

1) The merger variant of population group

$$S^2 = \frac{\sum (n_i - 1) Si^2}{\sum (n_i - 1)}$$

= 2396.107= 44.37235

54

2) The value of B

B = (Log S2) S (ni - 1)

= 1.6471124 . 54

= 88.944071

3) X^2 value

= (Ln 10) { B - S(ni-1) log Si2}

= 2,3025851 (88.944071 – 88.854)

= 0.2067015

For $\sigma =$ 5% with dk = k-1 = 2-1 = 1 is obtained X^2_{table} = 3,84. If $X^2_{count} < X^2_{table}$ so the data is homogeneous. Because X^2_{count} =3.6858221 is lower than X^2_{table} = 3, 84, so the data is homogeneous.

c. Searching for the average similarity of the initial data between the control and experimental class. To analyze the similarity of average, the researcher uses t-test.

Table4.8

The average similarity test of pre test of the experimental and control classes

Sampel	$\overline{x_i}$	s_i^2	N	S	T
6	63.39	48.25	28	6.66126	1.82554
2	60.14	40.50	28		

Based on the computation of the homogeneity test, the experimental class and control class have same variance. So, the t test formula: $-t_{(1-\frac{1}{2}\alpha)} < t < t_{(1-\frac{1}{2}\alpha)}$

Ho is accepted if

With $\sigma = 5\%$ and $dk = n_1 + n_2 - 2 = 54$.

t_{table} = 2,0094. Because t_{count} = 1.82554 < t_{table} = 2.00, so there is a similarity of average.

d. Searching for normality data of post test of the control and experimental class

1) The result of post test of experimental class

Based on the result of post test of Class VIII B as experimental class, the highest score achieved is 100 and lowest is 73. It means that the range (R) = 27, the number of class is 6, and the length of the class is 5.

The result of the calculation above is, then inputted into the frequency distribution as follow:

Table 4.9 The normality test table of post test of experimental group

Class	f_i	X_i	X_i^2	$f_i.X_i$	$f_i.X_i^2$
73 – 77	5	75	5625	375	28125
76 – 82	4	80	6400	320	25600
83 – 87	5	85	7225	429	36125
88 – 92	6	90	8100	540	48600
93 – 97	5	95	9025	475	45125
98 100	3	99	9801	297	29403
Sum	28			2432	212978

a) Calculating of the average Xi ($\bar{x}$) :

$$\bar{X} = \frac{\sum f_i x_i}{\sum f_i}$$

= 2432 = 86.857143

28

b) Calculate variance

$$S^2 = \frac{n\sum f_i \chi_i^2 - \left(\sum f_i \chi_i\right)^2}{n(n-1)}$$

= 28. 212978– (2432)^2

28. (28-1)

= 64.4973545

c) Calculate standard deviation

$$S = \sqrt{64.4973545}$$

= 8.031024499

Table 4.10. Distribution frequency of experimental group

Class	Bk	Z_i	$P(Z_i)$	Wide area	Ei	Oi	$\frac{(O_i - E_i)^2}{E_i}$
	72.5	-1.79	0.4631				
73 – 77				0.0851	2.4	5	2.8772

	77.5	-1.17	0.3780				
78 – 82				0.1717	4.8	4	0.1360
	82.5	-0.54	0.2063				
83 – 87				0.1744	4.9	5	0.0028
	87.5	0.08	0.0319				
88 – 92				0.2270	6.4	6	0.0198
	92.5	0.70	0.2589				
93 – 97				0.1486	4.2	5	0.1693
	97.5	1.33	0.4075				
98 - 100				0.0479	1.3	3	2.0552
	100.5	1.70	0.4553				
					X^2	=	5.2604

For σ = 5%, with dk = 6 - 3= 3 it is obtained X^2_{tabel} = 7,81. If $X^2_{count} < X^2_{table}$, so the data is in the normal distribution, because of X^2_{count} = 5.2604 < X^2_{table} =7, 81, so the data is the normal distribution.

2) The result of post test of control class

Based on the result of post test of Class VIII C the highest score achieved is 96 and lowest is 70. It means that the range (R)= 26, the number of class is 6, and the length of the class is 5.

The result of the calculation above is, then inputted into the frequency distribution as follow

Table 4.11 The Normality test of post test of control class

Class	f_i	X_i	X_i^2	$f_i.X_i$	$f_i.X_i^2$
70 – 74	5	72	5184	360	25920
75 – 79	6	77	5929	462	35574
80 – 84	5	82	6724	410	33260

85 – 89	4	87	7569	348	30276
90 – 94	5	92	8464	460	42230
95 – 99	3	97	9409	291	28227
Sum				2331	195937

a) Calculating of the average Xi ($\bar{x}$) :

$$\bar{X} = \frac{\sum f_i x_i}{\sum f_i}$$

$$= \frac{2331}{28} = 83.25$$

b) Calculate variance

$$S^2 = \frac{n\sum f_i \chi_i^2 - \left(\sum f_i \chi_i\right)^2}{n(n-1)}$$

$$= \frac{28.\ 195937 - (2331)^2}{28.\ (28-1)}$$

$$= 69.675926$$

c) Calculate standard deviation

$$S = \sqrt{69.675926}$$

$$= 8.347210$$

Table 4.12. Distribution frequency of control class

Class	Bk	Z_i	$P(Z_i)$	Wide area	Ei	Oi	$\frac{(O_i - E_i)^2}{E_i}$
	69.5	-1.65	0.4502				
70 – 74				0.0975	2.9	5	1.4715
	74.5	-1.05	0.3527				
75 – 79				0.1794	5.4	6	0.0712
	79.5	-0.45	0.1734				

80 – 84				0.1139	3.4	5	0.7349
	84.5	0.15	0.0595				
85 – 89				0.2135	6.4	4	0.9026
	89.5	0.75	0.2730				
90 – 94				0.1381	4.1	5	0.1768
	94.5	1.35	0.4111				
95 - 99				0.0631	1.9	3	0.6480
	99.5	1.95	0.4742				
					X^2	=	4.0051

For σ = 5%, with dk = 6 - 3= 3 it is obtained X^2_{tabel} = 7.81. If $X^2_{count} < X^2_{table}$, so the data is in the normal distribution, because of X^2_{count} = 4.0051< X^2_{table} =7.81, so the data is the normal distribution.

Based on the result of post test of the normality test of experimental class and control class, it can be seen that 2 classes are normal distribution, because $X^2_{count} < X^2_{table}$, so the data is in the normal distribution.

e. Search for the homogeneity of control class and experimental class.

Table 4.13 Homogenity of post test of experimental and control classes

Variants Sources	CONTROL	EXPERIMENT
Sum	2288	2398
N	28	28
$\bar{x}$	81.71	85.64
Variance (S^2)	71.32	67.50
Standart deviation (S)	8.45	8.22

Based on the table above, we know that total score, both control and experimental class are 2288 and 2398. The average of control class and experimental class are 81,71 and 85.64.

Table 4.14. Bartlett test

Sample	Dk	1/dk	S_i^2	Log S_i^2	dk.Log S_i^2	dk * Si^2
1	27	0.0370	71.323	1.853	50.037	1925.714
2	27	0.0370	67.497	1.829	49.391	1822.429
Sum	54				99.428	3748.143

1) The merger variant of population group

$$S^2 = \frac{\sum (n_i - 1) Si^2}{\sum (n_i - 1)}$$

= 3748.143= 69.41005

54

2) The value of B

B = (Log S2) S (ni - 1)

= 1.8414224 . 54

= 99.436807

3) X^2 value

= (Ln 10) { B - S(ni-1) log Si2}

= 2,3025851 (99.436807 – 99.428)

= 0.0205106

For $\sigma =$ 5% with dk = k-1 = 2-1 = 1 is obtained X^2_{table} = 3.84. If $X^2_{count} < X^2_{table}$ so the data is homogeneous. Because X^2_{count} = 0.0205106 is lower than X^2_{table} = 3.84, so the data is homogeneous.

f. Testing the similarity of average between experimental and control class. To analyze the similarity of average, the researcher uses t-test.

The hypothesis:

$H_o : \mu_1 = \mu_2$

$H_1 : \mu_1 > \mu_2$

Where, μ_1 = The average of experimental class

μ_2 = The average of control class

$$t = \frac{\overline{x_1} - \overline{x_2}}{s\sqrt{\frac{1}{n_1} + \frac{1}{n_2}}}$$

$$t = \frac{86.32 - 81.71}{8.24376\sqrt{\frac{1}{28} + \frac{1}{28}}} = 2.09$$

With

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

$$s = \sqrt{\frac{(28-1).64.60 + (28-1).71.32}{28 + 28 - 2}} = 8.24376$$

Table 4.15

The average similarity of post test of experimental class and control classes

Source of variance	Experiment	Control	S	T
Mean	86.32	81.71	8.24376	2.09
Variance	64.60	71.32		
(s)	8.04	8.45		
N	28	28		

For α = 5% with dk = 28 + 28 - 2 = 54 is obtained $t_{(0.975)(56)} = 1{,}67$ and t_{count} = 2.09.

The test criterion is: H_a is accepted if $t_{count} > t_{table}$ by degrees of freedom of $df = (n_1 + n_2 - 2)$ and by the chance of 0.05 level of significance.

Because $t_{count} > t_{table}$ (2.09 > 1.67) it means that H_o is rejected and H_1 is accepted. It means that using song is more effective than explanation only in teaching vocabulary of Adjective.

B. Discussion of the Research Findings

The technique of teaching is one of the factors that influence the result of the study. In the process of teaching, the teachers must choose appropriate technique, so the students will enjoy the lesson. Based on the result of tests, the process of learning English using song as a medium to vocabulary of Adjective in SMP N 2 Gubug in academic year of 2012/2013 could help the students to understand some words of vocabulary of Adjective effectively, so they could improve their understanding on vocabulary of Adjective. Besides, the students who had been taught using song felt more fun and enjoy. They were not bored in the classroom during the process of teaching learning.

Teaching learning process in the experimental class used song in teaching vocabulary of Adjective. In the process of teaching learning, the teacher gave a worksheet to the students; there is a song lyric that blank words of adjective. The teacher played the music. And the students had to listen the song carefully and they have to fill blank words of song lyric in the worksheet. In the end of the learning, the teacher took worksheets of the students and reflected the material that had been learnt.

Meanwhile, teaching learning process in the control class was implemented through conventional method. In the process of teaching learning, the teacher explained the pattern the material of adjective to the students. Then the teacher asked to the students to write some words that they known on their paper. In the end of learning, the teacher gave homework to the students based on the material.

The result of the research shows that the experimental class (the students who are taught using song) has the mean value (85.64) meanwhile the control class (the students who are not taught using song) has the mean value (81.71). It can be said that the achievement score of experimental class is higher than control class.

The data were obtained from the students' achievement score of the tests. They were pre test and post test scores from the experimental and the control class. The average score of pre test for experimental class was 63.39. And the average score of pre test for control class was 60.14. The following was the simple table of pre and post test students' average score.

Table 4.16

The pre test and post test students' average score of the experimental and control class.

Class	The Average of Pre test	The Average of Post test
Experiment	63.39	85.64
Control	60.14	81.71

Based on the result of pre-test and post-test, it could be concluded that using song was effective to teach vocabulary of Adjective at the eight graders of SMP N 2 Gubug in academic year of 2012/2013. It can be seen from the result of analysis by using t- test formula:

1. The achievement of experiment group before treatment is rather same with control group before treatment. It can be seen from the mean of pre test of experimental group (63.39) and control group (60.14) before the treatment. There is no significant difference in students' achievement between experiment and control group.
2. The achievement of experimental group after treatment is better than experiment group before treatment. It can be seen from the mean of post-

test of experimental group (85.64). It is higher than experiment group (63.39) before the treatment.

3. The achievement of control group before treatment is lower than control group after treatment. It can be seen from the mean of pre-test of control group (60.14). It is lower than the mean of post-test of control class (81.71) after the treatment.
4. The achievement of experimental group after treatment better than control group after treatment. It can be seen from the mean of post test of the experimental group (85.64). It is higher than the mean of post test of control group (81.71) after the treatment.
5. The case in both groups is the same that there is an improvement in each group's cognitive achievement. However, the improvement on control group is not as much as on the experimental group. It is convinced by the statistical result of the hypothesis test. The test by means of t-test formula shown that $t_{count} = 2.09 > t_{table} = 1.67$ at 0.05 level of significance by 56 degrees of freedom. It means that the using of song is more effective to improve the students' understanding on vocabulary of Adjective than using conventional method (explanation only).

So, it could be concluded that using song is effective to facilitate students' understanding on vocabulary of Adjective in experimental group. It can be seen at mean of both groups. There is significant difference in the students' vocabulary achievement between experiment and control group.

C. Limitation of the Research.

The researcher realizes that this research has not been done optimally. There were obstacles faced during the research process. Some limitations of this research are:

1. Relative short time of research makes this research could not be done maximum.

2. The research is limited at SMP N 2 Gubug. So that, when the same research will be gone in other schools. It is still possible to get different score.

Considering all those limitations, there is a need to do more research about teaching vocabulary of Adjective using song, so that the more optimal result will be gained.