CHAPTER IV
RESEARCH FINDINGS AND ANALYSIS

A. Description of the Result Research

To find out the difference between the students who were taught using song as a medium and the students who were not taught using song in teaching telling time in class III A and III B of SDIT An Nawawiyah Rembang, the researcher did an analysis of quantitative data. The data was obtained by giving test to the experimental class and control class after giving a different treatment of learning process in both classes.

The implementation of this research was divided into two classes. They were experimental class (III B) and control class (III A). Before the activities were conducted, the researcher determined the materials and lesson plan of learning. Learning in the experimental class was conducted using song as a medium, while the control class using communicative language teaching (CLT) method (without using song as a medium).

Test was given before and after the students followed the learning process provided by the researcher. After the data was collected, the researcher analyzed it. The first data analysis is from the beginning of learning process in both control class and experimental class that is taken from the pre test score. It is the normality test and homogeneity test. It is used to know that two groups are normal and have same variant. Another data analysis is from the ending of learning process in both control class and experimental class. It is used to prove the truth of hypothesis that has been formulated.

Before the analysis was done, the researcher scored the results of the test that had been given to the students. The assignment given to the students was performing a simple dialogue about telling time with the help of song as a medium in order to facilitate students' memorizing.

B. Pre-requisites Test

1. Normality Test
   a. Search for the normality of initial data pre-test as a first data scores 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 uses the formula of chi-square.

Table 4.1

The List of Pre-test Value of Control Class and Experimental Classes

Control Class			Experimental Class		
No	**Code**	**Total Score**	**No**	**Code**	**Total Score**
1	C-1	67	1	E-1	61
2	C-2	58	2	E-2	55
3	C-3	55	3	E-3	62
4	C-4	73	4	E-4	67
5	C-5	53	5	E-5	57
6	C-6	57	6	E-6	53
7	C-7	52	7	E-7	52
8	C-8	63	8	E-8	54
9	C-9	72	9	E-9	60
10	C-10	53	10	E-10	57
11	C-11	62	11	E-11	60
12	C-12	62	12	E-12	52
13	C-13	63	13	E-13	60
14	C-14	71	14	E-14	46
15	C-15	57	15	E-15	62
16	C-16	63	16	E-16	65
17	C-17	57	17	E-17	61
18	C-18	53	18	E-18	52
19	C-19	51	19	E-19	62
20	C-20	44	20	E-20	68
21	C-21	63	21	E-21	56
22	C-22	63	22	E-22	66
23	C-23	63	23	E-23	63
24	C-24	57	24	E-24	57

Table 4.2

Normality Test of Pre-test of Control Class

Class Interval	Limit Class	Z for the Limit Class	Opportunities for Z	Size Classes for Z	E_i	O_i	$\frac{(O_i - E_i)^2}{E_i}$
44-48	43.5	-2.31	0.4896	0.0502	1.20	1	0.03
49-53	48.5	-1.55	0.4394	0.1542	3.70	4	0.02
54-58	53.5	-0.79	0.2852	0.2732	6.56	7	0.03
59-63	58.5	-0.03	0.0120	0.2522	6.05	8	0.63
64-68	63.5	0.73	0.2642	0.1677	4.02	1	2.27
69-73	68.5	1.49	0.4319	0.0556	1.33	3	2.01
	73.5	2.24	0.4875				
						$\sum$	5.08

With α = 5% and df = 6-3=3, from the chi-square distribution table, obtained X_{table} = 7.82. Because X^2_{count} is lower than X^2_{table} (5.08<7.82). So, the distribution list is normal.

Table 4.3

Normality Test of Pre-test of Experimental Class

Class Interval	Limit Class	Z for the Limit Class	Opportunities for Z	Size Classes for Z	E_i	O_i	$\frac{(O_i - E_i)^2}{E_i}$
46-49	45.5	-2.28	0.4887	0.0458	1.10	1	0.01
50-53	49.5	-1.58	0.4429	0.1323	3.18	4	0.21
54-57	53.5	-0.88	0.3106	0.2392	5.74	6	0.01
58-61	57.5	-0.18	0.0714	0.1305	3.13	5	1.12
62-65	61.5	0.53	0.2019	0.1869	4.49	5	0.06
66-69	65.5	123	0.3888	0.0844	2.03	3	0.46
	69.5	1.93	0.4732				
						∑	1.87

With α = 5% and dk = 6-3=3, from the chi-square distribution table, obtained X_{table} = 7.82. Because X^2_{count} is lower than X^2_{table} (1.87<7.82). So, the distribution list is normal.

b. Search for the normality of initial data post-test as a last data scores in the control class and the experimental class.

Table 4.4

Value of Post-Test of Control and Experimental Classes

Control Class			**Experimental Class**		
No	**Code**	**Total Score**	**No**	**Code**	**Total Score**
1	C-1	69	1	E-1	71
2	C-2	62	2	E-2	69
3	C-3	60	3	E-3	74
4	C-4	62	4	E-4	67
5	C-5	62	5	E-5	66
6	C-6	60	6	E-6	75
7	C-7	62	7	E-7	69
8	C-8	68	8	E-8	66
9	C-9	75	9	E-9	73
10	C-10	62	10	E-10	69
11	C-11	60	11	E-11	75
12	C-12	72	12	E-12	68
13	C-13	74	13	E-13	69

14	C-14	72	14	E-14	77
15	C-15	64	15	E-15	73
16	C-16	77	16	E-16	78
17	C-17	69	17	E-17	76
18	C-18	51	18	E-18	71
19	C-19	59	19	E-19	72
20	C-20	64	20	E-20	80
21	C-21	63	21	E-21	59
22	C-22	62	22	E-22	77
23	C-23	74	23	E-23	78
24	C-24	72	24	E-24	66

Table 4.5

The Normality Test of Post-Test of Control Class

Class Interval	Limit Class	Z_i	$P(Z_i)$	Size Classes	Ei	Oi	$\frac{(O_i - E_i)^2}{E_i}$
51-55	50.5	0.4902	0.4401	0.0501	1.5	1	0.1676
56-60	55.5	-2.33	0.2817	0.1584	4.8	4	0.1193
61-65	60.5	-1.56	0.0000	0.2817	8.5	9	0.0356
66-70	65.5	-0.78	0.2817	0.2817	8.5	3	3.5163
67-75	70.5	0.00	0.4401	0.1584	4.8	6	0.3272
76-80	75.5	0.00	0.4902	0.0501	1.5	1	0.1676
					X^2	=	4.3336

With α = 5% and dk = 6-3=3, from the chi-square distribution table, obtained X_{table} = 7.82. Because X^2_{count} is lower than X^2_{table} (4.336<7.82). So, the distribution list is normal.

Table 4.6

The Normality Test of Post-test of Experimental Class

Class Interval	Limit Classes	Z_i	$P(Z_i)$	Size Classes for Z	Ei	Oi	$\frac{(O_i - E_i)^2}{E_i}$
59-62	58.5	-2.57	0.4949	0.0297	0.9	2	1.3817
63-66	62.5	-1.82	0.4652	0.1101	3.3	2	0.5138
67-70	66.5	-1.06	0.3552	0.4740	14.2	6	4.7524
71-74	70.5	-0.30	-0.1189	0.2939	8.8	10	0.1589
75-78	74.5	0.45	0.1750	0.2119	6.4	7	0.0652
79-82	78.5	1.21	0.3869	0.0885	2.7	3	0.0449
	82.5	1.97	0.4754				
				X^2	=	6.9170	

With α = 5% and dk = 6-3=3, from the chi-square distribution table, obtained X_{table} = 7.82. Because X^2_{count} is lower than X^2_{table} (6.9170<7.82). So, the distribution list is normal.

2. Homogeneity Test

Homogeneity test is used to find out whether the group is homogenous or not. The statistical test of data in this research uses Bartlett test.

Hypothesis:

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

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

H_o received if $X^2_{count} < X^2_{(1-\alpha)(k-1)}$

Steps adopted in analyzing homogeneity test are:

a. Searching for the homogeneity of initial data pre-test scores in the control class and the experimental class.

Table 4.7

Homogeneity Test of Pre-Test of Experimental Class and Control Classes

Class	**Df**	**1/df**	**S_i^2**	**Log s_i^2**	**(df) Log s_i^2**
Experiment	23	0.0483	61. 943	1.51	34.73
Control	23	0.0483	45.652	1.64	37.67
∑	46		75.78	3.15	72.40

1) The merger variant of population group;

$$S^2 = \frac{\Sigma(n_i - 1)s_i{}^2}{\Sigma(n_i - 1)}$$

$$= \frac{23(61.943) + 23(45.652)}{23 + 23}$$

$$= \frac{23x107.595}{46} = 54.7975$$

2) Log S_i^2 (log 53.7975) = 1.7307641

3) The value of B:

B = (log s_i^2) ∑ (n_i -1) = (1.7307641)(46) = 79.615149

4) $X^2 = (\ln 10)\{B - \Sigma(n_1 - 1)\log s_i^2\}$= 2.3026 (0.23) = 0.533

With α = 5% and df = 2-1 = 1, it is obtained $X^2_{table\ (0,05;1)}$ = 3.84. Because X^2_{count} (0.533)< X^2_{table} (3.84), both of data of pre-test population groups have same variant or homogeneous.

b. Searching for homogeneity of the data post-test scores in the experimental class and the control class

Table 4.8

Homogeneity of Post-test of Control and Experimental Classes

Class	Df	1/df	S_i^2	Log s_i^2	(df) Log s_i^2
Experiment	23	0.0435	41.304	1.616	37.168
Control	23	0.0435	27.927	1.447	33.275
∑	46				70.443

1) The merger variant of population group;

$$s^2 = \frac{\Sigma(n_i-1)s_i{}^2}{\Sigma(n_i-1)}$$

$$= \frac{23(41.304) + 23(27.927)}{23 + 23}$$

$$= \frac{1593.336}{46}$$

= 34,638381

2) Log S_i^2 (log 34,638381) = 1.54

3) The value of B:

B = (log s_i^2) ∑ (n_i -1) = (1.54)(46) = 70.81

4) $X^2 = (\ln 10)\{B - \Sigma(n_1 - 1)\log s_i^2\}$= 2.3025(70.8196-70.443) = 0.87

With α = 5% and df = 2-1 = 1, it is obtained $X^2_{table\ (0,05;1)}$ = 3.84. Because X^2_{count} (0.87)< X^2_{table} (3.84), both of data of pre-test population groups have same variant or homogeneous.

C. Hypothetical Test

Hypothetical analysis is intended to process the data collected from pre-test and post-test. The goal of this analysis is to prove the hypothesis whether it is accepted or rejected.

Steps adopted in analyzing hypothetical test are:

1. Searching for the average similarity of the initial data pre-test scores between the control and the experimental classes.

   To test the average similarity, data is analyzed using t-test.

   H_o: $\mu_1 = \mu_2$

   H_a: $\mu_1 \neq \mu_2$

   Description:

   μ_1: average of experimental class

μ_2: average of control class

Table 4.9

The Average Similarity Test of Pre-Test of the Experimental and the Control Classes

Source variant	Experimental class	Control class
Total	1432	1408
N	24	24
X	58.67	59.67
Variant (s^2)	30.23	50.23
Standard Deviation (s)	5.50	7.09

$$S = \sqrt{\frac{(n_1 - 1)S_1^{\ 2} + (n_2 - 1)S_2^{\ 2}}{n_1 + n_2 - 2}}$$

$$s = \sqrt{\frac{(24-1)30.23 + (24-1)50.23}{24 + 24 - 2}} = 6.34284$$

So, the computation t-test:

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

$$t = \frac{58.67 - 59.67}{6.34286\sqrt{\frac{1}{24} + \frac{1}{24}}} = -0.5461$$

With α = 5% and dk = 24 + 24 – 2 = 46, obtained t_{table} = 2.01. Because t_{count} is lower than t_{table} (-0.5461<2.01). So, Ho is accepted and there is no d12

2. Searching for the average similarity of the data post-test scores in the experimental class and control class.

   To test the average similarity, data is analyzed using t-test.

   H_o: $\mu_1 = \mu_2$

   H_a: $\mu_1 \neq \mu_2$

   Description:

   μ_1: average of experimental class

   μ_2: average of control class

Table 4.10

The Average Similarity Test of Post-Test of Experimental Class and Control Classes

Source variant	Experimental class	Control class
Total	1718	1575
N	24	24
X	72.10	65.5
Variant (s^2)	25.12	41.38
Standard deviation (s)	5.29	6.43

$$S = \sqrt{\frac{(n_1 - 1)S_1^{\ 2} + (n_2 - 1)S_2^{\ 2}}{n_1 + n_2 - 2}}$$

$$s = \sqrt{\frac{(24-1)25.12 + (24-1)41.38}{24 + 24 - 2}} = 5.7662$$

So, the computation t-test:

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

$$t = \frac{71.58 - 65.63}{5.7662\sqrt{\frac{1}{24} + \frac{1}{24}}} = 3.57953$$

With α = 5% and df = 24 + 24 – 2 = 46, obtained t_{table} = 2.01. Because t_{count} is lower than t_{table} (3.57953> 2.01).

From the result, it can be concluded that there is a difference in students' memorizing score between students taught using song and those taught using non-song. The hypothesis is accepted.

D. Discussion of Research Finding

The result of the research shows that the experimental class (the students who are taught using song as a medium) has the mean mark 71.5. Meanwhile, the experimental class (the students who are taught using non- song) has the mean mark 65.5. *It can be said that teaching telling time using song as a medium is* more effective than conventional teaching.

Before giving the treatment, researcher checked the balance of the initial ability of the students of both classes. The data used to test the balance was the score of pre-test. Analysis of initial data was conducted through homogeneity test shows X^2_{count} (0.533)< X^2_{table} (3.84), it can be concluded that the population is

homogeneous. Based on the analysis of t-test at the pre-test, it is obtained t_{count} = -0.5461 with t_{table} = 2.01 which proves that there is no difference of the average of pre-test between both classes.

The normality test of post-test of control class results X^2_{count} (6.9170)< X^2_{table} (7,82) and experimental class results X^2_{count} (6.9170)< X^2_{table} (7.82). The post-test demonstrate that the hypotheses of those two classes are normal on the distribution. It is proved with X^2_{count} (0.87)< X^2_{table} (3.84) from the homogeneity test that have the same variant.

From the last phase of the t-test, it is obtained t_{count} = 3.57953 with t_{table} = 2.01 with the standard of significant 5%. Because $t_{count} > t_{table}$, so the zero hypothesis (H_o) is rejected and alternative hypothesis (H_a) is accepted. It means that there are significant differences between the students' memorizing who had been taught using song as a medium and the students' memorizing who had not given the same treatment. This difference can be said as the effectiveness of song as a medium in teaching telling time.

There were many factors that influenced the result of study. One of the factors was teaching aids or media used in teaching. If a teacher employs an appropriate teaching aids or media that is suitable with the method, the students will enjoy the lesson. Based on the result of tests that had been done, it can be explained that using song as a medium in the process of learning English at 3rd grader students of SDIT An Nawawiyah Rembang could facilitate students' memorizing of how to tell time. In addition, learning using song also provide new variation. So that, students can acquire or enriches their vocabulary by sing a song, it helps students by its audio to construct a comprehension in telling time and also easily to stimulate students' memorizing.

In the process of learning, teacher should be resourceful in determining the classroom setting in order to make students focus in lesson. For example, by the setting of the class tailored in learning activities of students of experimental class, the students were more focus and the atmosphere of the class was not too rowdy. By using appropriate teaching aids, students find it easier to understand telling time material delivered by the researcher with teacher helped. A fun learning can stimulate the spirit of the students to be active. Connecting material with the experience or incident, that is occurred in surrounding environment and utilization

of teaching aids such as music can increase students' memorizing. Students can clearly understand the process or steps in teaching time.

Meanwhile, teaching learning process in the control class was implemented through lecturing using communicative language method (CLT). In this process, the researcher explained the material by conventional. At the beginning of the process, the students were given a pre-test to know the initial ability of the students. Then, the students sat and paid attention to the researcher's explanation. However, students felt saturated and bored with the material presented by the researcher because there were no interesting teaching aids or media used.

The ability of the students can be seen from the score of learning. Based on the research that had been done, it proves the average of students' memorizing that found learning using song as a medium higher that is 71.58 compared with the average of the students who did not get learning using song as a medium that is 65.625. The use of song as a medium in teaching telling time has brought students to realize the minimum standard of score. T-test shows that t_{count} has positive score. It means that the average score of students who had been taught using song as a medium is higher than the score of students who had been taught using conventional learning.

Thus, it can be concluded that learning English using song as a medium can improve students' memorizing in telling time at 3rd grade students of SDIT An Nawawiyah Rembang.

E. Limitation of the Research

The researcher realizes that this research had not been done optimally. There were constraints and 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 maximally.
2. The research is limited at SDIT An Nawawiyah Rembang. So that when the same research will be gone in other schools, it is still possible to get different result.
3. The implementation of the research process was less perfect; this was more due to lake experience and knowledge of the researcher.

Considering all those limitations, there is a need to do more research about teaching telling time using song as a medium. So, the more optimal result will be gained.