

CHAPTER IV

FINDINGS AND DISCUSSION

A. Data Analysis

A.1 Description of Data

Enter the experimental class (XI-IPA 1) the reseacher introduced and applied the Cooperative Integrated Raading and Composition (CIRC) tecnique to the students then give the test. The control class (XI-IPA 2) the researcher introduced and applied without Cooperative Integrated Raading and Composition (CIRC) technique and then gives the same test like in the experimental class.

In collecting data the writer processed it by carefully. Next the writer explain the steps in analyzing the data to fing the significant result for the reseach. Here the score that showed the result of the test for the experimental class (XI-IPA 1) which taught by using Cooperative Integrated Raading and Composition (CIRC) tecnique and control class (XI-IPA 2) which taught without Cooperative Integrated Raading and Composition (CIRC) technique.

TABLE 4.1

The score of pre-test and post-test in Experimental Group

No.	Students' Initial Name	Pre Test (t_1)	Post Test (t_2)
1.	ARP	30	60
2.	AM	30	85
3.	AL	30	85
4.	AMI	30	60
5.	ANS	30	65
6.	AP	30	60

7.	BQ	35	65
8.	DA	35	60
9.	FW	35	70
10.	FL	35	65
11.	FH	35	70
12.	GS	40	65
13.	HTS	40	85
14.	HA	40	75
15.	HF	40	75
16.	IP	40	65
17.	JL	45	85
18.	KD	45	70
19.	KHS	45	75
20.	KHA	45	65
21.	LNH	45	80
22.	MD	45	75
23.	MAU	45	85
24.	MANR	45	75
25.	MDS	45	80
26.	MD	50	75
27.	MN	50	80
28.	NC	50	75
\	NA	50	75
30.	NLA	50	75
31.	PRM	50	80
32.	RA	50	75
33.	RS	55	80
34.	RAP	55	80
35.	SA	55	75
36.	SH	55	80
37.	SR	55	80
38.	TR	55	75
39.	WAN	55	80
40.	WDS	55	80
	Σ	1750	2965

Based on the table 4.1 above, the total score in experimental group of pre-test was 1750 and the total score of post-test was 2965. The lowest and the highest

scores of pre-test in experimental group were 30 and 55 , while in the post-test 60 and 85 . Therefore, it can be concluded that the score of post-test in control class is higher than the score of its pre-test.

Table 4.2
The score of pre-test and post-test in Control Group

No.	Students' Initial Name	Pre Test (t_1)	Post Test (t_2)
1.	ARP	30	40
2.	AM	30	40
3.	AL	30	40
4.	AMI	30	40
5.	ANS	30	40
6.	AP	35	45
7.	BQ	35	45
8.	DA	35	45
9.	FW	35	45
10.	FL	35	50
11.	FH	40	50
12.	GS	40	50
13.	HTS	40	50
14.	HA	40	50
15.	HF	40	50
16.	IP	40	50
17.	JL	40	50
18.	KD	45	55
19.	KHS	45	55
20.	KHA	45	55
21.	LNH	45	55
22.	MD	45	55
23.	MAU	45	55
24.	MANR	45	55
25.	MDS	50	60
26.	MD	50	60
27.	MN	50	60
28.	NC	50	60
29.	NA	50	60
30.	NLA	50	60

31.	PRM	50	60
32.	RA	55	60
33.	RS	55	65
34.	RAP	55	65
35.	SA	55	65
36.	SH	55	65
37.	SR	55	65
38.	TR	55	65
39.	WAN	55	65
40.	WDS	55	65
	Σ	1765	2165

And based on the table 4.2 above, the total score in experimental group of pre-test was 1765 and the total score of post-test was 2165. The lowest and the highest scores of pre-test in control group were 30 and 55, while in the post-test 40 and 65. Therefore, it can be concluded that the score of post-test in control class is higher than the score of its pre-test.

B. Analysis Data

B.1 Testing Validity and Reliability of the Test

The validity of the test was extent to which measure what it is supposed to measure and nothing else. In other words, a test is said to be valid only if it is capable of measuring what it intends to measure. The writer uses this formula to count validity:

$$r_{xy} = \frac{N \sum xy - (\sum x)(\sum y)}{\sqrt{\{N \sum x^2 - (\sum x)^2\} \{N \sum y^2 - (\sum xy)^2\}}}$$

Where:

- r_{xy} = validity coefficient of the test
- $\sum x$ = sum of score of each test number
- $\sum y$ = sum of total score
- N = number of students

$\sum x^2$ = quadrate sum of score of each test number

$\sum y^2$ = quadrate sum of total score

The following table is the result of

validity of this test:

Table 4.3
The Validity of the Test

No	r_{count}	r_{table}	Status
1	0,43	0,361	Valid
2	0,46	0,361	Valid
3	0,3	0,361	Invalid
4	0,61	0,361	Valid
5	0,34	0,361	Valid
6	0,32	0,361	Invalid
7	0,43	0,361	Valid
8	0,235	0,361	Invalid
9	0,55	0,361	Valid
10	0,05	0,361	Invalid
11	0,41	0,361	Valid
12	0,36	0,361	Valid
13	0,59	0,361	Valid
14	0,41	0,361	Valid
15	0,56	0,361	Valid
16	0,18	0,361	Invalid
17	-0	0,361	Invalid
18	0,64	0,361	Valid
19	-0,1	0,361	Invalid
20	0,24	0,361	Valid
21	0,46	0,361	Invalid
22	0,61	0,361	Valid
23	0,61	0,361	Valid
24	0,48	0,361	Valid
25	0,19	0,361	Invalid
26	0,21	0,361	Valid
27	0,17	0,361	Valid
28	0,587	0,361	Valid
29	0,06	0,361	Invalid
30	0,64	0,361	Valid

Then, the data was analyzed to find the reliability of the test. In this study, the reliability was calculated by applying the formula as follow:

$$r_{xy} = \frac{2.r}{1+r}$$

r = validity of the test

The following table is result of reliability of this test:

Table 4.4
The Reliability of the Test

Subject	R	Criteria
1	0,43	Sufficient
2	0,46	Sufficient
3	0,61	High
4	0,34	Low
5	0,43	Sufficient
6	0,55	Sufficient
7	0,41	Sufficient
8	0,36	Low
9	0,59	Sufficient
10	0,41	Sufficient
11	0,56	Sufficient
12	0,64	High
13	0,24	Low
14	0,61	Sufficient
15	0,61	Sufficient
16	0,48	Sufficient
17	0,21	Low
18	0,17	Low
19	0,587	Sufficient
20	0,64	High

The calculation of the validity and reliability can be seen in appendix I.

B.2 Pre-Test Score in Experimental and Control Groups

Pre-test data is used to measure students' basic knowledge before implementing the method. From the result of pre-test of the students in experimental and control groups, the students got mean of pre-test score in experimental group is 43,75 and standard deviation is 8,60 while the average of students ability in control is 44,125 with standard deviation 8,5. (See appendix II)

The comparison of pre- test score in 2 groups can be seen in table 4.5 below:

Table 4.5
The Score, Mean, and Standard Deviation of Pre-test in Experimental and Control Groups

No	Experimental Group		Control Group	
	Xi	Fi	Xi	Fi
1.	30	6	30	5
2.	35	5	35	5
3.	40	5	40	7
4.	45	9	45	7
5.	50	7	50	7
6.	55	8	55	9
	255	40	255	40
Mean	43,75		44,125	
Standard Deviation	8,60		8,5	

B.2.1 Data Analysis of Pre-Test Score

After getting the pre-test of data from experiment and control groups, the next is analyzing the normality and homogeneity data.

a. Normality Test of Pre-Test Data

Normality test was done before testing hypothesis on pre-test data of both of sample classes by using Lilliefors Test. The calculation shows that at significance level $\alpha = 0,05$ and $N = 40, 40$ (experimental=40, control=40), pre-test data in experimental and control groups were distributed normally (see

appendix III). The normality test for both of sample classes is summarized in table 4.6.

Table 4.6
Normality test of Pre-Test in Experimental and Control Groups
The Normality Test of The Pre-test Data

Group	L_o	L_t	Conclusion
Experiment	0.12	0.14	Normal
Control	0.11	0.14	Normal

Based on the table 4.7, it shows that the data of the two groups are normal. In experimental group $L_{observation} < L_{table} (insignificant level = 0,05) = 0.12 < 0.14$. It is concluded that pre-test data is normal. And in control group $L_{observation} < L_{table} = 0.11 < 0.14$. It is concluded that pre-test data is **normal**.

b. Homogeneity Test of Pre-Test Data

Homogeneity test was aimed to know whether the sample used in the research is homogenous or not. The formula is as follows:

$$F = \frac{\text{the biggest variant}}{\text{the smallest variant}}$$

Then, the homogeneity of the sample could be decided based on this following hypothesis:

- If $F_o < F_t$ = data is homogenous
- If $F_o > F_t$ = data is not homogenous (heterogenous)

From the calculation of pre test data in experimental and control groups, it was showed:

- Variant of pre-test experiment group : 74,038
- Variant of pre-test control group : 72,93

So:

$$F_0 = \frac{74,038}{72,93} = 1,015$$

The coefficient of F_t from the table of F distribution $\alpha = 0,05$ with numerator degree of freedoms = 39 ($N-1 = 40-1$), and denominator degree of freedom = 39 ($N-1 = 40-1$). Where F_{table} determined at real $\alpha = 0,05$ and the numerator $df = N-1 = 40-1 = 39$, and the denominator $df = N-1 = 40-1 = 39$ is 1,717

From the calculation above, it was found that $F_{count} = 1,015$. Then, the coefficient of F_{count} was compared to the F_{table} . So it could be concluded that $F_{count} < F_{table} = 1,015 < 1,717$. It meant that the samples of pre-test that used in this research were homogenous or it could deputize the entire of population.

Table 4.7
Homogeneity test of Pre-Test in Experimental and Control Classes

The Homogeneity Test of The Pre-test Data				
Group	Variant	F_{count}	F_{table}	Conclusion
Experiment	74,038	1,015	1,717	Homogeny
Control	72,93			

B.3 Post-Test Score in Experimental and Control Groups

After giving the treatment in experimental group by using (CIRC) Cooperative Integrated Reading and Composition technique. and in control group by using conventional technique. Samples in experimental group had average score 74,125 and standard deviation 7,67, whereas control group had average score and standard deviation 6.71 (see appendix II).

The comparison of post- test score in 2 groups can be seen in table 4.8 below:

Table 4.8
The Score, Mean, and Standard Deviation of Post-test in Experimental and Control Groups

No	Experimental Group		Control Group	
	X	Fi	X	Fi
1.	60	4	40	5
2.	65	6	45	4
3.	70	3	50	8
4.	75	12	55	7
5.	80	10	60	8
6.	85	5	65	8
	435	40	315	40
Mean	74,125		54,125	
Standard Deviation	7,67		8,321	

B.3.1 Data Analysis of Post-Test

a. Normality Test of Post-Test Data

Normality test was done by using Lilliefors Testing. The calculation shows that at significance level $\alpha = 0,05$ and $N = 40, 40$ (experimental= 40, control=40), post-test data in control and experimental groups were distributed normally (see appendix III). The testing normality for both of sample classes is summarized in table 4.9.

Table 4.9
Normality Test of Post-Test in Experimental and Control Groups
The Summary of Normality Test of The Post-test Data

Class	L_o	L_t	Conclusion
Experiment	0.133	0.14	Normal
Control	0.1202	0.14	Normal

Based on the table 4.7, it shows that the data of the two groups are normal. In experimental group $L_{observation} < L_{table}$ (in significant level = 0,05)= 0.133 < 0.14. It is concluded that post-test data is normal. And in control

group $L_{observation} < L_{table} = 0.1202 < 0.14$. It is concluded that post-test data is normal.

b. Homogeneity Test of Post-Test Data

The formula is as follows:

$$F = \frac{\text{the biggest variant}}{\text{the smallest variant}}$$

Then, the homogeneity of the sample could be decided based on this following hypothesis:

- If $F_o < F_t$ = data is homogenous
- If $F_o > F_t$ = data is not homogenous

From the calculation of post-test data in experimental and control classes, it was showed.

- Variant of post-test experiment class : 58,83
- Variant of post-test control class : 69,09

So:

$$F_o = \frac{69,09}{58,83} = 1,174$$

The coefficient of F_t from the table of F distribution $\alpha = 0,05$ with numerator degree of freedoms = 39 ($N-1=40-1$), and denominator degree of freedom = 39 ($N-1=40-1$). Where F_{table} determined at real $\alpha = 0,05$ and the numerator df= $N-1=40-1=39$, and the denominator df= $N-1=40-1=39$ is 1.717

From the calculation above, it was found that $F_{count} = 1.174$. Then, the coefficient of F_{count} was compared to the F_{table} . So it could be concluded that $F_{count} < F_{table} = 1.174 < 1.717$. It meant that the samples of post-test that

used in this research were homogenous or it could deputize the entire of population. So, it could be concluded that the data of this research had completed the requirements to be hypothesized. It is described in table 4.10.

Table 4.10
Homogeneity test of Post-Test in Experimental and Control Groups

Homogeneity Test of The Post -test Data				
Group	Variant	F _{count}	F _{table}	Conclusion
Experiment	58,83	1,174	1,717	Homogeny
Control	69,09			

C. Testing Hypothesis

Based on the result of the data that the research got in this research, the researcher counted the hypothesis test. It was analyzed by applying t-test formula.

$$t = \frac{Mx - My}{\sqrt{\left(\frac{dx^2 + dy^2}{Nx + Ny - 2}\right) \left(\frac{1}{Nx} + \frac{1}{Ny}\right)}}$$

Where:

T : the effect

Mx : the mean of experimental group

My : the mean of control group

dx² : standard deviation of experimental group

dy² : standard deviation of control group

Nx : the total number of experimental group

Ny : the total number of control group

Before calculating t test data, it used the formula bellow to find out the deviation standard of both of class:

$$Mx = \frac{\sum d}{n}$$

$$M_x = 30,5$$

$$M_y = 10$$

$$D_x^2 = 46,424$$

$$D_y^2 = 50$$

$$N_x = 40$$

$$N_y = 40$$

$$t = \frac{M_x - M_y}{\sqrt{\left(\frac{dx^2 + dy^2}{N_x + N_y - 2}\right) \left(\frac{1}{N_x} + \frac{1}{N_y}\right)}}$$

$$t = \frac{30,5 - 10}{\sqrt{\left(\frac{46,424^2 + 50^2}{40 + 40 - 2}\right) \left(\frac{1}{40} + \frac{1}{40}\right)}}$$

$$t = \frac{20,5}{\sqrt{\left(\frac{2155,188 + 2500}{78}\right) \left(\frac{1}{40} + \frac{1}{40}\right)}}$$

$$t = \frac{20,5}{\sqrt{\left(\frac{4655,188}{78}\right) \left(\frac{1}{40} + \frac{1}{40}\right)}}$$

$$t = \frac{20,5}{\sqrt{(59,68)(0,025 + 0,025)}}$$

$$t = \frac{20,5}{\sqrt{2,984}} = \frac{20,5}{1,70} = 12,05$$

From the calculation of the data, it can be seen there was significant effect of Cooperative Integrated Reading and Composition (CIRC) technique on the students' ability in reading comprehension anecdote text. In order to find out the

significant effect of Cooperative Integrated Reading and Composition (CIRC) technique, the researcher analyzed the data by applying t-test formula to prove the hypothesis of this research. It was obtained that the coefficient of $t_{\text{observation}}$ was 12,5.

D. Research Finding

1. Based on the result of the calculation above, it was found that the students' ability in reading comprehension anecdote text when the researcher taught by using Cooperative Integrated Reading and Composition (CIRC) got mean 43,75 in pre-test with the maximum score 55 and the minimum score was 30. While in post-test the students got mean 74,125 with the maximum score 60 and the minimum score 85.
2. The students' ability in reading anecdote text when the researcher taught without using Cooperative Integrated Reading and Composition (CIRC) got mean 44,125 in pre-test with the maximum score 55 and the minimum score was 30. While in post-test the students got mean 54,125 with the maximum score 65 and the minimum score was 55
3. Based on the statistical computation t-test was found that the coefficient of $t_{\text{observation}} = 12,05$ where the coefficient of $t_{\text{table}} = 1,684$. It means that there was significant effect of using Cooperative Integrated Reading and Composition (CIRC) technique on the students' ability in reading comprehension anecdote text. It was indicated that H_a was accepted and H_0 was rejected.

E. Discussion

There was significant effect on students' ability in reading comprehension anecdote text by using Cooperative Integrated Reading and Composition (CIRC) technique. The students that were taught by (CIRC) have higher score than were taught without using (CIRC) technique.

It had been explained in chapter 2 that Cooperative Integrated Reading and Composition (CIRC) technique be an effective way to improve students' ability. Students were helped by their teacher to be able to read anecdote text. It proved (in experiment class was taught by using Cooperative Integrated Reading and Composition (CIRC) technique that the technique was helpful especially for the students who had no courage or comfortless to learn and ask individually. Students had opportunity to work cooperatively with their friends in the class helped by the teacher to improve their students' abilities. Besides that this technique gave experience of variety of reading , gets students used to basing their learning or resources other than the teacher, suits the students with kinesthetic disposition who cannot sit still for more than two minutes.

Based on the explanation above, the researcher concluded that the implementation of Cooperative Integrated Reading and Composition (CIRC) technique. has significant effect to students' ability in reading anecdote text

CHAPTER V

CONCLUSION AND SUGGESTIONS

A. Conclusion

Based on the research finding, the researcher concluded that there was a significant effect of Cooperative Integrated Reading and Composition (CIRC) technique on the students' ability in reading comprehension anecdote text at MAN KUTACANE Aceh Tenggara.

The total scores of experimental group in pre-test ($\sum X1$) = 1750 and the total scores of experimental group in post-test ($\sum X2$) = 2965. It means the score of experimental group increased 1504 point. The total scores of control group in pre-test ($\sum Y1$) = 1765 and the total scores of control group in post-test ($\sum Y2$) = 2165. It means the score of experimental group increased 1215 point..

B. Suggestions

Based on the conclusions above, the writer mentions some suggestions as follows:

1. It is suggested to the English teacher to Cooperative Integrated Reading and Composition (CIRC) technique as one of alternative for learning activities. Because it helps the English teacher to be more creative on students' ability of reading comprehension
2. The students can increase their ability of reading comprehension in anecdote text by using Cooperative Integrated Reading and Composition (CIRC) technique, because it will helps students focus with the teaching

learning process. This technique is a great way to express them without the pressure of words and word phrases construction.

3. Other researcher who are interested in the same area they have a good understanding to support their study especially in reading comprehension.