

CHAPTER IV

FINDING AND DISCUSSION

This chapter was related to the analysis of data collection from the research finding and discussion. This research was intended to find out the effectiveness of using two-stay two-stray technique to improve students' achievement in reading recount text.

A. Description of Research

This research described that there were different method between experimental class which was taught using two-stay two-stray and control class which was taught using conventional method in teaching reading recount text. The research was conducted in MTs Nurul Huda with the eighth grade in the academic year 20015/2016.

Table 4.1
Schedule of the research

No.	Activity	Month/Date						
		February						
		9 th	10 th	11 th	17 th	18 th	24 th	25 th
1	Pre-test							
	a. Control Class	√						
	b. Experimental Class	√						
2	Conventional teaching in control class		√		√			
3	Treatment in experimental class			√		√		
4	Post-Test							
	a. Control Class						√	
	b. Experimental Class							√

The researcher took pre-test on 9th February 2016 in control and experimental class. After took pre-test value from the teacher, researcher determined the materials and lesson plans of learning activities. Pre-test was taken to both classes to know that two classes were normal and homogeneous.

Then researcher knew control and experimental class had same variant. Before giving conventional and treatment method, researcher prepared lesson plan and material learning activity. The researcher conducted conventional method to teach in control class on 10th and 17th February 2016. Control class was taught by using conventional method, without special treatment in learning process. The treatment for experimental class was conducted on 11th and 18th February 2016 by using Two-stay Two-stray Technique which appropriate to teach recount text focused in reading skills.

Then researcher gave post-test which approximately finished on 40 minutes. The researcher gave post-test in experimental class and conventional teaching in control class. The researcher gave post-test on 24th and 25th February 2016.

B. Data Analysis

1. First phase analysis

The first analysis was aimed to get a valid and reliable instrument for investigation. Try out tests were conducted for IX A of MTs Nurul Huda Banyuputih. Grade IX A consisted of 31 respondents. They were given a try out using the

instrument that would be used in control and experiment class. This analysis was the interpretation of the try out test to find out the validity, reliability, discriminating power and difficult level of the instrument.

a. Validity of Try Out Test

The reading test consists of twenty item numbers. From the try out test that was conducted, it was obtained that all reading item numbers were valid. For example, the item analysis of relevance was obtained $r(xy)$ 0.44 for $\alpha = 5\%$ with $N = 31$. It would be obtained 0.355. Since the result of the instruments validity was higher than the critical score, it was considered that the instruments were valid. The complete computation and the sample of computation were as below.

Computation of Item Validity Using Two-stay Two-stray Method

Formula:

$$\gamma_{pbi} = \frac{Mp - Mt}{St} \sqrt{\frac{p}{q}}$$

Criteria:

The item is valid if $r_{xy} > r_{table}$

Calculation:

The item was the sample of the item validity number 2

Table 4.2
Item number two of try out test analysis

NO	CODE	X	Y	X ²	Y ²	XY
1	U-28	0	33	0	1089	0
2	U-14	0	32	0	1024	0
3	U-16	1	31	1	961	31
4	U-25	0	31	0	961	0
5	U-31	1	30	1	900	30
6	U-10	1	30	1	900	30
7	U-17	0	30	1	900	0
8	U-02	1	29	0	841	29
9	U-08	0	29	0	841	0
10	U-23	1	29	1	841	29
11	U-19	1	29	1	841	29
12	U-29	1	28	1	784	28
13	U-20	1	28	1	784	28
14	U-01	1	28	1	784	28
15	U-06	1	27	1	729	27
16	U-11	0	24	0	576	0
17	U-27	0	24	0	576	0
18	U-07	0	24	0	576	0
19	U-18	0	24	0	576	0
20	U-12	0	23	0	529	0
21	U-03	0	23	0	529	0
22	U-30	1	22	1	484	22
23	U-09	0	22	0	484	0
24	U-26	0	21	0	441	0
25	U-05	0	20	0	400	0
26	U-22	0	19	0	361	0
27	U-13	0	19	0	361	0
28	U-21	0	19	0	361	0

29	U-04	0	18	0	324	0
30	U-15	0	18	0	324	0
31	U-24	0	17	0	289	0
SUM		11	781	11	20371	311

From the table, obtained data:

$$M_p = \frac{\text{Sum scores of student who get right answer on item no.2}}{\text{Total students who get right answers on item no.2}}$$

$$= \frac{311}{11}$$

$$= 28.27$$

$$M_t = \frac{\text{Total score of whole students}}{\text{Total of students}}$$

$$= \frac{781}{31}$$

$$= 25.19$$

$$p = \frac{\text{Sum students who get right answer on item no.2}}{\text{Total of students}}$$

$$= \frac{11}{31}$$

$$= 0.35$$

$$q = 1 - p = 1 - 0.35 = 0.65$$

$$S_t = \sqrt{\frac{20371 - \frac{(781)^2}{31}}{31}} = 4.73$$

$$r_{pbi} = \frac{28.77 - 25.19}{4.73} \sqrt{\frac{0.97}{0.03}}$$

$$= 0.48$$

$r(xy) = 0.48$ for $\alpha = 5\%$ with $N = 31$, it would be obtained 0.355

Because $r_{\text{count}} > r_{\text{table}}$, so the item number 2 was valid.

b. Reliability Analysis

After validity items had been done, the next analysis was to test the reliability of instrument. It was done to find out whether a test had higher critical score and gave the stability or consistency of the test scores or not. The complete analysis and the computation as follow:

The Computation of Reliability Using Two-stay Two-stray Method

Formula:

$$r_{11} = \left(\frac{k}{k-1} \right) \left(\frac{S^2 - \sum pq}{S^2} \right)$$

Criteria:

Table 4.3
Criteria of reliability analysis

Interval	Criteria
$r_{11} \leq 0,2$	Very low
$0,2 < r_{11} \leq 0,4$	Low
$0,4 < r_{11} \leq 0,6$	Medium
$0,6 < r_{11} \leq 0,8$	High
$0,8 < r_{11} \leq 1,0$	Very High

Based on the analysis of test table obtained:

$$k = 40$$

$$\sum pq = 7.1843$$

$$S^2 = \frac{\sum Y^2 - \frac{(\sum Y)^2}{N}}{N}$$

$$\begin{aligned}
&= \left(\frac{20371 - \frac{609961}{31}}{31} \right) \\
&= 22.4142 \\
r_{11} &= \left(\frac{40}{40-1} \right) \left(\frac{22.4142 - 7.1843}{22.4142} \right) \\
&= 0.6969 = 0.7
\end{aligned}$$

From the computation of reliability try out instruments using Two-stay Two-stray, it was obtained 0,7 for α 5 % with N = 31. It was obtained 0.355. It could be concluded that the instruments that were used in this research was reliable. The result showed that 0,7 was more than 0,6 as criteria in table above. Thus, the items of instrument were high.

c. Discriminating Power Analysis

The discriminating power of the twenty items analysis of reading was satisfied. It showed that all speaking items had strong discrimination. The complete analysis and the sample of computation as follow.

The Computation of Discriminating Power

Formula:

$$D = \frac{B_A}{J_A} - \frac{B_B}{J_B}$$

Criteria:

Table 4.4
Criteria of discriminating power analysis

Interval (D)	Criteria
$D \leq 0.00$	Least
$0.00 < D \leq 0.20$	Less
$0.20 < D \leq 0.40$	Enough
$0.40 < D \leq 0.70$	Good
$0.70 < D \leq 1.00$	Excellent

Calculation:

The item was the sample of the computation of discriminating power on item number 2.

Table 4.5
Computation item number 2 reliability analysis

Top Group			Bottom Group		
No	Code	Score	No	Code	Score
1	U-28	0	1	U-27	0
2	U-14	0	2	U-07	0
3	U-16	1	3	U-18	0
4	U-25	0	4	U-12	0
5	U-31	1	5	U-03	0
6	U-10	1	6	U-30	1
7	U-17	0	7	U-09	0
8	U-02	1	8	U-26	0
9	U-08	0	9	U-05	0
10	U-23	1	10	U-22	0
11	U-19	1	11	U-13	0
12	U-29	1	12	U-21	0
13	U-20	1	13	U-04	0
14	U-01	1	14	U-15	0

15	U-06	1	15	U-24	0
16	U-11	0			
Total		10	Total		1

$$\begin{aligned}
 D &= \frac{Ba}{Ja} - \frac{Bb}{Jb} \\
 &= \frac{10}{16} - \frac{1}{15} \\
 &= 0.56
 \end{aligned}$$

The result obtained $D = 0.56$

Because the result in a place between $0.40 < D \leq 0.70$.

Thus, the item number 2 was good.

d. Difficult level Analysis

The computation of difficulty level of the forty items analysis of reading, it was found that the difficulty level was medium. The sample of computation was as follow.

The computation of Difficulty Level

Formula:

$$P = \frac{B}{JS}$$

Criteria:

$0.00 \leq P < 0.30$ is difficult

$0.30 \leq P < 0.70$ is medium

$0.70 \leq P < 1.00$ is easy

Calculation:

The item was the sample of the computation of difficulty level on item number 2

$$P = \frac{10+1}{31}$$

$$= 0.35$$

Based on the criteria above, the result was between $0.30 \leq P < 0.70$, so item number 2 was medium.

2. Second phase analysis

It was done to know the normality and homogeneity of the initial data in the experimental class and control class. The initial values of experiment and control class below.

a. Normality test

Normality test was used to know whether the data was normally distributed or not. The researcher used liliefors to find out the distribution data in normality test. The initial data was used to normality test in pre-test. Criteria of test which used to significant level $\alpha = 5 \%$, approach value was 0,886 and DF =33 and 30. If $L_{count} < L_{table}$ so data was normal distributed dan if $L_{count} > L_{table}$ so data was not normal distributed. It could be seen on the table about result of normality test:

Table 4.6
The initial result of normality test

Group	L_{count}	DF	L_{table}	Criteria
Experiment	0,141	33	0,154	Normal
Control	0,146	30	0,162	Normal

On the table above, the normality test of initial data in experiment class (VIII-A) for significant level $\alpha = 5\%$ with $DF = 33$, obtained $L_{count} = 0,141$ dan $L_{table} = 0,154$. Because $L_{count} < L_{table}$. It could be concluded that data was normal distributed.

Meanwhile normality test in control class (VIII-B) for significant level $\alpha = 5\%$ with $DF = 30$, obtained $L_{count} = 0,146$ dan $L_{table} = 0,162$. Because $L_{count} < L_{table}$. It could be conclude that data was normal distributed.

b. Homogeneity test

Homogeneity test was used to know whether the group sample that was taken from population was homogeneous or not.

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

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

According to the formula above, it was obtained that:

$$F = \frac{vb}{vk}$$

$$F = \frac{103.43}{63.04} \\ = 1.64$$

Table 4.7
The initial result of homogeneity test

Class	Variance (S^2)	N	Df	F_{count}	F_{table}	Criteria
Experimental	63.04	33	32	1.64	1.81	Homogeneous
Control	103.43	30	29			

Based on the computation above it was obtained that F_{count} is lower than F_{table} so H_0 accepted. It could be concluded that data of pre-test from experimental class and control class was homogeneous.

c. Testing the similarity of average of the initial data between experimental class and control class.

The researcher used t-test to test the difference of average.

$$H_0 : \mu_1 = \mu_2$$

$$H_a : \mu_1 \neq \mu_2$$

Where:

μ_1 : average data of experimental class

μ_2 : average data of control class

Table 4.8

The similarity of average result initial data between experiment class and control class

Class	N	Average (X)	Variance (S^2)	Standard of deviation (S)	t_{table}	t_{count}	Criteria
Experimental	33	54.55	63.04	7.94	1.99	-0.052	Ho accepted
Control	30	54.67	103.43	10.17			

$$\begin{aligned}
 S^2 &= \frac{(n_1 - 1)s_1^2 + (n_2 - 1)s_2^2}{n_1 + n_2 - 2} \\
 &= \frac{(33-1) \quad 63.04 + (30-1) \quad 103.43}{33 + 30 - 2} \\
 &= \sqrt{84.972} \\
 &= 9.218
 \end{aligned}$$

$$\begin{aligned}
t_{\text{count}} &= \frac{54.55 - 54.67}{9.218 \sqrt{\frac{1}{33} + \frac{1}{30}}} \\
&= -0.052
\end{aligned}$$

With $\alpha = 5\%$ and $df = 33 + 30 - 2 = 61$, obtained $t_{\text{table}} 1.99$.

Because t_{count} was lower than t_{table} and t_{count} was in Ho accepted territory ($-0.052 < 1.99$), so Ho was accepted.

3. End Phase Analysis

It was done to answer hypothesis of this research. The end analysis presented the result of pre-test and post-test that was done both in experimental and control group. This analysis answered the research question “Is Two-stay Two-stray effective to improve students’ reading skill in recount text?” It could be concluded Two-stay Two stray was effective when the result of post-test of the experimental class (using two-stay two-stray technique) and control class (using conventional technique) had significant differences or the assumption that those classes was equal.

a. Normality test

The initial data was used to normality test in post-test. Criteria of test which used to significant level $\alpha = 5\%$, Lilliefors value was 0,886 and $DF = 33$ and 30 . If $L_{\text{count}} < L_{\text{table}}$ so data was normal distributed dan if $L_{\text{count}} > L_{\text{table}}$ so data was not normal distributed. It could be seen on table about the result of normality test:

Table 4.9

The final result of normality test

Group	L_{count}	DF	L_{table}	Criteria
Experiment	0,151	33	0,154	Normal
Control	0,139	30	0,162	Normal

On the table above, the normality test of initial data in experiment class (VIII-A) for significant level $\alpha = 5\%$ with DF =33, obtained $L_{count}= 0,151$ and $L_{table}= 0,154$. Because $L_{count} < L_{table}$. It could be concluded that the data was normal distributed.

Meanwhile normality test in control class (VIII-B) for significant level $\alpha = 5\%$ with Df = 30, obtained $L_{count}= 0,139$ dan $L_{table}= 0,162$. Because $L_{count} < L_{table}$, so the conclusion, the data was normal distributed.

b. Homogeneity test

Homogeneity test was used to know whether the group sample that was taken from population was homogeneous or not.

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

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

According to the formula above, it was obtained that:

$$F = \frac{Vb}{Vk}$$

$$F = \frac{63.10}{46.10}$$

$$= 1.37$$

Table 4.10

The final result of homogeneity test

Class	Variance (S^2)	N	Df	F_{count}	F_{table}	Criteria
Experimental	46.10	33	32	1.37	1.81	Homogeneous
Control	63.25	30	29			

Based on the computation above it was obtained that F_{count} was lower than F_{table} so H_0 accepted. It can be concluded that data of pre-test from experimental class and control class was homogeneous.

c. Hypothesis test

Hypothesis test was used to know whether there was a difference on post-test of experimental class and control class. The data which used to test the hypothesis was score post-test both of class. To test the difference of average used t-test.

$H_0: \mu_1 \leq \mu_2 \rightarrow$ there was no significant difference between the reading skill improvement of students who were taught by using Two-stay Two-stray Technique and who were taught by using non Two-stay Two-stray Technique.

$H_a: \mu_1 > \mu_2 \rightarrow$ there was significant difference between the reading skill improvement of students who were taught by using Two-stay Two-stray Technique and

who were taught by using non Two-stay Two-stray Technique.

Formula:

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

$$(33-1) \quad 46.104 \quad + \quad (30-1) \quad 63.250$$

$$33 + 30 - 2$$

$$= \sqrt{54.256}$$

$$= 7.366$$

$$t_{\text{count}} = \frac{71.515 - 67.167}{7.366 \sqrt{\frac{1}{33} + \frac{1}{30}}}$$

$$= 2.340$$

With $\alpha = 5\%$ and $df = 33+30-2 = 61$, obtained $t_{\text{table}} 1.66$.

Table 4.11

The final result of homogeneity analysis

Class	N	Average (X)	Variance (S ²)	Standard of deviation (S)	t _{table}	t _{count}	Criteria
Experimental	33	71.515	46.104	6.790	1.66	2.340	Ho accepted
Control	30	67.167	63.250	7.953			

Based on the computation above, it was obtained that the average (\bar{X}) of post-test experimental class who

were taught by using Two-stay Two-stray Technique was 71.515 and standard deviation (S) was 6.790. While the average (\bar{X}) of post-test of the control class who were taught by using non Two-stay Two-Stray Technique is 67.167 and standard deviation (S) was 7.953, with $df = 33+30-2 = 61$ by $\alpha = 5\%$, so obtained $t_{table} = 1.66$. From the result of calculation t-test $t_{count} = 2.340$. If compared between t_{count} and t_{table} , $t_{count} > t_{table}$. H_0 was rejected and H_a was accepted. There was significance different of average score from pre-test and post-test of control class. From the calculation of interaction A and B, there was significant difference between students who taught by using two-stay two-stray method and students who taught by using non two-stay two-stray method.

C. Discussion of the Research Findings

In the beginning of research, the researcher collected some equipments or values from MTs Nurul Huda. Moreover researcher also looked at some problems at MTs Nurul Huda which would be place and object of research. Researcher wanted to know the initial ability of the students as the object of research, whether it was same or not. Therefore, researcher took values of student midterms test odd semester as an initial data. Based on initial data analysis, the result of computation obtained average VIII A was 54,55 with standard of deviation (S) 7,94. While the average VIII B was 54,67 with standard of deviation (S) 10,17. Thus, the initial

data analysis obtained $t_{\text{count}} = -0,052$ while $t_{\text{table}} = 1,99$. From the initial data analysis obtained $t_{\text{count}} < t_{\text{table}}$. The result of computation students as initial data at VIII A and VIII B was in same condition, it was normal and homogenous. Therefore, both of them compatible became experiment and control class.

Next, experimental and control class was given different treatment. The students of experimental class were taught by using Two-stay Two-stray Technique, while the students of control class were taught by using non Two-stay Two-stray Technique. Experimental and control students did learning process as usual with conventional and discussion method, but the difference of experimental student were added two-stay two-stray method in teaching learning process. This method used some paper and pen to write down the result on it. The discussion of material was done by students not only in their own group but also other groups, to interacted with other students and asked the information from other groups and their result. Two-stay two-stray method made students interacted to each other and made the teaching learning process fun and also got a lot of knowledge or information comprehensive, absolutely to reached the aim of learning process well.

Moreover this method made students were enthusiastic with materials and learning process that they did. They did this method with a little clumsy in every parts, because they never found and did the method in learning process. Here they found learning

process not only theoretical that written, read, explained and comprehended, but also there was another way to distribute the material effectively. The limitation of this method while the researcher implemented strategy, he needed more time because the implemented strategy mechanism also needed special preparation, and students still afraid to ask and interact in learning process, whereas they had opportunity to ask and interact than conventional method. But the problem could be solved with excellent preparation and used concept management of time before. Students exercised learning process with two-stay two-stray method because this method could be successful, if the students did the method as habit periodically.

The control class was given conventional treatments like speech, discussion and question and answer session. The effect of treatments made the students saturated with this condition of learning process. Actually not only for the students, but also made the teacher felt bored and must found the new innovation to teaching learning process. Experimental class and control class finished their own treatments, students of experimental class were taught by using Two-stay Two-stray Technique, while students of control class were taught by using non Two-stay Two-stray Technique or conventional method. Then both of them were given the same post-test with 20 items of questions form from multiple choices.

The post-test with 20 items of questions form from multiple choices was result of try-out test that gave to try-out class. Try-out class was a class which suitable to be try-out class and was accepted recount text material, here IX-A class. Then items of questions that tested to try-out students checked suitable again with validity, reliability, difficult level and discriminating power analysis. From 40 items of questions which given to try-out class, the result got 20 items suitable questions, 20 questions used to be post-test in experimental and control class.

The post-test was given to the students after they accepted their own treatments, experimental with two-stay two-stray method and control class with conventional method. From the test above, researcher obtained average from experimental class (VIII-A) was 71,52 with standard of deviation (S) 6,79. While the average (VIII-B) was 67,17 with standard of deviation (S) 7,95. Thus, the initial data analysis obtained $t_{\text{count}} = 2,340$ while $t_{\text{table}} = 1,66$. The initial data analysis obtained $t_{\text{count}} > t_{\text{table}}$, the significance and hypothesis was accepted. Moreover, the result could be said, “there are difference of results in learning process between students who taught by Two-stay Two-stray Technique and students who taught by conventional method”.

Two-stay two-stray technique gave positive effect to the result of cognitive students. Because there were some acts and interacts between students with the teacher and learning resources. Students must be braved to interacted and shared all of

information about materials with others and communicative also with their teacher. In fact, most of students felt afraid to share their point of views, ideas or concepts of material in learning process. Actually, the purpose of two-stay two-stray technique to made the students active, effective and efficient in learning process. This method could help students to support their comprehension in material quickly. There were some advantages in learning process which taught with two-stay two-stray technique such as active, the atmosphere of class became funny, interactive and competitive in learning process. From the research above, there was increasing result of learning process to the students as sample of research. The initial of average in experimental class 54,550 became 71,515. It indicated the significant differences before and after the treatment in learning process of experimental class.

From the statement before, Two-stay two-stray technique had some advantages to increase the result of study or learning process in experimental class.

1. Two-stay two-stray technique exercised the students to be brave in speaking skill and show up their ideas to others. Students also exercised their skill to make a decision quickly.
2. Two-stay two-stray technique was learned to prioritize things that they need soon. In other way, they chose priority things and they also knew whether cause and effect from their decision.

3. Students were given stimulus to critical thinking with two-stay two-stray technique. They interacted with others, form creative and innovative students.
4. Two-stay two-stray technique exercised the student skills in discussion or group of learning, because this technique was one of cooperative learning strategy. The activities discussed and interacted with other learners as a group in habit.

Meanwhile students got some advantages from the technique they also got some weakness from two-stay two-stray technique;

1. Some students felt shy to talk with others in a part of starting conversation.
2. Students still confused with the rule of method.
3. Atmosphere of class became noisy and some students acted over when they talked with others.

Two-stay two-stray technique made students more active and cooperative with others. There were some steps to made method carried out optimally in learning process;

1. Students still confused with the rule of method, so teacher must be careful to explained rule or needed repeating explanation on it.
2. Teacher should give clear explanation to students and set the time in every steps of two-stay two-stray method, to be an effective and efficient teaching learning process.

3. This method made the students active and interactive with others. Sometimes atmosphere of class was not good enough, but here teacher as a controller to handle students if they acted over in learning process.

From the statements above, two-stay two-stray method applied to English lesson with recount material. We could be said that two-stay two-stray technique effective to improve the result of learning cognitive students grade VIII at MTs Nurul Huda Banyuputih.

D. Limitation of Study

During realization of this research, the researcher realized that this thesis still had a lot of limitations, such as;

1. Researcher realized as a human, absolutely there were some lacks from this research. Especially, limitation of energy and thinking ability.
2. Researcher was not an expert human in statistical area, there were a lot of formulas and need more time to calculate the result of data.
3. This research limited at English lesson with recount text material grade VIII at MTs Nurul Huda Banyuputih. If the method applied in difference materials or places, thus the result would be different with this result, but the research possibility was not different away from research that researcher did.