

CHAPTER IV

RESEACH FINDING

A. Description of Research Finding

This research used experimental design of teams games tournament as a descriptive text learning model on students' reading achievement in MTs N Keling on 11th April – 30th March 2016. The implementation of this research was divided into three classes, namely the try out class (VIII B), the experimental class (VII A) and the control class (VII F). Try out class was taken from the class that has been taught the descriptive text material. Before the activities were conducted, the materials and lesson plans were determined to the process of learning. Learning in the experimental class was conducted by using teams games tournament as a reading descriptive text learning model, while the control class using the conventional method (without using teams games tournament).

In this research, there were two tests namely pre-test and post-test. The pre-test was given before the students follow the learning process that was provided by the researcher. After the learning process, post-test was given to experimental and control classes to obtain the data to be analysed.

Table 4.1
Schedule of the research

No.	Activity	Month/Date								
		April 2016								
		11 th	12 th	13 th	15 th	16 th	20 th	22 th	29 th	30 th
1.	Giving research permit to the headmaster	√								
2.	Try out test		√							
3.	Pre-test									
	a. Control Class			√						
	b. Experimental Class				√					
4.	Conventional teaching in control class					√	√			
5.	Treatment in experimental class							√	√	
4	Post-Test									
	a. Control Class									√
	b. Experiment al Class								√	

Try-out test conducted on 12th April 2016, pre-test on 13th April 2016 in control class and experimental class on 15th April 2016. After took try out test, trial of question were analysed using validity test to find out the valid and reliable instrument.

After took pre-test, 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.

Before giving conventional and treatment method, researcher prepared lesson plan and learning material activity. The researcher conducted conventional method to teach in control class on 16th and 20th April 2016. Control class was taught by using conventional method, without special treatment in learning process. The treatment for experimental class was conducted on 22th and 29th April 2016 by using teams games tournament learning model which appropriate to teach descriptive text focused in reading skills. The researcher gave post-test in experimental class on 29th and in control class on 30th April 2016.

B. Data Analysis

1. First Phase Analysis

The first analysis was meant to get a valid and reliable instrument for investigation. Try out tests were conducted for VIII B of MTs N Keling. Grade VIII B consists of 31 respondents. They were given a try out using the instrument that used as post-test in control and experimental class. The following is 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

There are thirty items number in try out. From the try out test that was conducted, it showed that fifteen reading item numbers were valid. For example, the item analysis of relevance was obtained $r(xy)$ 0.37 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 are as below.

Formula:

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

Criteria:

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

Calculation:

Below is the example of the item validity of number 1

Table 4.2

Item number one of try out test analysis

NO	CODE	X	Y	X ²	Y ²	XY
1	TO-01	0	20	0	400	0
2	TO-02	1	24	1	576	24
3	TO-03	1	22	1	484	22
4	TO-04	1	23	1	529	23
5	TO-05	1	23	1	529	23

6	TO-06	1	22	1	484	22
7	TO-07	1	21	1	441	21
8	TO-08	1	18	1	324	18
9	TO-09	1	20	1	400	20
10	TO-10	1	18	1	324	18
11	TO-11	1	22	1	484	22
12	TO-12	1	23	1	529	23
13	TO-13	1	22	1	484	22
14	TO-14	1	18	1	324	18
15	TO-15	1	19	1	361	19
16	TO-16	1	18	1	324	18
17	TO-17	1	14	1	196	14
18	TO-18	0	19	0	361	0
19	TO-19	1	14	1	196	14
20	TO-20	0	16	0	256	0
21	TO-21	1	11	1	121	11
22	TO-22	1	15	1	225	15
23	TO-23	1	17	1	289	17
24	TO-24	1	13	1	169	13
25	TO-25	1	13	1	169	13
26	TO-26	1	16	1	256	16
27	TO-27	0	13	0	169	0
28	TO-28	0	12	0	144	0
29	TO-29	0	16	0	256	0
30	TO-30	0	15	0	225	0
31	TO-31	0	11	0	121	0
SUM		23	548	23	10150	426

From the table, obtained data:

$$\begin{aligned}
 M_p &= \frac{\text{Total scores of student who get right answer on item number 1}}{\text{Total students who get right answers on item number 1}} \\
 &= \frac{426}{23} \\
 &= 18.52
 \end{aligned}$$

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

$$= \frac{548}{31}$$

$$= 17.67$$

$$P = \frac{\text{Total students who get right answer on item number 1}}{\text{Total of students}}$$

$$= \frac{23}{31}$$

$$= 0.74$$

$$q = 1 - 0.74 = 0.26$$

$$S_t = \sqrt{\frac{10150 - \frac{(548)^2}{31}}{31}} = 3.86$$

$$r_{pbi} = \frac{18.52 - 17.67}{3.86} \sqrt{\frac{0.74}{0.26}}$$

$$= 0.371$$

$r(xy)$ 0.371 for $\alpha = 5\%$ with $N = 31$, it would be obtained 0.355

Because r count $>$ r table, so the item number 1 is valid.

b. Reliability Analysis

After validity items was done, the next analysis was to test the reliability of instrument 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:

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:

$$k = 30$$

$$\sum pq = 6,2754$$

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

$$= \left(\frac{10150 - \frac{300304}{31}}{31} \right)$$

$$= 14.9282$$

$$r_{11} = \left(\frac{30}{30-1} \right) \left(\frac{14.9282 - 6,2754}{14.9282} \right)$$

$$= 0.5996 = 0.6$$

From the computation of reliability try out instruments, it was obtained 0.6, for α 5 % with N = 31. It was obtained 0.355. It can be concluded that the instruments used in this research is reliable. The result shows that 0,6as criteria in table above; it means that the items of instrument were medium.

c. Discriminating Power Analysis

The discriminating power of the fifteen 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.

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:

Below is the example of the computation of discriminating power on item number 1.

Table 4.5
Computation item number 1 reliability analysis

Top Group			Bottom Group		
No	Code	Score	No	Code	Score
1	TO-01	0	1	TO-18	0
2	TO-02	1	2	TO-19	1
3	TO-03	1	3	TO-20	0
4	TO-04	1	4	TO-21	1
5	TO-05	1	5	TO-22	1
6	TO-06	1	6	TO-23	1
7	TO-07	1	7	TO-24	1
8	TO-08	1	8	TO-25	1
9	TO-09	1	9	TO-26	1
10	TO-10	1	10	TO-27	0
11	TO-11	1	11	TO-28	0
12	TO-12	1	12	TO-29	0
13	TO-13	1	13	TO-30	0
14	TO-14	1	14	TO-31	0
15	TO-15	1			
16	TO-16	1			
17	TO-17	1			
Total		16	Total		7

$$\begin{aligned}
 D &= \frac{Ba}{Ja} - \frac{Bb}{Jb} \\
 &= \frac{16}{17} - \frac{7}{14} \\
 &= 0.44
 \end{aligned}$$

The result obtained $D = 0.44$

Because the result is in a place between $0.40 < D \leq 0.70$, so the item number 1 is good.

d. Difficult level Analysis

The computation of difficulty level of the thirty items analysis of reading, it was found that the difficulty level of number one is easy. The sample of computation is as follow.

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:

Below is the example of the computation of difficulty level on item number 2

$$\begin{aligned} P &= \frac{16+7}{31} \\ &= 0.74 \end{aligned}$$

Based on the criteria above, the result is between $0.70 \leq P < 1.00$, so item number 1 is easy.

2. Second Phase Analysis

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

a. Normality of Pre Test

Normality test is used to know whether the data is normally distributed or not. The researcher used Liliefors to find out the distribution data in normality test. The initial data used to normality test in pre-test. Criteria of test which used to significant level $\alpha = 5 \%$, rapprochement value was 0,886 and DF = 30 and 31. If $L_{count} < L_{table}$ so data was normal distributed and if $L_{count} > L_{table}$ so data was not normal distributed. Table about the result of normality test:

Table 4.6

The initial result of normality test

Group	L_{count}	DF	L_{table}	Criteria
Experiment	0,115	30	0,162	Normal
Control	0,114	31	0,159	Normal

On the table above, the normality test of initial data in experimental class (VIIA) for significant level $\alpha = 5\%$ with DF = 30, obtained $L_{count} = 0,115$ and $L_{table} = 0,162$. Because $L_{count} < L_{table}$, so the conclusion is the data was normal distributed.

Meanwhile normality test in control class (VII F) to a significant level of $\alpha = 5\%$ with DF = 31, obtained $L_{count} = 0,114$ and $L_{table} = 0,159$. Because $L_{count} < L_{table}$, so the conclusion is the data was normal distributed.

b. Homogeneity of Pre 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 is obtained that:

$$F = \frac{v_b}{v_k}$$

$$F = \frac{166.67}{137.12} = 1.22$$

Table 4.7

The initial result of homogeneity test

Class	Variance (S ²)	N	Df	F _{count}	F _{table}	Criteria
Experimental	166.67	30	29	1.22	1.84	Homogeneous
Control	137.12	31	30			

Based on the computation above it is obtained that F_{count} is lower than F_{table} so H_a accepted. It can be conclude 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 use 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 experimental class and control class.

Class	N	Average (X)	Variance (S ²)	Standard of deviation (S)	t _{table}	t _{count}	Criteria
Experimental	30	55.633	166.797	12.915	2,00	-0.205	Ho accepted
Control	31	56.290	137.218	11.714			

$$\begin{aligned}
 S^2 &= \frac{(n_1 - 1)s_1^2 + (n_2 - 1)s_2^2}{n_1 + n_2 - 2} \\
 &= \frac{(30-1) \quad 166.797 + (31-1) \quad 137.218}{30 + 31 - 2} \\
 &= \sqrt{159.910} \\
 &= 12.526 \\
 t_{\text{count}} &= \frac{55.633 - 56.290}{12.526 \sqrt{\frac{1}{30} + \frac{1}{31}}} \\
 &= -0.205
 \end{aligned}$$

With $\alpha = 5\%$ and $df = 31+30-2 = 59$, obtained $t_{count} 2.00$. Because t_{count} was lower than t_{table} and t_{count} was in H_a accepted territory ($-0.205 < 2.00$), so H_0 was accepted.

3. End Phase Analysis

It was done to answer hypothesis of this research. The end analysis presents the result of pre-test and post-test that was done both in experimental and control group. This analysis answered the research question “Is Teams Games Tournament Learning Model effective to improve students’ reading skill in descriptive text?” We can conclude Teams Games Tournament Learning Model is effective when the result of post-test of the experimental class (using teams games tournament) and control class (using conventional method) has significant differences or the assumption that those classes is equal.

a. Normality Test

The initial data used to normality test in post-test. Criteria of test yang which used to significant level $\alpha = 5\%$, liliefors value was 0,886 and $DF = 30$ and 31 . If $L_{count} < L_{table}$ so data was normal distributed and if $L_{count} > L_{table}$ so data was not normal distributed. We can look at table about the result of normality test:

Table 4.9

The final result of normality test

Group	L_{count}	DF	L_{table}	Criteria
Experimental	0,151	30	0,162	Normal

Control	0,157	31	0,159	Normal
---------	-------	----	-------	--------

On the table above, the normality test of initial data in experimental class (VIIA) for significant level $\alpha = 5\%$ with DF = 30, obtained $L_{\text{count}} = 0,15$ and $L_{\text{table}} = 0,162$. Because $L_{\text{count}} < L_{\text{table}}$, so the conclusion is the data was normal distributed.

Meanwhile normality test in control class (VII F) to a significant level $\alpha = 5\%$ with DF = 31, obtained $L_{\text{count}} = 0,157$ and $L_{\text{table}} = 0,159$. Because $L_{\text{count}} < L_{\text{table}}$, so the conclusion is 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 is obtained that:

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

$$F = \frac{70.56}{62.73}$$

$$= 1.12$$

Table 4.10

The final result of homogeneity test

Class	Variance (S^2)	N	Df	F_{count}	F_{table}	Criteria
-------	--------------------	---	----	--------------------	--------------------	----------

Experimental	62.73	30	29	1.12	1.84	Homogeneous
Control	70.56	31	30			

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

c. Hypothesis Test

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

$H_0: \mu_1 \leq \mu_2 \rightarrow$ it means there is no significant difference between the reading skill improvements of students who were taught by using Teams Games Tournament Learning Model.

$H_a: \mu_1 > \mu_2 \rightarrow$ it means there is significant difference between the reading skill improvement of students who were taught by using Teams Games Tournament Learning Model.

Formula:

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

$$\begin{aligned}
 S^2 &= \\
 &= \frac{(30-1) \cdot 62.72 + (31-1) \cdot 70.560}{30 + 31 - 2} = \\
 &= \sqrt{66.710} \\
 &= 8.168
 \end{aligned}$$

$$\begin{aligned}
 t_{\text{count}} &= \frac{73.967 - 69.613}{8.168 \sqrt{\frac{1}{30} + \frac{1}{31}}} \\
 &= 2.081
 \end{aligned}$$

With $\alpha = 5\%$ and $df = 30 + 31 - 2 = 59$, obtained $t_{\text{table}} 1.671$.

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	30	73.967	62.726	7.920	1.671	2.081	Ha accepted
Control	31	69.613	70560	8.400			

Based on the computation above, it was obtained that the average (\bar{X}) of post-test of the experimental class who are taught by using Teams Games Tournament Learning Model is 73.967 and standard deviation (S) is 7.920. While the average (\bar{X}) of post-test of the control class who taught by using non

using Teams Games Tournament Learning Model is 69.613 and standard deviation (S) is 8.400, with $df = 30+31-2 = 59$ by $\alpha = 5\%$, so obtained $t_{table} = 1.671$. From the result of calculation t-test $t_{count} = 2.081$. If compared between t_{count} and t_{table} , $t_{count} > t_{table}$. It means H_0 is rejected and H_a is accepted. There was a significance difference of average score from pre-test and post-test of control class. From the calculation of interaction A and F, there was a different significance between students who taught by using Teams Games Tournament Learning Model and students who taught by using non using Teams Games Tournament Learning Model.

C. Discussion

Before doing the research, try-out was done to measure that the instrument had validity, reliability, discriminating power analysis, and difficulty level analysis. The data was analysed, it showed that 15 items were valid. After doing the try-out, pre-test and post-test were given to the experimental and control classes. The data was collected, it was analysed statistically by using t test formula.

Having known the result of t value, and consulted it to the appropriate t table, it has been found that there is a significant difference between two groups. It indicates that the difference of two groups' mean probably did not happen accidentally. It could

be said in another way; this result means that the mean of students taught by using Teams Games Tournament learning model is higher than the mean of the students taught by conventional method (without teams games tournament).

Based on the post test score of the students related to their achievement on English descriptive text reading, it can also be seen that the mean between the two groups is different in which the experimental group's score (class VII A) is higher than the control one (class VII F). Meanwhile, it has been seen that at the first time before they were given the treatment, they were in equal capabilities and had equivalent level of competence.

That different result was caused by some factors that could be analysed through the teaching and learning they have experienced during the experiment. The higher mean score gained by the experimental group was caused by the students' activeness they have learned in class through teams games tournament learning model. As stated earlier that the activities offered in teams games tournament learning model allowed the experimental group (class VII A) to receive the teacher explanation and share their knowledge related to the descriptive text with the members of the group by the fun way. It might support the students to do their best in working out with the given subject matter. In contrary, it could be seen that the control group (class VII F) were merely taught by conventional method which is usually refers to the lecturing. The students received the

explanation only from one side that was from their teacher. The role of teacher, here, was said dominantly. This situation could not explore the students' cognitive potentials and their activeness maximally.

Based on the result of pre-test and post-test, it could be concluded:

Teams Games Tournament Learning Model can improve the students' mastery on reading descriptive text at the seventh grade VII of MTs N Keling in academic year of 2015/2016. It can be seen from the result of analysis by using t test formula:

1. Descriptive text reading achievement of experimental and control group before treatment is equal. It can be seen from the mean of pre-test of experimental class (55.63) and the mean of control group (56.29) before the treatment.
2. Descriptive text reading achievement of experimental group after treatment better than experimental group before treatment. It can be seen from the mean of post-test the experimental class (73.97) is higher than experimental class (69.61) before the treatment.
3. Descriptive text reading 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 class (56.29) is lower than the mean of post-test of control class (69.61) after the treatment.

4. Descriptive text reading achievement of experimental group after treatment is better than control group after treatment. It can be seen from the mean of post-test of the experimental class (73.99) is bigger than the mean of post-test of control class (69.61) 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 $t_{count} = 2.081 > t_{table} = 1.671$ at 0.05 level of significance with $df = 30 + 31 - 2 = 59$ by $\alpha = 5\%$, so obtained $t_{table} = 1.671$. From the result of calculation t-test $t_{count} = 2.081$. If compared between t_{count} and t_{table} , $t_{count} > t_{table}$. It means H_0 is rejected and H_a is accepted. There is a significance difference of average score from pre-test and post-test of control class. From the calculation of interaction A and F, there was a different significance between students who taught by using Teams Games Tournament Learning Model and students who taught by using non using Teams Games Tournament Learning Model.

D. The advantages of the Teams Games Tournament Learning Model

The following are the advantages of TGT:

1. TGT is a general cooperative learning model adaptable to most subjects and grade levels. TGT applies to most subjects and grade levels.
2. TGT emphasizes the use of group goals (in this case, recognition) in which teams can only achieve success if each team member can perform well on an independent assessment. This motivates team members to do a good job of teaching and assessing each other.
3. Students' boredom in learning descriptive text could be minimized. The treatment gave students different nuances in the teaching and learning process, so they were interested in the lesson.

E. Limitation of the Research

The researcher realizes that this research had not been optimally. There were constraints and obstacles faced during the research process. Some limitations of this research were:

1. The research was limited at MTs N Keling and just used class VII A and VIIF as sample. So, when the same research was conducted in another school it was still possible that different results will be gained.
2. Relative lack of experience and knowledge from the researcher, so the implementation process of this research was less smooth. But the researcher tried as good as possible to do this study according to guidance from the advisor.

Considering all those limitations, there was a need to do more research about teaching descriptive text reading using the same or different medium. So, the more optimal result will be gained.