CHAPTER IV
FINDING AND DISCUSSION

This chapter of two section, namely the finding and discussion of the research. The finding deals with the rate percentage of the students' score obtained through reading comprehension test. The discussion section deals with the explanation and interpetation about the findings.

4.1 Findings

The finding of this research deals with the classification of students' pre-test and post-test. To find out the answer of the problem statement, the writer administrated two tests they are pre-test and post-test. Pre-test was given in the first meeting before giving the students' treatment to know their prior knowledge on Reading Comprehension, while post-test was given after the treatment. The result of post-test can answer the question of this research to find out Jigsaw strategy can improving reading comprehension of the second grade of MTs AL-Qamar Kassa.

1. The result of the students' pre-test tabulated as follows:

Table 4.1 the students' score on pre-test

No	Name	Score (X_1)	X_1^2	Classification
1	Mirna sari	50	2500	Poor
2	Haspendi	45	2025	Poor
3	Ismail	50	2500	Poor
4	Rosda	30	900	Very poor
5	M.Arham	45	2025	Poor

Continuing of table 4.1

6	Dahlia	60	3600	Fair
7	Masniati	40	1600	Poor
8	Hasmal	65	4225	Fair
9	Amanda Anwar	40	1600	Poor
10	Sulbahri	55	3025	Poor
11	Arman	45	2025	Poor
12	Rais	55	3025	Poor
13	Nurlela	55	3025	Poor
14	Madra wati	70	4900	Good
15	Muh.Arif	30	900	Very poor
16	Ratni	50	2500	Poor
17	Nurhaliya	60	3600	Fair
18	Irsan	45	2025	Poor
19	Wahyuni	45	2025	Poor
20	Ridwan	50	2500	Poor
21	Nadia Utami Putri	55	3025	Poor
22	Nurjannah	40	1600	Poor
23	Salamat Riadi	50	2500	Poor
Jumlah		1130	57650	

The rate percentage was acquired by the students in pre-test reading comprehension. It has been mention in the previous chapter that after tabulation and analyzing the score into percentage. The score was classified into five levels as follow:

Table 4.2 The frequency and percentage of the result pre-test

No	Classification	Score	Frequency	Percentage %
1	Very good	80– 100	-	-
2	Good	66 – 79	1	4.35%
3	Fair	56 – 65	3	13.04%
4	Poor	40 – 55	17	73.91%
5	Very poor	<39	2	8.70%
Total			23	100%

(Source: Result of Research)

The table shows that, there is none of the students got the score "very good", 1 student (4.35%) got score "good", 3 students (13.04%) got the score "fair", 17 students (73.91%) got the score "poor", and 2 students (8.70%) got the score "very poor". From the table above it can be seen that student's ability in reading comprehension is still low.

The following are the process of calculation to find out the mean score and the standard deviation base on the calculation of students' score in pre-test.

Firstly, the writer calculated the mean score of the pre-test:

$$x = \frac{\sum X}{n}$$

$$x = \frac{1130}{23}$$

x = 49.13

Thus, the mean score (x_1) of pre-test is 49.13

Based on the result of the pre-test, the data showed that the mean score of pre-test was 49.13. From the analyzing, it could be seen that most of the 23 students' reding comprehension was still low because most of students gained poor score.

Secondly, the writer calculated the variance of the pre-test:

$$S^2 = \frac{\sum (x_i - \bar{x})^2}{(n-1)}$$

$$S^2 = \frac{2132.68}{(23-1)}$$

$$S^2 = \frac{2132.68}{22}$$

S^2 = 96.94

Thus, the result of the variance of the pre-test is 96.94

Thirdly, the writer calculated the standard deviation of the pre-test:

$$SD = \sqrt{\frac{\sum x^2 - \frac{(\sum x)^2}{n}}{n-1}}$$

$$SD = \sqrt{\frac{57650 - \frac{(1130)^2}{23}}{23-1}}$$

$$SD = \sqrt{\frac{57650 - \frac{1276900}{23}}{22}}$$

$$SD = \sqrt{\frac{57650 - 55517.39}{22}}$$

$$SD = \sqrt{\frac{2132.61}{22}}$$

$$SD = \sqrt{96.94}$$

Sd = 9.85

Thus, the result of the standard deviation of the pre-test is 9.85

After determining the mean score (X_1) of pre-test was 49.13 and standard deviation (SD) of the pre-test was 9.85, it could be seen that the students' reading comprehension were in a poor category.

2. the result of the students' score on post-test

Table 4.3 The result students' score on post-test

No	Name	Score (X_2)	X_2^2	Classification
1	Mirna sari	85	7225	Very good
2	Haspendi	85	7225	Very good
3	Ismail	90	8100	Very good
4	Rosda	70	4900	Good

Continuing of table 4.3

5	M.Arham	85	7225	Very good
6	Dahlia	90	8100	Very good
7	Masniati	80	6400	Very good
8	Hasmal	95	9025	Very good
9	Amanda Anwar	85	7225	Very good
10	Sulbahri	85	7225	Very good
11	Arman	85	7225	Very good
12	Rais	90	8100	Very good
13	Nurlela	90	8100	Very good
14	Madra wati	95	9025	Very good
15	Muh.Arif	75	5625	Good
16	Ratni	85	7225	Very good
17	Nurhaliya	90	8100	Very good
18	Irsan	80	6400	Very good
19	Wahyuni	80	6400	Very good
20	Ridwan	85	7225	Very good
21	Nadia Utami Putri	90	8100	Very good
22	Nurjannah	80	6400	Very good
23	Salamat Riadi	85	7225	Very good
Jumlah		1960	167800	

Table 4.4 frequency and percentage of the result post-test

No	Classification	Score	Frequency	Percentage %
1	Very good	80– 100	21	91.30%
2	Good	66 – 79	2	8.70%
3	Fair	56 – 65	-	-
4	Poor	40 – 55	-	-
5	Very poor	<39	-	-
Total			23	100%

(Source: Result of Research)

The table shows that, there were 2 students (8.70%) got score "good" none of the students got classification "fair, poor and very poor", and 21of the students (91.30%) got score "very good". From the table above it can be seen that student's ability in reading comprehension began to good.

Based on the table above, it showed that the rate percentage of the students' score achievement reading comprehension in post-test is varied. Twenty-one students got higher score and none of students got lowest score.

In this, the writer analyzed the data of students' score in post-test to know whether there is or there is no a significant difference of students' achievement before and after learning process by giving the treatmet.

Firstly, the writer calculated the mean score of the pre-test:

$$x = \frac{\sum X}{n}$$

$$x = \frac{1960}{23}$$

x = 85.21

Thus, the mean score (X_2) of post-test is 85.21.

Based on the result of the post-test, the data showed that the mean score of post-test was 85.21. From the analyzing, it could be seen that most of the 23 students' reding comprehension was very good because there was an improvement of students' score from pre-test to post-test.

Secondly, the writer calculated the variance of the post-test:

$$S^2 = \frac{\sum (x_2 - \bar{x})^2}{(n-1)}$$

$$S^2 = \frac{773.9143}{(23-1)}$$

$$S^2 = \frac{773.9143}{22}$$

S^2 = 35.17

Thus, the result of the variance of the post-test is 35.17

Thirdly, the writer calculated the standard deviation of the post-test:

$$SD = \sqrt{\frac{\sum x^2 - \frac{(\sum x)^2}{n}}{n-1}}$$

$$SD = \sqrt{\frac{167800 - \frac{(1960)^2}{23}}{23-1}}$$

$$SD = \sqrt{\frac{167800 - \frac{3841600}{23}}{22}}$$

$$SD = \sqrt{\frac{167800 - 167026.08}{22}}$$

$$SD = \sqrt{\frac{773.92}{22}}$$

$$SD = \sqrt{35.17}$$

SD = 5.9

Thus, the result of the standard deviation of the post-test is 5.9.

After determining the mean score (X_2) of post-test was 85.21 and standard deviation (SD) of the pre-test was 5.9, it could be seen that the students' reading comprehension were in a very good category.

According to data between the table 4.2 and 4.3 it can be seen that before giving treatment about materials of reading comprehension to improve the reading comprehension of the students is still limited. Some of them got fair classification score but when the researcher gave treatment to the students and gave post-test. None of them got fair classification. It means that the students' reading comprehension was improved.

Table 4.5 The mean score pre-test and post-test

Test	Mean Score	Classification
Pre-Test	49.13	Poor
Post-Test	85.21	Very good

From the result data above shows that the mean score obtained by the students was different. The result of post-test was higher that the pre-test. It's the proved by the mean score of the post-test 85.21 while the mean score of pre-test 49.13. It means that after gave treatment by using jigsaw strategy, the students score obtained improved and the classification was different. It porved that the classification of pre-test is poor than the classification of post test is good.

3. The work sheet of the calculation of the score on pre-test and post-test on the students' reading comprehension.

Table 4.6 The worksheet of the calculation score of pre-test and post-test

No	**X_1**	**X_2**	**X_1^2**	**X_2^2**	**D(X2_X1)**	**$D^2(X_2\_X_1)^2$**
1	50	85	2500	7225	35	1225
2	45	85	2025	7225	40	1600
3	50	90	2500	8100	40	1600
4	30	70	900	4900	40	1600
5	45	85	2025	7225	40	1600
6	60	90	3600	8100	30	900
7	40	80	1600	6400	40	1600
8	65	95	4225	9025	30	900
9	40	85	1600	7225	45	2025
10	55	85	3025	7225	30	900
11	45	85	2025	7225	40	1600

Continuing of table 4.6

12	55	90	3025	8100	35	1225
13	55	90	3025	8100	35	1225
14	70	95	4900	9025	25	625
15	30	75	900	5625	45	2025
16	50	85	2500	7225	35	1225
17	60	90	3600	8100	30	900
18	45	80	2025	6400	35	1225
19	45	80	2025	6400	35	1225
20	50	85	2500	7225	35	1225
21	55	90	3025	8100	35	1225
22	40	80	1600	6400	40	1600
23	50	85	2500	7225	35	1225
N	1130	1960	57650	167800	830	30500

(Source: Result of Research)

Table 4.7 Standard deviation

No	Test	Standard Deviation
1	Pre-test	9.63
2	Post-test	5.8

(Source: Result of Research)

The table above shows that standard deviation of the students on pre-test was 9.63 and standard deviation of the students on post-test was 5.8, it means the distance pre-test for each student's value with the average value in the class is far away. Post-test has begun to shrink the value of the distance. The smaller the standard deviation value means the value of each student is getting closer to the average value.

4. The result of computation of T-test value and T-table value was tabulated as follows:

Find out $\bar{D}$

$$D = \frac{\Sigma D}{N}$$

$$D = \frac{830}{23}$$

$$D = 36.08$$

The calculation of the T-test Value

$$t = \frac{\bar{D}}{\sqrt{\frac{\Sigma D^2 - \frac{(\Sigma D)^2}{N}}{N(N-1)}}} = \frac{36.08}{\sqrt{\frac{30500 - \frac{(830)^2}{23}}{23\,(23-1)}}} = \frac{36.08}{\sqrt{\frac{30500 - \frac{688900}{23}}{23\,(22)}}}$$

$$= \frac{36.08}{\sqrt{\frac{30500 - 29952.17}{506}}}$$

$$= \frac{36.08}{\frac{\sqrt{547.83}}{506}}$$

$$= \frac{36.08}{\sqrt{1.08}}$$

$$= \frac{36.08}{1.03}$$

$$t = 35.029$$

To find out (df) dependent sample

$$Df = N - 1$$

$$= 23 - 1$$

$$Df = 22$$

α= 2.074 and t-test value = 35.029

The data above means that it can be obtained on t or *t-table*. significance 0.05% was 2.074. If it compared with the result of(t_o = 35.029) so it can be known that is *t-test* higher than *t-table*.

2.074 < 35.029

Because the result of *t-test* is higher than *t-table*, so H_0 is rejected. It means that there is significance different in reading comprehension. Therefore, the efectiveness of this jigsaw strategy can be used on teaching English, specially teaching reading comprehension.

4.2 Discussion

The description of the data through the test explained in the previous section shows**:**

The research has been conducted since december 6th, 2018. The objective of this research was to find out the improvement of students' reading comprehension after applying jigsaw strategy at the students of MTs AL-Qamar Kassa, Kec. Kalukku, Kab. Mamuju. The result of data analyzing of the implementation of strategy jigsaw which aims to improve students' reading comprehension in MTs AL-Qamar Kassa, Kec. Kalukku, Kab. Mamuju. Consisting of 12 females and 11 males. Based on the research design in chapter III, in this research conducted pre-experiment design with pre-test and post-test design.

This research was done during when the researcher finishing three steps. First, the researcher gave pre-test to the students to know the students reading comprehension before giving the treatment. Then the researcher gave treatment to

the students. The treatment was given three times. In experiment class was given jigsaw strategy in teaching reading comprehension.

Teaching reading comprehension in experiment class by applying jigsaw strategy, the first the researcher gave some motivation to the students, so the students had motivation to study, after that the researcher gave direction about what the students had to do in learning process. Then the researcher asked some questions about the material which would be given to the students. The researcher did it to give stimulus to the students and to get students' attention. After all of that, the researcher gave hand book to the students to economizing the time and to make students are easy to follow the learning process. The researcher began explaining the material and giving directions on how to apply the jigsaw strategy.

After the material was given, the researcher gave time to read the narrative text which had given. After that, the researcher divided the students into some groups for applying jigsaw strategy. The students sat in their group and every group consisted of 4 members which given a label (students A, B, C, and D). After that, the researcher shared the material to be taught. The researcher asked each group to work together to understand the text narrative. After each group understand the narrative text , the researcher askeds the students to move the group from the original group to the expert group. After that, the researcher asked the students to wokr together again and then return to their respective home group.

During the activity, the researcher checked every group how active the members of the groups are. Then the researcher found some students which just silent or mention a few sentences, and some students wanted to get more attention from the researcher. So the researcher changed the technique. The researcher askeds

each group to retell alternately in their respective groups must give an assessment of their group friends about how much their friends understand. Finally, the researcher cokkected the results of the student's assessment of other students. After the researcher changed the technique, the students more active and mention many sentences than before. When all of groups have told money and given an assessment, the researcher reads the rack of students who get the highest score. After all the activities, the researcher gave motivation to the students to make the students are spirit to study, and for the student who got low rank to keep spirit in the next meeting, so they could get better rank than before. Applying jigsaw strategy was better in every meeting, and the students were easier to follow all the activities in every meeting than the first meeting.

At the last meeting, the researcher gave post-test to the students to know the result of the research. After all the activities above, the researcher calculated the data which was found. The data showed that using a jigsaw strategy can improve reading comprehension of MTs AL-Qamar Kassa.

Based on the previous description of research result above, showed that in pre-test, there is none of the students got the score "very good", 1 student (4.35%) got score "good", 3 students (13.04%) got the score "fair", 17 students (73.91%) got the score "poor", and 2 students (8.70%) got the score "very poor". While in post-test, there were 2 students (8.70%) got score "good" none of the students got classification "fair, poor and very poor", and 21of the students (91.30%) got score "very good". In pre-test, the mean score of the students was 49.13 while the mean score in post-test was 85.21. The data showed that the mean score of post-test was higher than the mean score of pre-test (49.13 < 85.21).

To prove the significant differences both the mean score of pre-test and post-test, the researcher applied t-test. The researcher used t-test to know the hypothesis which was accepted with 0,05 level of significant (α 5%). The degree of freedom for independent sample was $23 - 1 = 22$. Based on the data which was showed in previous finding, the result showed that t-test value was 35.029 and t-table value was 2.074. It meant that t-test value was higher than t-table value ($35.029 > 2.074$).

The result of the test showed that there was significant difference between t-test and t-table. The result indicated that the students who were taught by using jigsaw strategy was better. The students who thought by jigsaw strategy improved the students' reading comprehension better. It was because the students enjoyed learning process. By jigsaw strategy, the students were easy to get the materiel because they did not feel stress. The students feel happy because they feel easier and helped in the learning process, because they do not study on their own but they learn together and share knowledge. The students got the material that setting by the researcher. So, the researcher got the purpose. The students used the language in retelling the narrative texts they had learned. The students got many repetitions. In conclusion, by jigsaw strategy the students are motivated in studying. It looked when the students active and enthusiasm in learning process.

Based on the previous result. It shows to us that before giving them treatment (the jigsaw strategy), their avarage. It is provided by the mean score of post-test (85.21) was higher than the mean score of pre-test (49.13), this mean that the result of post-test is better than the result of pre-test of the average of the students' reading comprehension achievement improving after given treatment. It can be seen through the calculation of pre-test and post-test of t-test value (35.029) in which result of

computation of t-table value 2.074 in which N = 23 with degree freedom (df) = N – 1 = 23 – 1 = 22 for level significant 0.05 = 2.074.

From the explanation above. It can be inferred that there is significant difference between the student's reading comprehension before and after giving treatment through jigsaw strategy. It shows that the alternative hypothesis (Ha) is accepted and the null hypothesis (H_0) is rejected. It can be concluded that using jigsaw strategy able to improving reading comprehension students of MTs AL-Qamar Kassa.