

CHAPTER IV

RESULT AND DISCUSSION

In this study, the researcher will talk about the description, analysis, discussion, and conclusion of the data.

4.1 Data Description

The researcher using quasi-experimental research in this study, with two classes, one as the experimental class and one as the control class. Then, they are taught by applying several treatments to determine the effectiveness of a certain treatment. Students from SMP IT Nurul Ilmi were used as the population in this research. The researcher then used two classes as samples: an experimental class and a control class. There are 24 students in control class and 25 students in experiment class which has a total participation of 49 students. The test results of students who were taught using the Jeopardy game as the media and students who were taught without using the Jeopardy game as the media will be compared by the researcher at the conclusion of the research.

1. The Procedure of the Research in Experiment Class and Control Class

The researcher used the Jeopardy game to teach students in the experimental class. The learning process included in this study was done in three steps: pre-test, treatment, and post-test. The researcher taught students in the control class without using the Jeopardy game as media. The experimental class's learning process was replicated in a group of students.

The researcher gave a pre-test to both classes in order to ascertain the condition in each class before giving treatment to each class. A 20-item pre-test was given by the researcher. The multiple choice sections of the pre-test. The researcher gave both the experimental and control classes a post-test after giving the Jeopardy game therapy. Knowing the student's progress after treatment was given was the goal. The post-test has 20 items. The post-test is in multiple choice forms. The pre-test and item test were same.

2. Students Test Score of Experiment Class

The results of pre-test and post-test scores for students who were taught using the Jeopardy game will be shown below.

(Experimental Class)

Table 4.1

The Score of Experimental Class

No	Name	SCORE	
		Pre-test	Post-test
1	AKS	60	60
2	APR	80	85
3	AG	75	80
4	DAJS	80	90
5	FAS	60	65
6	FAFW	65	60
7	FDR	70	75
8	HAL	60	60
9	HAF	60	60
10	ISA	60	65
11	KMS	80	90
12	MAH	90	95
13	MRS	70	85
14	MSAZ	60	65
15	MAF	80	85
16	MHI	85	90
17	MRR	75	90
18	NKS	90	95
19	NHA	80	85
20	SKAN	80	85
21	SZ	90	90
22	TRD	75	85
23	YTS	70	70
24	BPP	60	70
25	RD	60	65
Total		1815	1945

According to the data above, the Experimental class's highest pre-test score is 90 and its lowest score is 60. The experimental class's highest score on the

post-test is 95, while its lowest is 60. The total score of the pre-test is 1815 meanwhile, the post-test total score is 1945.

3. Students Test Score of Control Class

The results of pre-test and post-test scores for students who were taught without using the Jeopardy game will be shown below.

(Control Class)

Table 4.2
The Score of Control Class

No	Name	SCORE	
		PRE-TEST	POST-TEST
1	AKPN	60	60
2	AYR	70	70
3	AFZ	65	65
4	AWS	65	65
5	DHF	70	75
6	DHF	60	60
7	DS	60	60
8	FHAP	70	75
9	GSN	60	65
10	HAB	75	80
11	HD	65	70
12	IYR	65	75
13	JRH	75	80
14	KMS	80	80
15	KARS	60	60
16	MFMS	60	60
17	MMM	75	80
18	MZAA	60	60
19	MZAN	75	85
20	NFG	70	75
21	QA	80	90
22	SK	75	75
23	AAP	70	75
24	MA	60	60
Total		1625	1700

Based on the data above, In the Control class, an 80 is the highest pre-test score, while a 60 is the lowest. On the post-test, the experimental class scored a highest score of 90 and a lowest score of 60. The pre-test total score was 1625, whereas the post-test total score was 1700.

Table 4.3

Description of the Results Studies

Statistics	Class	
	Experiment	Control
Mean	78,34	72,66
Standar Deviasi	167,63	8,83
Varians	12,94	78,07

The experimental class's mean, standard deviation, and variance differ from those of the control class, as shown in the table above. The taking tests class had a mean of 78.34, a standard deviation is 167.63 and a variance value is 12.94, while the control class had a mean of 72.66, a standard deviation is 8.83 and a variance value is 78.07.

1.2 Analysis of the Data

Before the researcher evaluated the hypothesis, the data had to pass the homogeneity and normality tests.

1. Test of Validity

The researcher used SPSS 16.0 and manual calculation in this research to assess the validity. With a 5% level of significance, the analyzed was used to figure out the r_{xy} and the consulted r_{table} . If the value of r_{xy} is higher than r_{table} , the item is valid. The item is invalid if the value of r_{xy} is lower than r_{table} . The researcher chose 26 respondents from class IX to evaluate the instrument's validity and reliability. According to the item validity test calculation, 4 question items are invalid (4, 10, 16, 14) and 16 question items are valid.

Validity is calculated as follows:

$$r_{hitung} = \frac{n(\sum XY) - (\sum X)(\sum Y)}{\sqrt{[n(\sum X^2) - (\sum X)^2][n(\sum Y^2) - (\sum Y)^2]}}$$

After getting the value of r_{hitung} , it is compared to the value of r_{table} at a significance level of 5%. As an example taken from item number 1 as follows,

Where:

$$\sum X = 95$$

$$\sum Y^2 = 155.025$$

$$\sum Y = 1.945$$

$$\sum XY = 7.725$$

$$\sum X^2 = 475$$

$$N = 25$$

$$r_{hitung} = \frac{n(\sum XY) - (\sum X)(\sum Y)}{\sqrt{[n(\sum X^2) - (\sum X)^2][n(\sum Y^2) - (\sum Y)^2]}}$$

$$r_{hitung} = \frac{25(7.725) - (95)(1.945)}{\sqrt{[25(475) - (95)^2][25(155.025) - (1.945)^2]}}$$

$$r_{hitung} = \frac{193.125 - (184.775)}{\sqrt{(11.875 - 9025)(3.875.625 - 3.783.025)}}$$

$$r_{hitung} = \frac{8350}{\sqrt{263.910.000}}$$

$$r_{hitung} = \frac{8350}{16.245.307}$$

$$r_{hitung} = 0,51399$$

$$r_{hitung} = 0,514$$

$$r_{hitung} (0,514) > r_{table} (0,396) = \text{valid}$$

The value of each item correlation coefficient obtained after calculating was then compared with r_{table} where the number of respondents were 25 and the

significance level of 5%, $r_{(table)} = 0.396$. With the proviso that the item is classified "invalid" if $r_{(hitung)} < r_{(table)}$ and "valid" if $r_{(hitung)} > r_{(table)}$ ". To simplify the process calculate the validity of this question used SPSS 16.0. The final results obtained with SPSS 16.0 are similar to calculations made using the product moment correlation formula. The following table shows the calculation results:

Table 4.4
Recapitulation Test Item Validity

No	r' arithmetic	r' table	Explanation
1	0,514	0,381	Valid
2	0,557	0,381	Valid
3	0,619	0,381	Valid
4	0,205	0,381	Invalid
5	0,549	0,381	Valid
6	0,446	0,381	Valid
7	0,128	0,381	Valid
8	0,556	0,381	Valid
9	0,446	0,381	Valid
10	0,128	0,381	Invalid
11	0,446	0,381	Valid
12	0,412	0,381	Valid
13	0,401	0,381	Valid
14	0,338	0,381	Invalid
15	0,546	0,381	Valid
16	0,303	0,381	Invalid
17	0,729	0,381	Valid
18	0,591	0,381	Valid
19	0,459	0,381	Valid
20	0,514	0,381	Valid

2. Test of Reliability

In this research, SPSS 16.0 was used by the researcher to measure the reliability. The analysis was conducted to determine the 'r' index reliability, and

the consulted rtable with a 5% significance level. The item is reliable if the value of 'r' index reliability is higher than rtable. The item is not reliable if the value of rxy is lower than rtable.

Table 4.5 Reliability Test

Reliability Statistics	
Cronbach's Alpha	N of Items
.635	21

Based on the calculations above, the students' reliability instrument has a reliability of 0.805. The r table is used to examine the reliability level at a 5% level of significance. The r table's value is 0,381. The test is reliable if the r index reliability value is 0,635 and more than the r table value of 0,396.

3. Normality Test

The normality test is used to determine if the data is normally distributed. Kolmogorov-Smirnov, Lilieforsc, and Chi Square are the three different forms of normality testing. The data in this research were calculated manually by the researcher using Lilieforsc:

a. Normality Test of Experimental Class

Table 4.6 Normality Test

CLASS EXPERIMENT						
X_i	F_i	F_k	Z_i	$F(z_i)$	$S(z_i)$	$[F(z_i) - S(z_i)]$
60	3	3	-1,41	0,0793	0,12	-0,0407

65	5	8	-1,03	0,1515	0,32	-0,1285
70	2	10	-0,64	0,2611	0,4	-0,1389
75	1	11	-0,25	0,4013	0,44	-0,0387
80	1	12	0,12	0,5478	0,48	0,0678
85	6	18	0,51	0,695	0,72	-0,025
90	5	23	0,9	0,8159	0,92	-0,1041
95	2	25	1,28	0,8997	1	-0,1003

Based on the above table, the value L_{hitung} (L_o) = 0.0678, whereas L_{table} for liliefors with the number of data samples (N) = 8 and actually rate data = 0.05 value L_{table} = 0.285. If the value L_{hitung} is compared with the L_{table} known value that $L_{hitung} < L_{table}$ = (0,0678 < 0,285). This means that the distribution of the student data in the experimental class may be distributed as normal.

b. Normality Test of Control Class

Table 4.7 Normality Test

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X_i	F_i	F_k	Z_i	$F(z_i)$	$S(z_i)$	$[F(z_i) - S(z_i)]$
60	7	3	-1,43	0,0764	0,29	-0,2136
65	3	10	-0,86	0,1949	0,41	-0,2151
70	2	12	-0,3	0,3821	0,5	-0,1179
75	6	18	0,26	0,6026	0,75	-0,1474
80	4	22	0,83	0,7967	0,91	-0,1133
85	1	23	1,39	0,9177	0,95	-0,0323
90	1	24	1,96	0,975	1	-0,025

Based on the above table, the value L_{hitung} (L_o) = 0.2151, whereas L_{table} = for liliefors with the number of data samples (N) = 7 and actually rate data = 0.05 value L_{table} = 0.300. If the value L_{hitung} is compared with the L_{table} known value that $L_{hitung} < L_{table}$ (0,2151 < 0,300). This means that the distribution of the student data in the experimental class may be distributed as normal.

4. Test of Homogeneity

The homogeneity test is used to determine whether or not the data was homogeneous. The researcher used SPSS 16.0 in this research to calculate the homogeneity test's value.. Below is a show of the calculated results:

$$F = \frac{\text{Biggest Variance}}{\text{Smaller Variance}}$$

$$F = \frac{167,63}{78,07}$$

$$F = 2,41$$

The homogeneity test value is 2,41 based on the table of the data. Therefore, if the F_{hitung} is smaller than the F_{table} (2,41 < 4,05) , the data can be characterized as homogeneous. The value shown 2,41 is smaller than F_{table} . It indicates that the information from the experimental class and the control class was homogeneous.

5. T-Test

After completing the homogeneity and normality tests, the researcher was testing a hypothesis. The T-test was used in this study to analyze the data. A type of statistical test called the T-test is used to evaluate a hypothesis in data. The

students proficiency in the simple present tense in two classrooms that were taught through different methods was compared.

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

$$S^2 = \frac{(25 - 1)167,63 + (24 - 1)78,07}{25 + 24 - 2}$$

$$S^2 = \frac{4.023,12 + 1.795,61}{47}$$

$$S^2 = \frac{5.818,73}{47}$$

$$S^2 = 123,80$$

So, $S = \sqrt{S^2}$

$$S = \sqrt{123,80}$$

$$S = 11,12$$

$$S = 11$$

$$t_{hitung} = \frac{\bar{X}_1 - \bar{X}_2}{s \sqrt{\frac{1}{n_1} + \frac{1}{n_2}}}$$

$$t_{hitung} = \frac{78,34 - 72,66}{11 \sqrt{\frac{1}{25} + \frac{1}{24}}}$$

$$t_{hitung} = \frac{78,34 - 72,66}{11 \sqrt{0,04 + 0,04}}$$

$$t_{hitung} = \frac{5,68}{11 \sqrt{0,08}}$$

$$t_{hitung} = \frac{5,68}{11 \cdot (0,08)}$$

$$t_{hitung} = \frac{5,68}{0,88}$$



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$$t_{hitung} = 6,45$$

Additionally, the results are compared to the values from the t distribution table with a confidence level of 95% of $\alpha = 0.05$ with $dk = n_1 + n_2 - 2 = 25 + 24 - 2 = 47$, where these values are not found in the t table, interpolation linear is used to find them, as shown below:

$$\begin{aligned} t_{table} &= t\left(\frac{1}{2} K\right) (n_1 + n_2 - 2) \\ &= t(0,95) : 120 = 1,658 \\ &= t(0,95) : 60 = 1,671 \\ &= t(0,95) : 47 = \dots? \end{aligned}$$

Where:

$$\begin{aligned} &= \frac{47-60}{120-47} = \frac{X-1,671}{1,658-1,671} \\ X &= 1,671 + \frac{47-60}{120-47} (1,658 - 1,671) \\ X &= 1,671 + \frac{-13}{73} (-0,013) \\ X &= 1,671 - 0,178 (-0,013) \\ X &= 1,671 + 0,00231 \\ X &= 1,6733 \end{aligned}$$

The value of t_{hitung} comes from the mentioned above interpolation calculations t_{table} or $t_{(0,95)(47)} = 1,6733$ can be obtained. Thus, $t_{hitung} > t_{table}$ ($6,45 > 1,6733$) so that it can be concluded that H_a is accepted and H_o is rejected, then it can be concluded that student learning result taught using Jeopardy Game media are higher than those with student learning taught using conventional methods.

4.2 Discussion

In this research, SMP IT Nurul Ilmi students in the eighth grade were used as the research subjects. The research's participants were 25 students. In this

research, the researcher used two types of tests: pre-test and post-test. Before beginning treatments, the researcher conducted a pre-test for the experimental class on August 2nd 2023 from 11:1 to 12:20 pm and for the control class on August 4th 2023 from 13:15 to 14:25 pm. The tests items for the pre-test consist of 20 multiple-choice questions with 4 alternative responses (a, b, c, and d). The experimental class's mean was 72,60, whereas the control class's mean was 67,70, according to the findings of the pretest.

The researcher conducted the treatment twice after the pretest. The first treatment was given on August 9th 2023, from 11:10 to 12:20 p.m. Four students were absent when the research presentation started, which was followed by introductions of the researcher and the students. Following that were the steps of the learning process. The researcher provided reading material on simple present-tense nominal phrases before employing the method. There are 21 students present for the teaching and learning process for the first treatment, which is on learning nominal sentences in the simple present tense. After introducing the class, the teacher discussed adjectives with the students, giving examples and explaining how to apply them. The second treatment's subject was learning verbal sentence in simple present tense, all students in attendance for the teaching and learning process. After introducing the class, the teacher discussed adjectives with the students, giving examples and explaining how to apply them.

The Jeopardy approach was used by the researcher as the material finished delivering. The researcher gave students an explanation of the technique's function. The researcher divides the class into groups, presents the picture subjects using Power Point, and includes five scores (ranging from 100 to 500) on the first page, along with any questions or hints that are hidden by the question mark. After the preparation is complete, the teacher tells the first set of students to raise their hands. The group is able to choose one subject and any number they want. The researcher will select a different group that quickly raises their hands if the group is unable to respond to the question or clue, the winning team is the one with the greatest total. After that, the researcher evaluated the students by randomly

selecting some of them to ask questions. The researcher concluded the first time they met.

The second meeting began on August 11, 2023, between 13:25 and 14:25. The researcher started the lesson with almost the same activities as she performed for the first treatment. However, the second meeting's study material focused on verbal sentence in simple present tense. Because the students were familiar with the technique and subject matter prior to the class, the second treatment was superior to the first. Because the Jeopardy method procedure was carried out better in the second treatment than in the first, students were more active and motivated in the learning process.

After completing all treatments, the researcher conducted a post-test to both the experimental and control class. The post-test was given on August 16th, 2023, from 11:10 to 12:25 am, and used the same test items for both the control and experimental classes. The test elements in the post-test include 20 multiple-choice questions with the following 4 options: a, b, c, and d. The results of the post-test showed the experimental class's mean score was 78,34 whereas the control class's was 72,66.

The results the student's pre- and post-test results showed that their posttest score was greater than their pretest score. The researcher used the data to calculate the gain score after collecting the pretest and posttest results. The data's normality was assessed using the gain score, and the findings showed that the data was normal. After finding that the data were normal, the researcher used the gain score to examine the data's homogeneity, and the results indicated that the data were homogenous.

From the results of the interpolation calculations listed above, the value of t_{table} or $t_{(0,95)(47)} = 1.6733$ can be obtained. Thus, $t_{hitung} > t_{table}$ ($6,45 > 1,6733$) so that it can be concluded that H_a is accepted and H_o is rejected, then it can be concluded that student learning result taught using Jeopardy Game media are higher than those with student learning taught using conventional methods.

The calculations above show that students who were taught using the Jeopardy game performed better than those who were not. As a result, it can be said that students in the eighth grade at SMP IT Nurul Ilmi in the academic year 2022–2023 who are taught using the Jeopardy game and those who are not show significantly different levels of achievement in simple present tense understanding.

