CHAPTER IV

DATA ANALYSIS AND DISCUSSION

A. Descriptions of Data

The data was analyzed use by quantitative data, they were taken from experiment research design, and there were sixty eight students who were taken as sample of this research. They were devided into two classes, experiment and control class. The students of experiment class were taught by using gallery walk technique and the students of control class were taught by using lecturing method. The population of this research is the students of the tenth grade students of SMKN 3 Serang City in the Academic Year of 2018/2019. The experiment class is X – Accounting-1 with 34 students and the control class is X – Accounting-2 with 34 students.

This research was conducted in three weeks, with two treatments which include four meeting. The test that given still relevant to the topic taught and discussed in the every classroom. The experiment and control class were given essay writing test on the pre-test and post-test. The result of the test score of students were showed in the table.

B. Data of Analyzing

Data analyzing is intended to find out whether the application of Gallery Walk Technique affects the students' ability in writing Announcement Text. The analyzing is computed by applying the t-test formula to discover the hypothesis of this research was accepted or rejected, before it the research should do requirement test at the first by using and normality test.

From writing test, the writer got two data, the first data is the result of pre-test and the second one is the result of post-test. Moreover, the result of post-test in experiment group is given name variable X1 and for control group is given name variable X2.

1. Normality Test

   Normality test is used to show that the sample data come from populations which have normal distribution. In this study, the writer used *Lilliefors* method to test normality data of post-test form experiment and control group. The below table illustrates the result of normality test as follows :

Table 4.1

The result of Post-test from Experiment Group (X1) and Control Group (X2)

NO	Participant	Experiment	Control
1	Student 1	78	78
2	Student 2	92	84
3	Student 3	81	86
4	Student 4	82	82
5	Student 5	81	76
6	Student 6	85	82
7	Student 7	42	88
8	Student 8	90	86
9	Student 9	75	69
10	Student 10	85	60
11	Student 11	89	76
12	Student 12	78	79
13	Student 13	95	88
14	Student 14	78	75
15	Student 15	78	87
16	Student 16	61	84
17	Student 17	78	76
18	Student 18	71	89
19	Student 19	82	81
20	Student 20	92	86
21	Student 21	82	86
22	Student 22	65	86

23	Student 23	80	84
24	Student 24	80	84
25	Student 25	84	85
26	Student 26	66	81
27	Student 27	95	45
28	Student 28	81	72
29	Student 29	84	74
30	Student 30	87	76
31	Student 31	78	82
32	Student 32	64	76
33	Student 33	82	83
34	Student 34	84	58
Total		**ǵX1 = 2705**	**ǵX2 = 2684**
N = 34 (Students)		**M1 = 79.5**	**M2 = 78.9**

Based on the table 4.1 above, the students' ability in writing announcement text after taught by using Gallery Walk Technique showed the result of sum from post-test for experiment class is ∑X1 = 2705 with mean of $\frac{\sum X1}{N_1}$ = M1 or $\frac{2705}{34}$ = 79.5 and the result of sum from post-test for control class is ∑X2 = 2684 with mean of $\frac{\sum X2}{N_2}$ = M2 or $\frac{2684}{34}$ = 78.9.

And then, for the data from result of pre-test were use in the material process of collecting the data to discover students writing score whether they can reach the minimum standard criteria (KKM). The result of Pre-test from Experiment Group and Control Group can be seen in Appendix 1.

From the data above, it can be made an assistant table to find out standard deviation as follows :

Table 4.2

Assistant Table for Experiment Group

Respondent	X	F	FX	X1	X^2	FX^2
1	42	1	42	-37.5	1.406.25	1.406.25
2	61	1	61	-18.5	342.25	342.25
3	64	1	64	-15.5	240.25	240.25
4	65	1	65	-14.5	210.25	210.25
5	66	1	66	-13.5	182.25	182.25
6	71	1	71	-8.5	72.25	72.25
7	75	1	75	-4.5	20.25	20.25
8	78	6	78	-1.5	2.25	13.5
9	80	2	160	0.5	0.25	0.5
10	81	3	243	1.5	2.25	6.75
11	82	4	328	2.5	6.25	25
12	84	3	252	4.5	20.25	60.75

13	85	2	170	5.5	30.25	60.5
14	87	1	87	7.5	56.25	56.23
15	89	1	89	9.5	90.25	90.25
16	90	1	90	10.5	110.25	110.25
17	92	2	184	12.5	156.25	312.5
18	95	2	190	15.5	240.25	480.5
Total		**34**	**2705**			**3690.5**
			79.5			
SD			**10.4**			

Determining mean of experiment group (X1) by using formula as follows :

$$\overline{X} = \frac{\sum FX}{N}$$

$$\overline{X} = \frac{2705}{34} = 79.5$$

Counting standard deviation of experiment group (X1) by using formula as follows:

$$SD = \sqrt{\frac{\sum FX}{N}}$$

$$SD = \sqrt{\frac{3690.5}{34}}$$

SD = $\sqrt{108.5}$ = 10.4

Furthermore, the data the table 4.2 above are used to text of normality by using *Lilliefors* method as follows :

Table 4.3

Normality Test of Experiment Group

NO	X1	Z	F(Z)	S(Z)	(F(Z) – S(Z))
1	42	-3.60	0.0002	0.02	0.0198
2	61	-1.77	0.0384	0.05	0.0116
3	64	-1.49	0.0681	0.08	0.0119
4	65	-1.39	0.0823	0.11	0.0277
5	66	-1.29	0.0985	0.14	0.0415
6	71	-0.81	0.209	0.17	0.039
7	75	-0.43	0.336	0.20	0.1336
8	78	-0.14	0.4443	0.23	0.2143
9	78	-0.14	0.4443	0.26	0.1843
10	78	-0.14	0.4443	0.29	0.1543
11	78	-0.14	0.4443	0.32	0.1243
12	78	-0.14	0.4443	0.35	0.0943
13	78	-0.14	0.4443	0.38	0.0643
14	80	0.04	0.484	0.41	0.074
15	80	0.04	0.484	0.44	0.044
16	81	0.14	0.443	0.47	0.0257
17	81	0.14	0.443	0.5	0.0557
18	81	0.14	0.443	0.52	0.0757

19	82	0.24	0.4052	0.55	0.1448
20	82	0.24	0.4052	0.58	0.1748
21	82	0.24	0.4052	0.61	0.2048
22	82	0.24	0.4052	0.64	0.2348
23	84	0.43	0.336	0.67	0.3364
24	84	0.43	0.336	0.70	0.3664
25	84	0.43	0.336	0.73	0.3964
26	85	0.52	0.3015	0.76	0.4285
27	85	0.52	0.3015	0.79	0.4885
28	87	0.72	0.2358	0.82	0.5842
29	89	0.91	0.1814	0.85	0.6686
30	90	1.00	0.1587	0.88	0.7213
31	92	1.20	0.1151	0.91	0.7949
32	92	1.20	0.1151	0.94	0.8249
33	95	1.49	0.0681	0.97	0.9019
34	95	1.49	0.0681	1	0.9319

Determining Z score by using formula as follows :

$$Z = \frac{X1 - \overline{X}}{SD}$$

1. $Z = \frac{42 - 79.5}{10.4} =$ -3.60

2. $Z = \frac{61 - 79.5}{10.4} =$ -1.77

3. $Z = \frac{64 - 79.5}{10.4} =$ -1.49

4. $Z = \frac{65 - 79.5}{10.4} =$ -1.39

5. $Z = \frac{66 - 79.5}{10.4} =$ -1.29

To find out S(Z) using formula as follows :

S(Z) = $\frac{Student}{N}$

1. S(Z) = $\frac{1}{34} = 0.02$

2. S(Z) = $\frac{2}{34} = 0.05$

3. S(Z) = $\frac{3}{34} = 0.08$

4. S(Z) = $\frac{4}{34} = 0.11$

5. S(Z) = $\frac{5}{34} = 0.14$

From computation of the table 4.2 above, it can be concluded that mean score is 79.5 and standard deviation is 10.4. Moreover, based on normality test of experiment group in the table 4.3 showed that the $L_0 score = 0.0557$ is middle of value, with significance 5% = 0.05 that is 1.67 from the table of *Lilliefors* $L_t = 0.886$ it because the students >30. it show that L_0 (0.0557) < L_t (0.886). It means the sample data of experiment group has normal distribution and can use for research data.

In addition, for control group, the table below shows the calculation of normality test as follows :

Table 4.4

Assistant Table for Control Group

Respondent	X	F	FX	X2	X^2	FX^2
1	45	1	45	-33.9	1.149.26	1.149.26
2	58	1	58	-20.4	416.16	416.16
3	60	1	60	-18.4	338.56	338.56
4	69	1	69	-9.4	88.36	88.36
5	72	1	72	-6.4	40.96	40.96
6	74	1	74	-4.4	19.36	19.36
7	75	1	75	-3.4	11.56	11.56
8	76	5	380	-2.4	5.76	1.149.21
9	78	1	78	-0.4	0.16	0.16
10	79	1	79	0.6	0.36	0.36
11	81	2	162	2.6	6.76	13.52
12	82	3	246	3.6	12.96	38.88
13	83	1	83	4.6	21.16	21.16
14	84	4	336	5.6	31.36	125.44
15	85	1	85	6.6	43.56	43.56
16	86	5	430	7.6	57.76	288.8
17	87	1	87	8.6	73.96	73.96
18	88	2	176	9.6	92.16	184.32
19	89	1	89	10.6	112.36	112.36

Total	**34**	**2684**			**2.995.49**
		78.9			
SD		**9.3**			

Determining mean of control group (X2) by using formula as follows :

$$\overline{X} = \frac{\sum FX}{N}$$

$$\overline{X} = \frac{2684}{34} = 9.3$$

Counting standard deviation of experiment group (X1) by using formula as follows:

$$SD = \sqrt{\frac{\sum FX}{N}}$$

$$SD = \sqrt{\frac{2995.4}{34}}$$

$$SD = \sqrt{88.10} = 9.3$$

Furthermore, the data above are used to text of normality by using Lilliefors method as follows :

Table 4.5

Normality Test of Control Group

NO	X2	Z	F(Z)	S(Z)	(F(Z) – S(Z))
1	45	-3.64	0.0001	0.02	0.0199
2	58	-2.24	0.0125	0.05	0.0375
3	60	-2.03	0.0212	0.08	0.0588
4	69	-1.6	0.1446	0.11	0.0346
5	72	-0.74	0.2297	0.14	0.0897
6	74	-0.52	0.3015	0.17	0.1315
7	75	-0.41	0.3409	0.20	0.1409
8	76	-0.31	0.3783	0.23	0.1483
9	76	-0.31	0.3783	0.26	0.1183
10	76	-0.31	0.3783	0.29	0.0883
11	76	-0.31	0.3783	0.32	0.0583
12	76	-0.31	0.3783	0.35	0.0283
13	78	-0.00	0.5	0.38	0.12
14	79	0.01	0.496	0.41	0.086
15	81	0.22	0.4129	0.44	0.0271
16	81	0.22	0.3707	0.47	0.0571
17	82	0.33	0.3707	0.5	0.1293
18	82	0.33	0.3707	0.52	0.1493
19	82	0.33	0.3707	0.55	0.1793
20	83	0.44	0.33	0.58	0.25
21	84	0.54	0.2946	0.61	0.3154
22	84	0.54	0.2946	0.64	0.3454

23	84	0.54	0.2946	0.67	0.3754
24	84	0.54	0.2946	0.70	0.4036
25	85	0.65	0.2578	0.73	0.4722
26	86	0.76	0.2236	0.76	0.5364
27	86	0.76	0.2236	0.79	0.5664
28	86	0.76	0.2236	0.82	0.5964
29	86	0.76	0.2236	0.85	0.6264
30	86	0.76	0.2236	0.88	0.6564
31	87	0.87	0.1922	0.91	0.7178
32	88	0.97	0.166	0.94	0.774
33	88	0.97	0.1423	0.97	0.8277
34	89	1.08	0.1423	0.1	0.0423

Determining Z score by using formula as follows :

$$Z = \frac{X2 - \overline{X}}{SD}$$

1. $Z = \frac{45 - 78.9}{9.3} =$ -3.64
2. $Z = \frac{58 - 79.5}{10.4} =$ -2.24
3. $Z = \frac{60 - 78.9}{9.3} =$ -2.03
4. $Z = \frac{69 - 78.9}{9.3} =$ -1.06
5. $Z = \frac{72 - 78.9}{9.3} =$ -0.74

To find out S(Z) using formula as follows :

$$S(Z) = \frac{Student}{N}$$

1. $S(Z) = \frac{1}{34} = 0.02$
2. $S(Z) = \frac{2}{34} = 0.05$
3. $S(Z) = \frac{3}{34} = 0.08$
4. $S(Z) = \frac{4}{34} = 0.11$
5. $S(Z) = \frac{5}{34} = 0.14$

From computation of the table 4.4 above, it can be concluded that mean score is 78.9 and standard deviation is 9.3. Moreover, based on normality test of control group in the table 4.5 showed that the $L_o score = 0.1293$ is middle of value, with significance 5% = 0.05 that is 1.67 from the table of *Lilliefors* $L_t = 0.886$ it because the students >30. It show that L_o (0.1293) < L_t (0.886). It means the sample data of control group has normal distribution and can use for research data.

2. Hypothesis Test

After testing normality and getting the data from post-test score from both groups, then the writer analyzed those mentioned data by using t-test formula as follows :

Table 4.6

The Calculation Scores of Experiment and Control Group

NO	X1	X2	x_1	x_2	X_1^2	X_2^2
1	78	78	-1.5	-0..4	2.25	0.16
2	92	84	12.5	5.6	156.25	31.36
3	81	86	1.5	7.6	2.25	57.76
4	82	82	2.5	3.6	6.25	12.96
5	81	76	1.5	-2.4	2.25	5.76
6	85	82	5.5	3.6	30.25	12.96
7	42	88	-37.5	9.6	1.406.25	92.16
8	90	86	10.5	7.6	110.25	57.76
9	75	69	-4.5	-9.4	20.25	88.36
10	85	60	5.5	-18.4	30.25	338.56
11	89	76	9.5	-2.4	90.25	5.76
12	78	79	-1.5	0.6	2.25	0.36
13	95	88	15.5	9.6	240.25	92.16
14	78	75	-1.5	-3.4	240.25	11.56
15	78	87	-1.5	8.6	240.25	73.96
16	61	84	-18.5	5.6	342.25	31.36
17	78	76	-1.5	-2.4	240.25	5.76
18	71	89	-8.5	10.6	72.25	112.36
19	82	81	2.5	2.6	6.25	6.76
20	92	86	12.5	7.6	156.25	57.76
21	82	86	2.5	7.6	6.25	57.76
22	65	86	-14.5	7.6	210.25	57.76

23	80	84	0.5	5.6	0.25	31.36
24	80	84	0.5	5.6	0.25	31.36
25	84	85	4.5	6.6	20.25	43.56
26	66	81	-13.5	2.6	182.25	6.76
27	95	45	15.5	-33.9	240.25	1.149.21
28	81	72	1.5	-6.4	2.25	40.96
29	84	74	4.5	-4.4	20.25	19.36
30	87	76	7.5	-24	56.25	5.76
31	78	82	-1.5	3.6	2.25	12.96
32	64	76	-15.5	-2.4	240.25	5.76
33	82	83	2.5	4.6	6.25	21.16
34	84	58	4.5	-20.4	20.25	416.16
	ǵX1 = 2705	**ǵX2 = 2684**	**ǵX_1 = 0**	**ǵX_2 = 0**	**ǵX_1^2 = 4404.5**	**ǵX_1^2 = 2995.49**

From the table above, the writer obtained data as follow ∑X1 = 2705, ∑X2 = 2684, $\sum X_1^2$ = 4404.5, and $\sum X_2^2$ = 2995.49. Moreover, the writer compare the result of post-test from both group by using t-test formula as follows :

$$t_0 = \frac{M_1 - M_2}{\sqrt{\left(\frac{\sum x_1^2 + \sum x_2^2}{N_1 + N_2 - 2}\right)\left(\frac{N_1 + N_2}{N_1 . N_2}\right)}}$$

$$t_0 = \frac{79.5 - 78.9}{\sqrt{\left(\frac{4404.5 + 2995.49}{34 + 34 - 2}\right)\left(\frac{34 + 34}{34.34}\right)}}$$

$$t_0 = \frac{0.6}{\sqrt{\left(\frac{7399.99}{66}\right)\left(\frac{68}{1156}\right)}}$$

$$t_0 = \frac{0.6}{\sqrt{(112.1)\,(0.05)}}$$

$$t_0 = \frac{0.6}{\sqrt{5.60}}$$

$$t_0 = \frac{0.6}{\sqrt{2.36}}$$

$= 0.25$

The result above showed about the calculating t-test after researcher got the data from M1, M2, $\sum x_2^1$, $\sum x_2^1$. The researcher calculated the data based on the formula above.

Determining the degree of freedom, with formula :

$Df = N_1 + N_2 - 2$

$= 34 + 34 - 2$

$= 66$

The result above showed the score of sample both experiment and control class. The researcher used 68 students as sample for this research. 34 students are from X Accounting-1 as Experiment Class and 34 students are from X Acoounting-2 as Control Class.

Based on the calculation above, t-test has been tested in calculating is 0.25 and degree of freedom is 66, the writer uset closest “df” from 68 – 2 = 66. And then, after doing t-test, the writer compared t_t with t_0 on degree of significance 5% that is 1.67 Therefore, the result of t-test are $t_t < t_0$ or $0.25 < 1.67$. In brief, t-test shows that H_a or alternative hypothesis is rejected. Meanwhile, H_0 or null hypothesis is accepted. To sum up, the writer concludes that there is no effect between group using Gallery Walk Technique and group not using Gallery Walk Technique in the ability writing announcement text.