

## **CHAPTER IV**

### **RESULT OF THE STUDY**

This chapter discussed the result of the study which consist of the data finding and discussion.

#### **A. Description of the Data**

This section described the obtained data of the difference in the english vocabulary mastery by Eleventh Graders of Social Science Class and Natural Science Class at SMAN-1 Kapuas Hilir. The presented data consist of Mean, Median, Modus, reliability value, and Standard Deviation.

#### **1. The Mastery of Students on English Vocabulary Between Social Science Class and Natural Science Class of Eleventh Graders of SMAN 1 Kapuas Hilir**

##### **a. The Description of the Data of Students in Social Science Class**

The data presentation of the score of the students Social Scienceshows in the table frequency distribution, the chart of frequency distribution, the measurement of central tendency (mean, median, and mode) and the measurement of deviation standard.

**Table. 4.1 Description Data of Social Science Class**

No	Name	Value	Range
1	D	70	B
2	JS	74	B
3	S	58	D
4	IR	58	D

5	MR	70	B
6	A	68	C
7	JR	66	C
No	Name	Value	Range
8	RM	70	B
9	AR	66	44
10	NA	82	A
11	TBY	82	A
12	TKS	72	B
13	M	74	B
14	AR	68	C
15	YH	70	B
16	S	74	B
17	Z	78	B
18	YK	78	B
19	AP	82	A
20	CSD	72	B
21	YFA	62	C
22	WK	68	C
23	J	88	A
24	S	86	A
25	AP	76	B
26	MR	76	B
27	M	54	D
28	H	74	B
29	MH	82	A
30	EO	66	C
31	LD	74	B
32	A	82	A
33	T	84	A
34	DM	80	A
35	WE	72	B
36	M	76	B
37	IS	70	B
38	R	68	C
39	S	58	D

40	DA	84	A
Total		2912	

Based on the data above, it can be seen that the students' highest score was 88 and the student's lowest score was 54. To determine the range of score, the class interval, and interval of temporary, the writer calculated using formula as follows:

The Highest Score (H) = 88

The Lowest Score (L) = 54

$$\begin{aligned} \text{The Range of Score (R)} &= H - L + 1 \\ &= 88 - 54 + 1 \\ &= 35 \end{aligned}$$

$$\begin{aligned} \text{The Class Interval (K)} &= 1 + (3.3) \times \text{Log } n \\ &= 1 + (3.3) \times \text{Log } 40 \\ &= 1 + 4,293399 \\ &= 5,293399 \\ &= 5 \end{aligned}$$

$$\begin{aligned} \text{Interval of Temporary (I)} &= \frac{R}{K} = \frac{35}{5} \\ &= 7 \end{aligned}$$

Thus, the range of score was 35, the class interval was 5, and interval of temporary was 7. It was presented using frequency distribution in the following table:

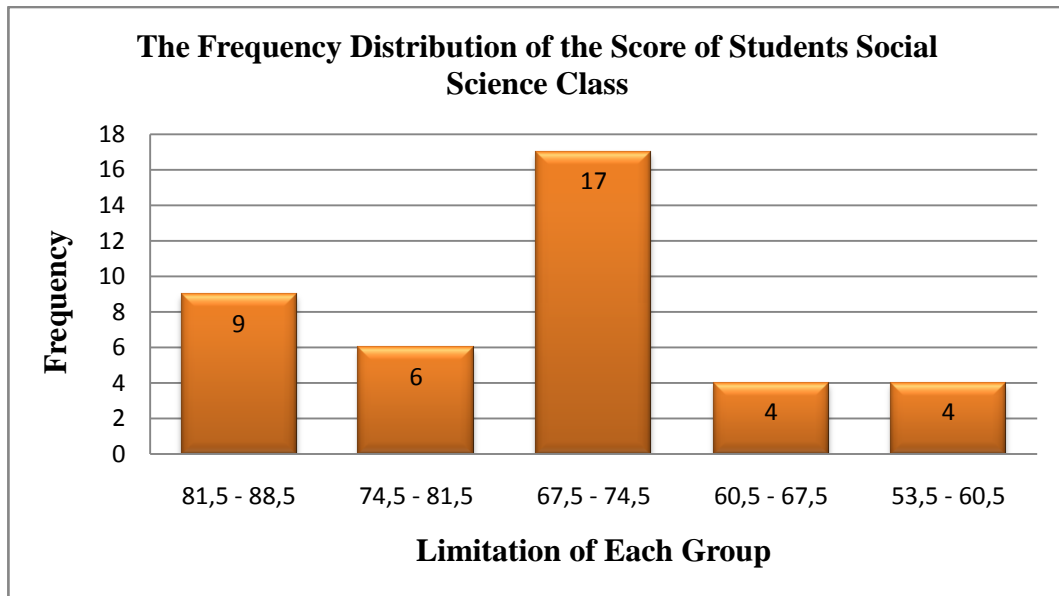
**Table 4.2 Frequency Distribution of Social Science Class Test Score**

<b>Class (K)</b>	<b>Interval (I)</b>	<b>Frequency (F)</b>	<b>Mid Point</b>	<b>Limitation of Each</b>	<b>Frequency Relative</b>	<b>Frequency Cumulative</b>
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			(X)	Group	(%)	(%)
1	82– 88	9	85	81,5 – 88,5	45	45
2	75– 81	6	78	74,5 – 81,5	30	75
3	68– 74	17	71	67,5 – 74,5	85	160
4	61– 67	4	64	60,5 – 67,5	20	180
5	54– 60	4	57	53,5 – 60,5	20	200
Total		$\Sigma F = 40$			$\Sigma P = 200$	

The distribution of the score of students Social Science can also be seen in the following Chart.

**Figure 4.3 The Frequency Distribution of the Score of Students in Social Science Class**



According to the chart, the writer found that there are five kinds of frequency in distribution score of students in social science class, there are 53,5 – 60,5. 60,5 – 67,5. 67,5 – 74,5. 74,5 – 81,5. 81,5 – 88,5. There are 9 students who get the score 81,5 – 88,5, there are 6 students who get the

score in 74,5 – 81,5, there are 17 students who get the score in 67,5 – 74,5, there are 4 students who get score in 60,5 – 67,5, and there are 4 students who get the score in 53,5 – 60,5. It means that the frequency distribution of the score of students in social class mostly occurred in 67,5 – 74,5.

The next step, the writer tabulated the scores into the table for the calculation of mean, median and modus as follows :

**Table 4.4 The Calculation of Mean, Median and Modus of Students in Social Science Class Test Score**

Interval (I)	Frequency (F)	Mid Point (x)	Fx	X'	FX'	Fka	Fkb
82– 88	9	85	765	2	18	9	40
75– 81	6	78	468	1	6	15	31
68– 74	17	71	1207	0	0	32	25
61– 67	4	64	256	-1	-4	36	8
54– 60	4	57	228	-2	-8	40	4
	N=40		$\sum Fx=2914$		$\sum FX'=12$		

1) Mean

$$\begin{aligned} Mx &= \frac{\sum fx}{N} \\ &= \frac{2914}{40} \\ &= 72,85 \end{aligned}$$

2) Median

$$\begin{aligned} Mdn &= \ell + \frac{\frac{1}{2}N - f_{kb}}{f_i} X i \\ &= 67,5 + \frac{20-8}{17} X 7 \\ &= 67,5 + \frac{12}{17} X 7 \end{aligned}$$

$$= 67,5 + 4,941$$

$$= 72,441$$

3) Modus

$$\text{Mo} = u - \left( \frac{fb}{fa+fb} \right) xi$$

$$= 74,5 - \left( \frac{4}{6+4} \right) x7$$

$$= 74,5 - \left( \frac{28}{10} \right)$$

$$= 74,5 - 2,8$$

$$= 71,7$$

4) Reliability

$$r_{xx} = \frac{Ks_x^2 - X(K-\bar{X})}{s_x^2(K-1)}$$

$$= \frac{(50) - 68,965^2 - 73,1(50 - 73,1)}{68,965^2(50 - 1)}$$

$$= \frac{237808,56125 + 1,688,61}{233052,390025}$$

$$= 1,020$$

The calculation above shows that the mean value was 73,1, median value was 72,441, modus value was 71,7, and reliability value was 1,020. So, the test is reliable because  $r_{\text{test}} = 1,020$  and  $r_{\text{table}}$  is 0,312. So  $r_{\text{test}} 1,020 > r_{\text{table}} 0,312$  and the test is reliable.

Then, the writer tabulated the scores of student's Social Science Class into the table for the calculation of standard deviation as follows:

**Table 4.5 The Calculation of Standard Deviation of the Students in Social Science Class Test Score**

Interval (I)	Frequency (F)	Mid Point (X)	X'	Fx'	X' <sup>2</sup>	Fx' <sup>2</sup>
82– 88	9	85	2	18	4	36
75– 81	6	78	1	6	1	6
68– 74	17	71	0	0	0	0
61– 67	4	64	-1	-4	1	4
54– 60	4	57	-2	-8	4	16
<b>Total</b>	$\sum F = 40$			$\sum Fx' = 12$		$\sum Fx'^2 = 62$

### Standard Deviation

$$\begin{aligned}
 SD &= i \frac{\sqrt{\sum fx'^2}}{N} - \frac{\sqrt{(\sum fx')^2}}{N} \\
 &= 7 \frac{\sqrt{62}}{40} - \frac{\sqrt{(12)^2}}{40} \\
 &= 7 \sqrt{1,55 - 0,3^2} \\
 &= 7 \sqrt{1,55 - 0,09} \\
 &= 7 \sqrt{1,371} \\
 &= 7 \times 1,170897092 \\
 &= 8,196
 \end{aligned}$$

The tabulation above shows that the value of standard deviation is 8,196. Standard deviation used to measure the dissemination of the students

mean score, the result of the standard deviation is 8,196. It means that the students mean score is dissemination.

**b. The Description of the Data of Students in Natural Science Class**

The data presentation of the score of the students Nature Science is shows the table frequency distribution, the measurement of central tendency (mean, median, and mode) and the measurement of deviation standard. In order to analyze the vocabulary mastery by students Natural Science, it can be first distributed by the following table:

**Table 4.6 Description Data of Natural Science Class**

No	Name	Value	Range
1	ARA	66	C
2	H	74	B
3	SR	78	B
4	TDS	64	C
5	MB	60	C
6	IK	58	D
7	OH	80	A
8	TO	58	D
9	Y	62	C
10	DLP	76	B
11	M	72	B
12	IPA	76	B
13	WA	74	B



14	CA	78	B
15	T	60	C
16	NS	68	C
17	AD	74	B
18	NSK	76	B
19	L	50	D
20	RG	54	D
21	SHN	66	C
22	A	64	C
23	WWA	62	C
24	Y	68	C
25	P	64	C
26	I	56	D
27	NH	80	A
28	S	56	D
29	N	60	C
30	W	84	A
31	MA	80	A
32	GAT	82	A
33	SJ	50	D
34	YA	70	B
35	W	70	B
No	Name	Value	Range
36	KA	66	C
37	JL	70	B
38	MP	72	B
39	AK	70	B
40	SA	82	A
Total		2730	

Based on the data above, it can be seen that the students' highest score is 84 and the student's lowest score is 50. To determine the range of

score, the class interval, and interval of temporary, the writer calculated using formula as follows:

$$\text{The Highest Score (H)} = 84$$

$$\text{The Lowest Score (L)} = 50$$

$$\begin{aligned} \text{The Range of Score (R)} &= H - L + 1 \\ &= 84 - 50 + 1 \\ &= 35 \end{aligned}$$

$$\begin{aligned} \text{The Class Interval (K)} &= 1 + (3.3) \times \text{Log } n \\ &= 1 + (3.3) \times \text{Log } 40 \\ &= 1 + 4,293399 \\ &= 5,293399 \\ &= 5 \end{aligned}$$

$$\begin{aligned} \text{Interval of Temporary (I)} &= \frac{R}{K} = \frac{35}{5} \\ &= 7 \end{aligned}$$

Thus, the range of score is 35, the class interval is 5, and interval of temporary is 7. It is presented using frequency distribution in the following table:

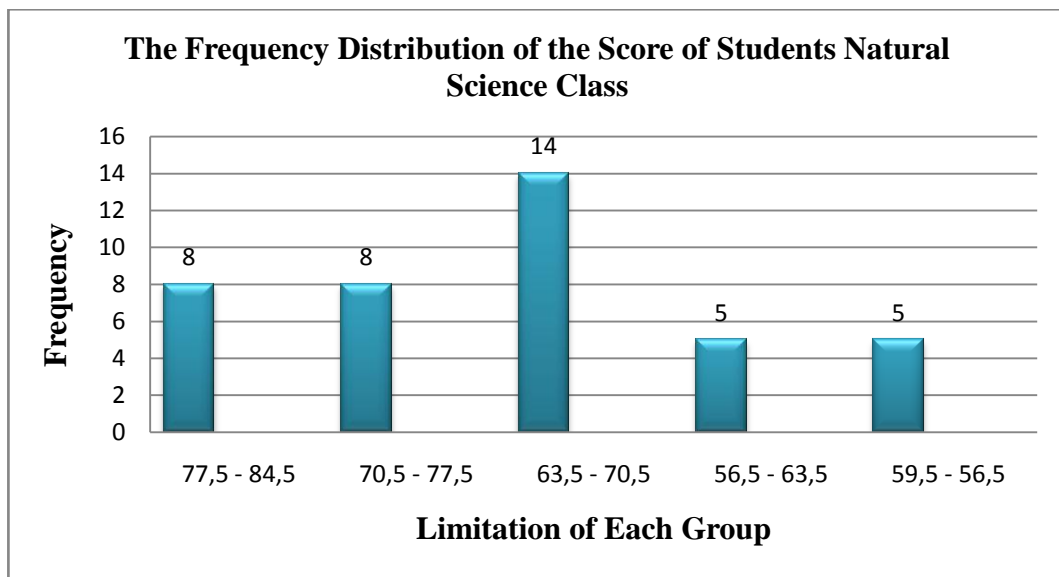
**Table 4.7 Frequency Distribution of Natural Science Class Test Score**

<b>Class (K)</b>	<b>Interval (I)</b>	<b>Frequency (F)</b>	<b>Mid Point (X)</b>	<b>Limitation of Each Group</b>	<b>Frequency Relative (%)</b>	<b>Frequency Cumulative (%)</b>
1	78-84	8	81	77,5-84,5	40	40

2	71-77	8	74	70,5-77,5	40	80
3	64-70	14	67	63,5-70,5	70	150
4	57-63	5	60	56,5-63,5	25	175
5	50-56	5	53	59,5-56,5	25	200
<b>Total</b>		$\sum F = 40$			$\sum P = 200$	

The distribution of the score of students Nature Science can also be seen in the following Chart.

**Figure 4.8 The Frequency Distribution of the Score of Students in Natura Science Class**



According to the chart, the writer found that there are five kinds of frequency in distribution score of students in social science class, there are 77,5-84,5. 70,5-77,5. 63,5-70,5. 56,5-63,5 and 59,5-56,5. There are 8 students who get the score 77,5-84,5, there are 8 students who get the score in 70,5-77,5, there are 14 students who get the score in 63,5-70,5, there are 5 students who get score in 56,5-63,5, and there are 5 students who get the

score 59,5-56,5. It means that the frequency distribution of the score of students in nature class mostly occurred in 63,5-70,5.

The next step, the writer tabulated the scores into the table for the calculation of mean, median and modus as follows :

**Table 4.9 The Calculation of Mean, Median and Modus of Students in Natural Science Class**

<b>Interval (I)</b>	<b>Frequency (F)</b>	<b>Mid Point (X)</b>	<b>Fx</b>	<b>X'</b>	<b>Fka</b>	<b>Fkb</b>
78-84	8	81	648	2	8	40
71-77	8	74	592	1	16	32
64-70	14	67	938	0	30	24
57-63	5	60	300	-1	35	10
50-56	5	53	265	-2	40	5
<b>Total</b>	$\sum F = 40$		$\sum Fx = 2731$			

1) Mean

$$\begin{aligned}
 M_x &= \frac{\sum fx}{N} \\
 &= \frac{2731}{40} \\
 &= 68,27
 \end{aligned}$$

2) Median

$$\begin{aligned}
 M_{dn} &= \ell + \frac{\frac{1}{2}N - f_{kb}}{f_i} X i \\
 &= 63,5 + \frac{20-5}{14} X 7 \\
 &= 63,5 + 7,5 \\
 &= 71
 \end{aligned}$$

3) Modus

$$\begin{aligned}
 Mo &= u - \left( \frac{fb}{fa+fb} \right) xi \\
 &= 63,5 - \left( \frac{5}{8+5} \right) x7 \\
 &= 63,5 - \left( \frac{35}{13} \right) x7 \\
 &= 63,5 - 18,84615384615385 \\
 &= 44,654
 \end{aligned}$$

4) Reliability

$$\begin{aligned}
 r_{xx} &= \frac{Ks_x^2 - \bar{X} (K - \bar{X})}{s_x^2 (K - 1)} \\
 &= \frac{(50)86,298^2 - 68,575 (50 - 68,575)}{86,298^2 (50 - 1)} \\
 &= \frac{372367,2402 + 1273,780625}{364919,895396} \\
 &= 1,024
 \end{aligned}$$

The calculation above shows that the mean value was 68,5, median value was 71, modus value was 44,65, and reliability value was 1,024. So, the test is reliable because  $r_{test} = 1,024$  and  $r_{table}$  is 0,312. So  $r_{test} 1,024 > r_{table} 0,312$  and the test is reliable.

Then, the writer tabulated the scores of student's Nature Science Class into the table for the calculation of standard deviation as follows:

**Table 4.1.1 The Calculation of the Standard Deviation of Students in Natural Science Class**

Interval (I)	Frequency (F)	Mid Point (X)	X'	Fx'	X' <sup>2</sup>	Fx' <sup>2</sup>
78-84	8	81	2	16	4	32
71-77	8	74	1	8	1	8

64-70	14	67	0	0	0	0
57-63	5	60	-1	-5	1	5
50-56	5	53	-2	-10	4	20
<b>Total</b>	$\sum F = 40$			$\sum Fx' = 9$		$\sum Fx'^2 = 65$

### Standard Deviation

$$\begin{aligned}
 SD &= i \frac{\sqrt{\sum fx'^2}}{N} - \frac{\sqrt{\sum (fx)^2}}{N} \\
 &= 7 \frac{\sqrt{65}}{40} - \frac{\sqrt{(9)^2}}{40} \\
 &= 7 \times \sqrt{1,625 - 0,225^2} \\
 &= 7 \times \sqrt{1,625 - 0,050625} \\
 &= 7 \times \sqrt{1,674375} \\
 &= 7 \times 1,2939764295 \\
 &= 9,057
 \end{aligned}$$

The tabulation above shows that the value of standard deviation is 9,057. Standard deviation used to measure the dissemination of the students mean score, the result of the standard deviation is 9,057. It means that the students mean score is dissemination.

## 1. The Differences and Similarities English Vocabulary Mastery Between The Social Science Class and Natural Science Class Eleventh of Graders at SMAN 1 Kapuas Hilir

**a. Description Data of Social Science Class Based on the Vocabulary**

**Mastery of Proper Noun, Verb, Adjective, Adverb**

**Table 4.1.2 Description Data of Social Science Class Based on the Vocabulary Mastery of Proper Noun, Verb, Adjective, Adverb**

No	Name	Proper Noun	Verb	Adjective	Adverb
1	DEPRY	100	63	77	18
2	JEFFRY SANTOS	89	72	88	36
3	SELDY	84	72	33	18
4	INTAN RANTIAN	94	63	11	27
5	MUHAMMAD RIFKI	84	45	66	72
6	ANDIANTO	94	54	55	45
7	JULIADI RAHMADI	100	45	77	18
8	RIDWAN MAULANA	100	63	77	18
9	ANDRI RAMADAN	89	54	88	18
10	NOR ADIANSYAH	100	63	88	63
11	TAWUN BUDI YOKOB	94	81	100	45
12	TRY KUN. S	100	81	77	9
13	MARKANI	94	72	100	18
14	ADITYA ARISTO	89	54	77	36
15	YUSRAN HASANI	94	72	66	27
16	SUPIANI	94	54	77	54
17	ZAINAL	94	63	100	45
18	YAN KRISNA	94	54	77	72
19	ANTON PRAYOGO	84	63	100	81
20	CINDY SHINTYA DITHA	84	63	55	72
21	YOHANES F.A	94	63	55	9
22	WAWAN KRISTIANTO	94	72	77	9
23	JEFRYANTO	100	72	88	81
24	SURYADI	100	54	77	100
25	AGUNG P	100	63	88	36
26	M. RAFTI	100	90	66	27
27	MACHDI	68	72	22	36

28	HENGKY	100	63	77	36
29	MEGA HASANAH	100	72	88	54
30	EKA OCTAVIA	94	81	55	9
31	LEVIA DEVINIANTI	100	72	77	27
32	ALPIANOR	100	81	100	36
33	TRIWIRA	100	81	77	54
34	DONI MARTIN	94	54	77	81
35	WETIE ERLIANTI	100	45	66	54
36	MUHAJIRI	100	90	77	18
37	IGO SUSANTO	100	90	66	100
38	RIDUAN	100	72	44	27
39	SANTY	84	54	33	36
40	DESSY ADELINA	89	90	88	63
	<b>Total</b>	3772	2682	2887	1685

**Table 4.1.3 Description Data of Social Science Class Based on the Vocabulary Mastery of Proper Noun**

No	Name	Proper Noun
1	DEPRY	100
2	JEFFRY SANTOS	89
3	SELDY	84
4	INTAN RANTIAN	94
5	MUHAMMAD RIFKI	84
6	ANDIANTO	94
7	JULIADI RAHMADI	100
8	RIDWAN MAULANA	100
9	ANDRI RAMADAN	89
10	NOR ADIANSYAH	100
11	TAWUN BUDI YOKOB	94
12	TRY KUN. S	100
13	MARKANI	94
14	ADITYA ARISTO	89
15	YUSRAN HASANI	94
16	SUPIANI	94
17	ZAINAL	94
18	YAN KRISNA	94



19	ANTON PRAYOGO	84
20	CINDY SHINTYA DITHA	84
21	YOHANES F.A	94
22	WAWAN KRISTIANTO	94
23	JEFRYANTO	100
24	SURYADI	100
25	AGUNG P	100
26	M. RAFI	100
27	MACHDI	68
28	HENGKY	100
29	MEGA HASANAH	100
30	EKA OCTAVIA	94
31	LEVIA DEVINIANTI	100
32	ALPIANOR	100
33	TRIWIRA	100
34	DONI MARTIN	94
35	WETIE ERLIANTI	100
36	MUHAJIRI	100
37	IGO SUSANTO	100
38	RIDUAN	100
39	SANTY	84
40	DESSY ADELINA	89
	<b>Total</b>	3772

Based on the data above, it can be seen that the students' highest score of proper noun was 100 and the students' lowest score of proper noun was 68. To determine the range of score, the class interval, and interval of temporary, the calculated using formula as follows:

The Highest Score (H) = 100

The Lowest Score (L) = 68

The Range of Score (R) =  $H - L + 1$

$$= 100 - 68 + 1$$

$$= 33$$

$$\text{The Class Interval (K)} = 1 + (3,3) \times \text{Log } n$$

$$= 1 + (3,3) \times \text{Log } 40$$

$$= 1 + 5,9020599913$$

$$= 6,9020599913$$

$$= 7$$

$$\text{Interval of Temporary (I)} = \frac{R}{K} = \frac{33}{7}$$

$$= 5$$

Thus, the range of score was 33, the class interval was 7, and interval of temporary was 5. It was presented using frequency distribution in the following table:

**Table 4.1.4 The Calculation of Mean of Social Science Class Based on the Vocabulary Mastery of Proper Noun Score**

No	Interval (I)	Frequency (F)	Mid point (X)	Fx
1	98 – 102	18	100	1,800
2	93 – 97	12	95	1,140
3	88 – 92	4	90	360
4	83 – 87	5	85	425
5	78 – 82	0	80	0
6	73 – 77	0	75	0
7	68 – 72	1	70	70
<b>Total</b>		$\Sigma F = 40$		$\Sigma Fx = 4,055$

Mean

$$M_x = \frac{\Sigma Fx}{N}$$

$$= \frac{4,055}{40}$$

$$= 101,375$$

**Table 4.1.5 Description Data of Social Science Class Based on the Vocabulary Mastery of Verb**

<b>No</b>	<b>Name</b>	<b>Verb</b>
1	DEPRY	63
2	JEFFRY SANTOS	72
3	SELDY	72
4	INTAN RANTIAN	63
5	MUHAMMAD RIFKI	45
6	ANDIANTO	54
7	JULIADI RAHMADI	45
8	RIDWAN MAULANA	63
9	ANDRI RAMADAN	54
10	NOR ADIANSYAH	63
11	TAWUN BUDI YOKOB	81
12	TRY KUN. S	81
13	MARKANI	72
14	ADITYA ARISTO	54
15	YUSRAN HASANI	72
16	SUPIANI	54
17	ZAINAL	63
18	YAN KRISNA	54
19	ANTON PRAYOGO	63
20	CINDY SHINTYA DITHA	63
21	YOHANES F.A	63
22	WAWAN KRISTIANTO	72
23	JEFRYANTO	72
24	SURYADI	54
25	AGUNG P	63
26	M. RAFII	90
27	MACHDI	72
28	HENGKY	63
29	MEGA HASANAH	72
30	EKA OCTAVIA	81

31	LEVIA DEVINIANTI	72
32	ALPIANOR	81
33	TRIWIRA	81
34	DONI MARTIN	54
35	WETIE ERLIANTI	45
36	MUHAJIRI	90
37	IGO SUSANTO	90
38	RIDUAN	72
39	SANTY	54
40	DESSY ADELINA	90
	<b>Total</b>	2682

Based on the data above, it can be seen that the students' highest score of verb was 90 and the students' lowest score of verb was 45. To determine the range of score, the class interval, and interval of temporary, the calculated using formula as follows:

$$\text{The Highest Score (H)} = 90$$

$$\text{The Lowest Score (L)} = 45$$

$$\begin{aligned} \text{The Range of Score (R)} &= H - L + 1 \\ &= 90 - 45 + 1 \\ &= 46 \end{aligned}$$

$$\begin{aligned} \text{The Class Interval (K)} &= 1 + (3,3) \times \text{Log } n \\ &= 1 + (3,3) \times \text{Log } 40 \\ &= 1 + 5,9020599913 \\ &= 6,9020599913 \\ &= 7 \end{aligned}$$

$$\text{Interval of Temporary (I)} = \frac{R}{K} = \frac{46}{7}$$

$$= 7$$

Thus, the range of score was 46, the class interval was 7, and interval of temporary was 7. It was presented using frequency distribution in the following table:

**Table 4.1.6 The Calculation of Mean of Social Science Class Based on the Vocabulary Mastery of Verb Score**

No	Interval (I)	Frequency (F)	Mid point (X)	Fx
1	87 – 93	4	90	360
2	80 – 86	5	83	415
3	73 – 79	0	76	0
4	66 – 72	10	69	690
5	59 – 65	10	62	620
6	52 – 58	8	55	440
7	45 – 51	3	48	144
<b>Total</b>		$\sum F = 40$		$\sum Fx = 2,669$

Mean

$$\begin{aligned} Mx &= \frac{\sum Fx}{N} \\ &= \frac{2,669}{40} \\ &= 66,725 \end{aligned}$$

**Table 4.1.7 Description Data of Social Science Class Based on the Vocabulary Mastery of Adjective**

No	Name	Adjective
1	DEPRY	77

2	JEFFRY SANTOS	88
3	SELDY	33
4	INTAN RANTIAN	11
5	MUHAMMAD RIFKI	66
6	ANDIANTO	55
7	JULIADI RAHMADI	77
8	RIDWAN MAULANA	77
9	ANDRI RAMADAN	88
10	NOR ADIANSYAH	88
11	TAWUN BUDI YOKOB	100
12	TRY KUN. S	77
13	MARKANI	100
14	ADITYA ARISTO	77
15	YUSRAN HASANI	66
16	SUPIANI	77
17	ZAINAL	100
18	YAN KRISNA	77
19	ANTON PRAYOGO	100
20	CINDY SHINTYA DITHA	55
21	YOHANES F.A	55
22	WAWAN KRISTIANTO	77
23	JEFRYANTO	88
24	SURYADI	77
25	AGUNG P	88
26	M. RAFI	66
27	MACHDI	22
28	HENGKY	77
29	MEGA HASANAH	88
30	EKA OCTAVIA	55
31	LEVIA DEVINIANTI	77
32	ALPIANOR	100
33	TRIWIRA	77
34	DONI MARTIN	77
35	WETIE ERLIANTI	66
36	MUHAJIRI	77
37	IGO SUSANTO	66
38	RIDUAN	44
39	SANTY	33

40	DESSY ADELINA	88
	<b>Total</b>	2887

Based on the data above, it can be seen that the students' highest score of adjective was 100 and the students' lowest score of adjective was 11. To determine the range of score, the class interval, and interval of temporary, the calculated using formula as follows:

$$\text{The Highest Score (H)} = 100$$

$$\text{The Lowest Score (L)} = 11$$

$$\begin{aligned} \text{The Range of Score (R)} &= H - L + 1 \\ &= 100 - 11 + 1 \\ &= 90 \end{aligned}$$

$$\begin{aligned} \text{The Class Interval (K)} &= 1 + (3,3) \times \text{Log } n \\ &= 1 + (3,3) \times \text{Log } 40 \\ &= 1 + 5,9020599913 \\ &= 6,9020599913 \\ &= 7 \end{aligned}$$

$$\begin{aligned} \text{Interval of Temporary (I)} &= \frac{R}{K} = \frac{90}{7} \\ &= 13 \end{aligned}$$

Thus, the range of score was 90, the class interval was 7, and interval of temporary was 13. It was presented using frequency distribution in the following table:

**Table 4.1.8**The Calculation of Mean of Social Science Class

**Based on the Vocabulary Mastery of Adjective Score**

<b>No</b>	<b>Interval (I)</b>	<b>Frequency (F)</b>	<b>Mid point (X)</b>	<b>Fx</b>
1	89 – 101	5	95	475
2	76 – 88	21	82	1,722
3	63 – 75	5	69	345
4	50 – 62	4	58	232
5	37 – 49	1	43	43
6	24 – 36	2	30	60
7	11 – 23	2	17	34
<b>Total</b>		$\Sigma F = 40$		$\Sigma Fx = 2,911$

Mean

$$\begin{aligned}
 Mx &= \frac{\Sigma Fx}{N} \\
 &= \frac{2,911}{40} \\
 &= 72,775
 \end{aligned}$$

**Table 4.1.9**Description Data of Social Science Class Based on the

**Vocabulary Mastery of Adverb**

<b>No</b>	<b>Name</b>	<b>Adverb</b>
1	DEPRY	18
2	JEFFRY SANTOS	36
3	SELDY	18
4	INTAN RANTIAN	27
5	MUHAMMAD RIFKI	72
6	ANDIANTO	45
7	JULIADI RAHMADI	18
8	RIDWAN MAULANA	18
9	ANDRI RAMADAN	18
10	NOR ADIANSYAH	63



11	TAWUN BUDI YOKOB	45
12	TRY KUN. S	9
13	MARKANI	18
14	ADITYA ARISTO	36
15	YUSRAN HASANI	27
16	SUPIANI	54
17	ZAINAL	45
18	YAN KRISNA	72
19	ANTON PRAYOGO	81
20	CINDY SHINTYA DITHA	72
21	YOHANES F.A	9
22	WAWAN KRISTIANTO	9
23	JEFRYANTO	81
24	SURYADI	100
25	AGUNG P	36
26	M. RAFI	27
27	MACHDI	36
28	HENGKY	36
29	MEGA HASANAH	54
30	EKA OCTAVIA	9
31	LEVIA DEVINIANTI	27
32	ALPIANOR	36
33	TRIWIRA	54
34	DONI MARTIN	81
35	WETIE ERLIANTI	54
36	MUHAJIRI	18
37	IGO SUSANTO	100
38	RIDUAN	27
39	SANTY	36
40	DESSY ADELINA	63
	<b>Total</b>	1685

Based on the data above, it can be seen that the students' highest score of adverb was 100 and the students' lowest score of adverb was 9. To

determine the range of score, the class interval, and interval of temporary, the calculated using formula as follows:

$$\text{The Highest Score (H)} = 100$$

$$\text{The Lowest Score (L)} = 9$$

$$\begin{aligned} \text{The Range of Score (R)} &= H - L + 1 \\ &= 100 - 9 + 1 \\ &= 92 \end{aligned}$$

$$\begin{aligned} \text{The Class Interval (K)} &= 1 + (3,3) \times \text{Log } n \\ &= 1 + (3,3) \times \text{Log } 40 \\ &= 1 + 5,9020599913 \\ &= 6,9020599913 \\ &= 7 \end{aligned}$$

$$\begin{aligned} \text{Interval of Temporary (I)} &= \frac{R}{K} = \frac{92}{7} \\ &= 15 \end{aligned}$$

Thus, the range of score was 92, the class interval was 7, and interval of temporary was 15. It was presented using frequency distribution in the following table:

**Table 4.2.1 The Calculation of Mean of Social Science Class Based on the Vocabulary Mastery of Adverb Score**

No	Interval (I)	Frequency (F)	Mid point (X)	Fx
1	99 – 203	2	151	302
2	84 – 98	0	91	0
3	69 – 83	6	76	456

4	54 – 68	6	61	366
5	39 – 53	3	46	138
6	24 – 38	12	31	372
7	9 – 23	11	16	176
<b>Total</b>		$\Sigma F = 40$		$\Sigma Fx = 1,810$

Mean

$$\begin{aligned}
 Mx &= \frac{\Sigma Fx}{N} \\
 &= \frac{1,810}{40} \\
 &= 45,25
 \end{aligned}$$

**b. Description Data of Natural Science Class Based on the Vocabulary**

**Mastery of Proper Noun, Verb, Adjective, and Adverb**

**Table 4.2.2 Description Data of Natural Science Class Based on the Vocabulary Mastery of Proper Noun, Verb, Adjective, and Adverb**

No	Name	Proper Noun	Verb	Adjective	Adverb
1	ANDRE RESTU ADITIA	94	81	33	27
2	HANDOKO	94	100	55	27
3	SANDRO RIAN TO	100	100	55	36
4	TRI DAUD SAPUTRA	94	72	33	27
5	MONICA BERLIANA	84	54	33	45
6	ISTI KOMAH	100	45	11	36
7	OKTAVI HARRY	94	90	44	81
8	TAMA OKTANIA	94	31	11	36
9	YULIANA	78	63	11	81
10	DESY LESTARI P.	100	81	55	45
11	MEGAWATI	94	81	55	36
12	INNES PUSPITA APRILY	94	90	22	72

13	WIDYA ASTUTI	100	81	44	45
14	CAHYA ARIYANTI	100	90	22	72
15	TINTE	84	72	33	27
16	NOVITA SARI	94	81	44	27
17	ANA DELIMA	100	90	33	45
18	NINA SEPTIN KRISTINA	100	90	33	54
19	LOLIANA	57	45	33	54
20	REBECKA GLORIA	89	63	11	18
21	SUSAN HELDA NATALIA	100	90	11	27
22	APRIANTO	84	90	11	45
23	WIRA WATI ARISMA	100	72	11	27
24	YUNITA	89	100	11	45
25	PITALOKA	89	81	11	45
26	IDA	89	36	11	54
27	NURUL HIDAYAH	57	81	100	100
28	SELLIN	73	72	22	36
29	NOVIA	84	63	11	54
30	WINARTI	94	100	88	45
31	MONA AUDIEA	84	63	100	72
32	GRESSELIN A. TIARA	89	100	88	45
33	SITI JULEHA	68	63	11	36
34	YULIANI ANGGRAINI	78	63	77	63
35	WINDA	68	81	66	63
36	KASPUL A.	68	100	22	63
37	JUNYALBY LENGKEY	89	100	22	45
38	MEIDRIE PRANATA	89	100	22	63
39	APRILIANO. K	94	90	22	36
40	SANTY AMIRA	100	100	55	54
	<b>Total</b>	3530	3145	1443	1909

**Table 4.2.3 Description Data of Natural Science Class Based on  
the Vocabulary Mastery of Proper Noun**

<b>No</b>	<b>Name</b>	<b>Proper Noun</b>
1	ANDRE RESTU ADITIA	94
2	HANDOKO	94
3	SANDRO RIAN TO	100
4	TRI DAUD SAPUTRA	94
5	MONICA BERLIANA	84
6	ISTI KOMAH	100
7	OKTAVI HARRY	94
8	TAMA OKTANIA	94
9	YULIANA	78
10	DESY LESTARI P.	100
11	MEGAWATI	94
12	INNES PUSPITA APRILY	94
13	WIDYA ASTUTI	100
14	CAHYA ARIYANTI	100
15	TINTE	84
16	NOVITA SARI	94
17	ANA DELIMA	100
18	NINA SEPTIN KRISTINA	100
19	LOLIANA	57
20	REBECKA GLORIA	89
21	SUSAN HELDA NATALIA	100
22	APRIANTO	84
23	WIRA WATI ARISMA	100
24	YUNITA	89
25	PITALOKA	89
26	IDA	89

27	NURUL HIDAYAH	57
28	SELLIN	73
29	NOVIA	84
30	WINARTI	94
31	MONA AUDIEA	84
32	GRESSELIN A. TIARA	89
33	SITI JULEHA	68
34	YULIANI ANGGRAINI	78
35	WINDA	68
36	KASPUL A.	68
37	JUNYALBY LENGKEY	89
38	MEIDRIE PRANATA	89
39	APRILIANO. K	94
40	SANTY AMIRA	100
	<b>Total</b>	3530

Based on the data above, it can be seen that the students' highest score of proper noun was 100 and the students' lowest score of proper noun was 57. To determine the range of score, the class interval, and interval of temporary, the calculated using formula as follows:

The Highest Score (H) = 100

The Lowest Score (L) = 57

The Range of Score (R) =  $H - L + 1$   
=  $100 - 57 + 1$   
= 44

The Class Interval (K) =  $1 + (3,3) \times \text{Log } n$

$$= 1 + (3,3) \times \text{Log } 40$$

$$= 1 + 5,9020599913$$

$$= 6,9020599913$$

$$= 7$$

$$\text{Interval of Temporary (I)} = \frac{R}{K} = \frac{44}{7}$$

$$= 7$$

Thus, the range of score was 44, the class interval was 7, and interval of temporary was 7. It was presented using frequency distribution in the following table:

**Table 4.2.4 The Calculation of Mean of Natural Science Class Based on the Vocabulary Mastery of Proper Noun Score**

No	Interval (I)	Frequency (F)	Mid point (X)	Fx
1	99 - 105	10	102	1,020
2	92 - 98	10	95	950
3	85 - 91	7	88	616
4	78 - 84	7	81	567
5	71 - 77	1	74	74
6	64 - 70	3	67	201
7	57 - 63	2	60	120
<b>Total</b>		$\Sigma F = 40$		$\Sigma Fx = 3,548$

Mean

$$\begin{aligned} Mx &= \frac{\Sigma Fx}{N} \\ &= \frac{3,548}{40} \\ &= 88,7 \end{aligned}$$

**Table 4.2.5 Description Data of Natural Science Class Based on  
the Vocabulary Mastery of Verb**

<b>No</b>	<b>Name</b>	<b>Verb</b>
1	ANDRE RESTU ADITIA	81
2	HANDOKO	100
3	SANDRO RIANTO	100
4	TRI DAUD SAPUTRA	72
5	MONICA BERLIANA	54
6	ISTI KOMAH	45
7	OKTAVI HARRY	90
8	TAMA OKTANIA	31
9	YULIANA	63
10	DESY LESTARI P.	81
11	MEGAWATI	81
12	INNES PUSPITA APRILY	90
13	WIDYA ASTUTI	81
14	CAHYA ARIYANTI	90
15	TINTE	72
16	NOVITA SARI	81
17	ANA DELIMA	90
18	NINA SEPTIN KRISTINA	90
19	LOLIANA	45
20	REBECKA GLORIA	63
21	SUSAN HELDA NATALIA	90



22	APRIANTO	90
23	WIRA WATI ARISMA	72
24	YUNITA	100
25	PITALOKA	81
26	IDA	36
27	NURUL HIDAYAH	81
28	SELLIN	72
29	NOVIA	63
30	WINARTI	100
31	MONA AUDIEA	63
32	GRESSELIN A. TIARA	100
33	SITI JULEHA	63
34	YULIANI ANGGRAINI	63
35	WINDA	81
36	KASPUL A.	100
37	JUNYALBY LENGKEY	100
38	MEIDRIE PRANATA	100
39	APRILIANO. K	90
40	SANTY AMIRA	100
	<b>Total</b>	3145

Based on the data above, it can be seen that the students' highest score of verb was 100 and the students' lowest score of verb was 31. To determine the range of score, the class interval, and interval of temporary, the calculated using formula as follows:

The Highest Score (H) = 100

The Lowest Score (L) = 31

The Range of Score (R) =  $H - L + 1$

$$= 100 - 31 + 1$$

$$= 70$$

$$\text{The Class Interval (K)} = 1 + (3,3) \times \text{Log } n$$

$$= 1 + (3,3) \times \text{Log } 40$$

$$= 1 + 5,9020599913$$

$$= 6,9020599913$$

$$= 7$$

$$\text{Interval of Temporary (I)} = \frac{R}{K} = \frac{70}{7}$$

$$= 11$$

Thus, the range of score was 70, the class interval was 7, and interval of temporary was 11. It was presented using frequency distribution in the following table:

**Table 4.2.6 The Calculation of Mean of Natural Science Class Based on the Vocabulary Mastery of Verb Score**

No	Interval (I)	Frequency (F)	Mid point (X)	Fx
1	97 - 107	9	102	918
2	86 - 96	8	91	728
3	75 - 85	8	80	640
4	64 - 74	4	69	276
5	53 - 63	7	58	406
6	42 - 52	2	47	94
7	31 - 41	2	36	72
<b>Total</b>		$\Sigma F = 40$		$\Sigma Fx = 3,134$

Mean

$$M_x = \frac{\Sigma Fx}{N}$$

$$= \frac{3,134}{40}$$

$$= 78,35$$

**Table 4.2.7** Description Data of Natural Science Class Based on the Vocabulary Mastery of Adjective

No	Name	Adjective
1	ANDRE RESTU ADITIA	33
2	HANDOKO	55
3	SANDRO RIANTO	55
4	TRI DAUD SAPUTRA	33
5	MONICA BERLIANA	33
6	ISTI KOMAH	11
7	OKTAVI HARRY	44
8	TAMA OKTANIA	11
9	YULIANA	11
10	DESY LESTARI P.	55
11	MEGAWATI	55
12	INNES PUSPITA APRILY	22
13	WIDYA ASTUTI	44
14	CAHYA ARIYANTI	22
15	TINTE	33
16	NOVITA SARI	44
17	ANA DELIMA	33
18	NINA SEPTIN KRISTINA	33
19	LOLIANA	33
20	REBECKA GLORIA	11
21	SUSAN HELDA NATALIA	11
22	APRIANTO	11
23	WIRA WATI	11

	ARISMA	
24	YUNITA	11
25	PITALOKA	11
26	IDA	11
27	NURUL HIDAYAH	100
28	SELLIN	22
29	NOVIA	11
30	WINARTI	88
31	MONA AUDIEA	100
32	GRESSELIN A. TIARA	88
33	SITI JULEHA	11
34	YULIANI ANGGRAINI	77
35	WINDA	66
36	KASPUL A.	22
37	JUNYALBY LENGKEY	22
38	MEIDRIE PRANATA	22
39	APRILIANO. K	22
40	SANTY AMIRA	55
	<b>Total</b>	1443

Based on the data above, it can be seen that the students' highest score of adjective was 100 and the students' lowest score of adjective was 11. To determine the range of score, the class interval, and interval of temporary, the calculated using formula as follows:

$$\begin{aligned}
 \text{The Highest Score (H)} &= 100 \\
 \text{The Lowest Score (L)} &= 11 \\
 \text{The Range of Score (R)} &= H - L + 1 \\
 &= 100 - 11 + 1
 \end{aligned}$$

$$= 90$$

$$\begin{aligned} \text{The Class Interval (K)} &= 1 + (3,3) \times \text{Log } n \\ &= 1 + (3,3) \times \text{Log } 40 \\ &= 1 + 5,9020599913 \\ &= 6,9020599913 \\ &= 7 \end{aligned}$$

$$\begin{aligned} \text{Interval of Temporary (I)} &= \frac{R}{K} = \frac{90}{7} \\ &= 13 \end{aligned}$$

Thus, the range of score was 90, the class interval was 7, and interval of temporary was 13. It was presented using frequency distribution in the following table:

**Table 4.2.8 The Calculation of Mean of Natural Science Class Based on the Vocabulary Mastery of Adjective Score**

No	Interval (I)	Frequency (F)	Mid point (X)	Fx
1	89 – 101	5	95	475
2	76 – 88	21	82	1,722
3	63 – 75	5	69	345
4	50 – 62	4	58	232
5	37 – 49	1	43	43
6	24 – 36	2	30	60
7	11 – 23	2	17	34
<b>Total</b>		$\sum F = 40$		$\sum Fx = 2,911$

Mean

$$M_x = \frac{\sum Fx}{N}$$

$$= \frac{2,911}{40}$$

$$= 72,775$$

**Table 4.2.9 Description Data of Natural Science Class Based on the Vocabulary Mastery of Adverb**

No	Name	Adverb
1	ANDRE RESTU ADITIA	27
2	HANDOKO	27
3	SANDRO RIANTO	36
4	TRI DAUD SAPUTRA	27
5	MONICA BERLIANA	45
6	ISTI KOMAH	36
7	OKTAVI HARRY	81
8	TAMA OKTANIA	36
9	YULIANA	81
10	DESY LESTARI P.	45
11	MEGAWATI	36
12	INNES PUSPITA APRILY	72
13	WIDYA ASTUTI	45
14	CAHYA ARIYANTI	72
15	TINTE	27
16	NOVITA SARI	27
17	ANA DELIMA	45
18	NINA SEPTIN KRISTINA	54
19	LOLIANA	54
20	REBECKA GLORIA	18
21	SUSAN HELDA NATALIA	27
22	APRIANTO	45
23	WIRA WATI	27

	ARISMA	
24	YUNITA	45
25	PITALOKA	45
26	IDA	54
27	NURUL HIDAYAH	100
28	SELLIN	36
29	NOVIA	54
30	WINARTI	45
31	MONA AUDIEA	72
32	GRESSELIN A. TIARA	45
33	SITI JULEHA	36
34	YULIANI ANGGRAINI	63
35	WINDA	63
36	KASPUL A.	63
37	JUNYALBY LENGKEY	45
38	MEIDRIE PRANATA	63
39	APRILIANO. K	36
40	SANTY AMIRA	54
	<b>Total</b>	1909

Based on the data above, it can be seen that the students' highest score of adverb was 100 and the students' lowest score of adverb was 18. To determine the range of score, the class interval, and interval of temporary, the calculated using formula as follows:

The Highest Score (H) = 100

The Lowest Score (L) = 18

The Range of Score (R) =  $H - L + 1$   
=  $100 - 18 + 1$

$$= 83$$

$$\begin{aligned} \text{The Class Interval (K)} &= 1 + (3,3) \times \text{Log } n \\ &= 1 + (3,3) \times \text{Log } 40 \\ &= 1 + 5,9020599913 \\ &= 6,9020599913 \\ &= 7 \end{aligned}$$

$$\begin{aligned} \text{Interval of Temporary (I)} &= \frac{R}{K} = \frac{83}{7} \\ &= 13 \end{aligned}$$

Thus, the range of score was 83, the class interval was 7, and interval of temporary was 13. It was presented using frequency distribution in the following table:

**Table 4.3.1 The Calculation of Mean of Natural Science Class Based on the Vocabulary Mastery of Adverb Score**

No	Interval (I)	Frequency (F)	Mid point (X)	Fx
1	96 – 108	1	102	102
2	83 – 95	0	89	0
3	70 – 82	5	76	380
4	57 – 69	4	63	252
5	44 – 56	15	50	750
6	31 – 43	7	37	259
7	18 – 30	8	24	192



<b>Total</b>	$\sum F = 40$	$\sum Fx = 1,935$
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Mean

$$\begin{aligned} Mx &= \frac{\sum Fx}{N} \\ &= \frac{1,935}{40} \\ &= 48,375 \end{aligned}$$

Based on the calculation above, the mean score of Social Science Class and Natural Science Class according to the types of test is the mean of proper noun for social science class was 101,3 and natural science class was 89. So, the social science class got higher score than natural science class in proper noun test. Then for the mean verb of social science class was 67 and natural science class was 78,3. So, the natural science class was higher than social science class in verb test. Next, the mean score of social science class in adjective was 73 and natural science class 73. So, the social science class and natural science class get similar score. The last the mean score of adverb for social science class was 45,2 and natural science class was 48,3. So, the natural science class higher than social science class.

## B. Test of the Statistical Analysis

Meanwhile, the calculation of Ttest using SPSS 17.0 Program can be seen in the following table :

Group	N	Mean	Std. Deviation	Std. Error Mean
Social Science Class	40	72.80	8.200	1.297

### Group Statistics

Group	N	Mean	Std. Deviation	Std. Error Mean
Social Science Class	40	72.80	8.200	1.297
Natural Science Class	40	68.25	9.173	1.450

### Independent Samples Test

		Nilai Ujian	
		Equal variances assumed	Equal variances not assumed
Levene's Test for Equality of Variances	F	1.101	
	Sig.	.297	
t-test for Equality of Means	T	2.339	2.339
	Df	78	77.040
	Sig. (2-tailed)	.022	.022
	Mean Difference	4.550	4.550
	Std. Error Difference	1.945	1.945
	95% Confidence Interval of the Difference		
	Lower	.677	.676
	Upper	8.423	8.424

The result of t test using SPSS 17.0 supported the interpretation of t-test result from manual calculation. It shows from the table above that the  $t_{\text{observed}}$  was 2,339. It was also higher than  $t_{\text{table}}$  at 5% (1,991) level of significance. Therefore, it could be interpreted that  $H_0$  stating that there is no significant difference in English vocabulary mastery between eleventh graders of social science class and natural science class was rejected and  $H_a$  stating that there is a significant

difference in English vocabulary mastery between eleventh graders of social science class and natural science class at SMAN-1 Kapuas Hilir was accepted at 5% level of significance.

### C. Result of the Data Analysis

In order to calculate the  $t_{test}$ , the writer used both manual calculation. Both results are expected to support the correct calculation each other.

After knowing *Standard Deviation* of group I and group II, the writer calculated the “ $t_0$ ” value to examine the hypothesis. But, first of all the writer calculated the *variance homogeneity* in order to adjust the formula in calculating the “ $t_0$ ” value, because some formula used to examine the comparative hypothesis with two sample, there is *Fisher* formula. Furthermore, in order to ease the calculation of test of variance homogeneity and test of hypothesis, the writer makes a table to compare the N (number of sample), mean, variance, and deviation standard of two groups.

**Table. 4.3.2 The Data of Test Scores of Eleventh Graders of Social Science Class and Natural Science Class at SMAN-1 Kapuas Hilir**

No	The students' score in social science class	The students' score in natural science class
1	70	66
2	74	74
3	58	78
4	58	64

5	70	60
6	68	58
7	66	80
8	70	58
9	66	62
10	82	76
11	82	72
12	72	76
13	74	74
14	68	78
15	70	60
16	74	68
17	78	74
18	78	76
19	82	50
20	72	54
21	62	66
22	68	64
23	88	62
24	86	68
25	76	64
26	76	56
27	54	80
28	74	56
29	82	60
30	66	84
31	74	80
32	82	82
33	84	50
34	80	70
35	72	70
36	76	66
37	70	70
38	68	72
39	58	70
40	84	82

<b>N</b>	<b>40</b>	<b>40</b>
<b>M<sub>x</sub></b>	<b>72,85</b>	<b>68,27</b>
<b>S<sub>1</sub></b>	<b>8,196</b>	<b>9,057</b>
<b>S<sub>1</sub><sup>2</sup></b>	<b>68,965</b>	<b>86,298</b>

### 1. Variance Homogeneity

$$F = \frac{\text{The Biggest Variance}}{\text{The Smallest Variance}}$$

$$= \frac{86,298}{68,965}$$

$$= 1,251$$

Moreover, the result variance homogeneity was compared with F-table on numerator df ( 40-1 = 39) and denominator df (40-1= 39). Based on those df with significant 5%, than the percentage of F table was 1,75. It found that  $F_{\text{value}}$  was smaller than  $F_{\text{table}}$  (1,251 < 1,75). Therefore, it can be said that the variance of those two groups was homogeneous.

Since the number of sample of those two groups was same ( N1 = N2 ), and the variance was homogen. Thus, the testing of t observed was used *Fisher* formula.

### 2. Testing of Normality test

Normality test is a test to know about what the writing test had given to the students normally, it shows about:

- 1) Normality test of Students in Social Science Class

**Table 4.3.3 Normality test of Students in Social Science Class**

<b>No</b>	<b>X</b>	<b>Z</b>	<b>Table Z</b>	<b>F(Zi)</b>	<b>F(kum)</b>	<b>S(Zi)</b>	<b>F(zi)- S(zi)</b>
1	54	-2,2227	0,5040	0,0122	1	0,025	-0,0128
2	58	-1,7498	0,5000	0,0401	2	0,05	-0,0099
3	58	-1,7498	0,5000	0,0401	3	0,075	-0,0349
4	58	-1,7498	0,5000	0,0401	4	0,1	-0,0599
5	62	-1,2768	0,4168	0,1056	5	0,125	-0,0194
6	66	-0,8039	0,3058	0,1977	6	0,15	0,0477
7	66	-0,8039	0,3058	0,1977	7	0,175	0,0227
8	66	-0,8039	0,3058	0,1977	8	0,2	-0,0023
9	68	-0,5675	0,2119	0,2912	9	0,225	0,0662
10	68	-0,5675	0,2119	0,2912	10	0,25	0,0412
11	68	-0,5675	0,2119	0,2912	11	0,275	0,0162
12	68	-0,5675	0,2119	0,2912	12	0,3	-0,0088
13	70	-0,3310	0,1151	0,3632	13	0,325	0,0382
14	70	-0,3310	0,1151	0,3632	14	0,35	0,0132
15	70	-0,3310	0,1151	0,3632	15	0,375	-0,0118
16	70	-0,3310	0,1151	0,3632	16	0,4	-0,0368
17	70	-0,3310	0,1151	0,3632	17	0,425	-0,0618
18	72	-0,0945	0,0158	0,4801	18	0,45	0,0301
19	72	-0,0945	0,0158	0,4801	19	0,475	0,0051
20	72	-0,0945	0,0158	0,4801	20	0,5	-0,0199
21	74	0,1418	0,1357	0,5596	21	0,525	0,0346
22	74	0,1418	0,1357	0,5596	22	0,55	0,0096
23	74	0,1418	0,1357	0,5596	23	0,575	-0,0154
24	74	0,1418	0,1357	0,5596	24	0,6	-0,0404
25	74	0,1418	0,1357	0,5596	25	0,625	-0,0654
26	76	0,3783	0,2420	0,6368	26	0,65	-0,0132
27	76	0,3783	0,2420	0,6368	27	0,675	-0,0382
28	76	0,3783	0,2420	0,6368	28	0,7	-0,0632
29	78	0,6148	0,3446	0,7422	29	0,725	0,0172
30	78	0,6148	0,3446	0,7422	30	0,75	-0,0078
31	80	0,8512	0,3594	0,8023	31	0,775	0,0273
32	82	1,0877	0,4440	0,8531	32	0,8	0,0531
33	82	1,0877	0,4440	0,8531	33	0,825	0,0281
34	82	1,0877	0,4440	0,8531	34	0,85	0,0031
35	82	1,0877	0,4440	0,8531	35	0,875	-0,0219
36	82	1,0877	0,4440	0,8531	36	0,9	-0,0469

37	84	1,3241	0,4562	0,9115	37	0,925	-0,0135
38	84	1,3241	0,4562	0,9115	38	0,95	-0,0385
39	86	1,5606	0,4522	0,9394	39	0,975	-0,0356
40	88	1,7971	0,4602	0,9599	40	1	-0,0401
<b>Total</b>	2912						
<b>Mean</b>	72,80						
<b>STDEV</b>	8,196						
<b>L<sub>test</sub></b>	0,0662						
<b>L<sub>table</sub></b>	0,139						

The table shows that  $L_{test} = 0,0662 < L_{table} = 0,139$ , then the data of students social science class distributed normally.

2) Normality test of Students in Natural Science Class

**Table 4.3.4 Normality test of Students in Natural Science Class**

No	X	Z	Table Z	F(Zi)	F(kum)	S(Zi)	F(zi)-S(zi)
1	50	-2,0778	0,4325	0,0202	1	0,025	-0,0048
2	50	-2,0778	0,4325	0,0202	2	0,05	-0,0298
3	54	-1,6224	0,4207	0,0495	3	0,075	-0,0255
4	56	-1,3947	0,4129	0,0885	4	0,1	-0,0115
5	56	-1,3947	0,4129	0,0885	5	0,125	-0,0365
6	58	-1,1670	0,4052	0,1251	6	0,15	-0,0249
7	58	-1,1670	0,4052	0,1251	7	0,175	-0,0499
8	60	-0,9393	0,3409	0,1711	8	0,2	-0,0289
9	60	-0,9393	0,3409	0,1711	9	0,225	-0,0539
10	60	-0,9393	0,3409	0,1711	10	0,25	-0,0789
11	62	-0,7116	0,2327	0,2266	11	0,275	-0,0484
12	62	-0,7116	0,2327	0,2266	12	0,3	-0,0734
13	64	-0,4838	0,1131	0,3264	13	0,325	0,0014
14	64	-0,4838	0,1131	0,3264	14	0,35	-0,0236
15	64	-0,4838	0,1131	0,3264	15	0,375	-0,0486
16	66	-0,2561	0,0228	0,4013	16	0,4	0,0013
17	66	-0,2561	0,0228	0,4013	17	0,425	-0,0237
18	66	-0,2561	0,0228	0,4013	18	0,45	-0,0487

19	68	-0,0284	0,0179	0,4801	19	0,475	0,0051
20	68	-0,0284	0,0179	0,4801	20	0,5	-0,0199
21	70	0,1992	0,1093	0,5596	21	0,525	0,0346
22	70	0,1992	0,1093	0,5596	22	0,55	0,0346
23	70	0,1992	0,1093	0,5596	23	0,575	-0,0154
24	70	0,1992	0,1093	0,5596	24	0,6	-0,0404
25	72	0,4269	0,2033	0,6736	25	0,625	0,0486
26	72	0,4269	0,2033	0,6736	26	0,65	0,0236
27	74	0,6546	0,3015	0,7422	27	0,675	0,0672
28	74	0,6546	0,3015	0,7422	28	0,7	0,0422
29	74	0,6546	0,3015	0,7422	29	0,725	0,0172
30	76	0,8823	0,3121	0,8023	30	0,75	0,0523
31	76	0,8823	0,3121	0,8023	31	0,775	0,0273
32	76	0,8823	0,3121	0,8023	32	0,8	0,0023
33	78	1,1100	0,3228	0,8749	33	0,825	0,0499
34	78	1,1100	0,3228	0,8749	34	0,85	0,0249
35	80	1,3378	0,4052	0,9115	35	0,875	0,0365
36	80	1,3378	0,4052	0,9115	36	0,9	0,0115
37	80	1,3378	0,4052	0,9115	37	0,925	-0,0135
38	82	1,5655	0,4190	0,9394	38	0,95	-0,0106
39	82	1,5655	0,4190	0,9394	39	0,975	-0,0356
40	84	1,7932	0,4247	0,9599	40	1	-0,0401
<b>Total</b>	2730						
<b>Mean</b>	68,25						
<b>STDEV</b>	9,057						
<b>L<sub>test</sub></b>	0,0672						
<b>L<sub>table</sub></b>	0,139						

The table shows that  $L_{test} = 0,0672 < L_{table} = 0,139$ , then the data of students nature science class distributed normally.

### 3. Testing of $t_{observed}$ ( $t_o$ )



**Table. 4.3.5 The Data of Test Scores of Students Eleventh  
Graders of Social Science Class and Natural Science Class at SMAN-1  
Kapas Hilir**

Scores		$X_1$	$X_2$	$X_1^2$	$X_2^2$
$X_1$	$X_2$				
70	66	-2,8	-2,25	7,84	5,0625
74	74	+1,2	+5,75	1,44	33,0625
58	78	-14,8	+9,75	219,04	95,0625
58	64	-14,8	-4,25	219,04	18,0625
70	60	-2,8	-8,25	7,84	68,0625
68	58	-4,8	-10,25	23,04	105,0625
66	80	-6,8	+11,75	46,24	138,0625
70	58	-2,8	-10,25	7,84	105,0625
66	62	-6,8	-6,25	46,24	39,0625
82	76	+9,2	+7,75	84,64	60,0625
82	72	+9,2	+3,75	84,64	14,0625
72	76	-0,8	+7,75	0,64	60,0625
74	74	+1,2	+5,75	1,44	33,0625
68	78	-4,8	+9,75	23,04	95,0625
70	60	-2,8	-8,25	7,84	68,0625
74	68	+1,2	-0,25	1,44	0,0625
78	74	+5,2	+5,75	27,04	33,0625
78	76	+5,2	+7,75	27,04	60,0625
82	50	+9,2	-18,25	84,64	333,0625
72	64	-0,8	-14,25	0,64	203,0625
62	66	-10,8	-2,25	116,64	5,0625
68	64	-4,8	-4,25	23,04	18,0625
88	62	15,2	-6,25	231,04	39,0625
86	68	13,2	-0,25	174,24	0,0625
76	64	3,2	-4,25	10,24	18,0625
76	56	3,2	-12,25	10,24	150,0625
54	80	-18,8	+11,75	353,44	138,0625
74	56	+1,2	-12,25	1,44	150,0625
82	60	+9,2	-8,25	84,64	68,0625
66	84	-6,8	+15,75	46,24	248,0625
74	80	+1,2	+11,75	1,44	138,0625
82	82	+9,2	+13,75	84,64	189,0625
84	50	+11,2	-18,25	125,44	333,0625

80	70	+7,2	+1,75	51,58	3,0635
72	70	-0,8	+1,75	0,64	3,0625
76	66	+3,2	-2,25	10,24	5,0625
70	70	-2,8	+1,75	7,84	3,0625
68	72	-4,8	+3,75	23,04	14,0625
58	70	-14,8	+1,75	219,04	3,0625
84	82	+11,2	+13,75	125,44	189,0625
$\Sigma X = 2912$	$\Sigma Y = 2730$	$\Sigma X_1 = 249E,14$	$\Sigma X_2 = 0$	$\Sigma X_1^2 = 2622,4$	$\Sigma X_2^2 = 3281,5$

$$t_0 = \frac{M_1 - M_2}{\sqrt{\left(\frac{\Sigma X_1^2 + \Sigma X_2^2}{N_1 + N_2 - 2}\right) \left(\frac{N_1 + N_2}{N_1 \cdot N_2}\right)}}$$

$$t = \frac{72,8 - 68,25}{\sqrt{\left(\frac{2622,4 + 3281,5}{40 + 40 - 2}\right) \left(\frac{40 + 40}{40 \cdot 40}\right)}}$$

$$t = \frac{4,55}{\sqrt{\frac{5903,9}{78} \times \frac{80}{1600}}}$$

$$t = \frac{4,55}{\sqrt{75,691 \times 0,05}}$$

$$t = \frac{4,55}{\sqrt{3,78455}}$$

$$t = \frac{4,55}{1,945}$$

$$t = 2,339$$

The degree of Freedom

$$Df = N_1 + N_2 - 2$$

$$= 40 + 40 - 2$$

$$= 78$$

Df 78 at 5% level of significant = 1,991

$T_0 = 2,339 > T_{table} = 1,991$
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**(Ha was accepted)**

Based on the result above, it can be presented by the following table:

**Table 4.3.6 The Result of  $T_{\text{observed}}$**

$t_0$	$t_t$	Df
2,339	1,991	78

Where :

$t_0$  : The value of  $t_{\text{observed}}$

$t_t$  : The value of  $t_{\text{table}}$

Since the calculated value of  $t_{\text{observed}}$  (2,339) was higher than  $t_{\text{table}}$  at 5% (1,991) significant level or  $2,339 > 1,991$ , it could be interpreted that there is no significant difference in English vocabulary mastery between eleventh graders of social science class and natural science class, thus  $H_0$  (Null Hypotesis) was rejected and there isa significant difference in English vocabulary mastery between eleventh graders of social science class and natural science class, thus the  $H_a$  (Alternative hypotesis) was accepted. It means that there is a significant difference in English vocabulary mastery between eleventh graders of social science class and natural science class at SMAN-1 Kapuas Hilir.