

CHAPTER IV

RESULT OF THE STUDY

This chapter discusses both the research finding and the discussion. Research finding appear the students' score in office administration and marketing programs, and then the result of the data analyse using manual analysis and SPSS 22 program.

A. Data Presentation

In this research finding, the writer shows the students' score, and then comparing the result of the data in looking for the significant difference on students' ability between the students in office administration and marketing programs in writing application letter at the eleventh grade students of SMKN 2 Palangka Raya.

1. The students' score in Office Administration Program

The data presentation of the score of students in office administration program shown by following the table:

Table 4.1.1. Score of test of the students in office administration program

No	Student's code	Rater I	Rater II	Final Score
1	A	46	50	48
2	AR	50	60	55
3	AN	60	60	60
4	AON	67	67	67
5	D	60	56	58
6	DAB	50	54	52
7	ENS	86	90	88

8	HMY	70	70	70
9	H	80	70	75
10	IA	86.6	86.6	87
11	II	70	60	65
12	IN	50	56.6	53
13	KH	60	63.2	62
14	KMB	80	86.6	83
15	MM	60	63.3	62
16	MFRH	70	73.2	72
17	PL	60	53.3	57
18	RAR	70	66.6	68
19	RW	60	66.6	63
20	SY	70	70	70
21	WR	50	53.3	52
22	YW	60	63.2	62

Based on the data above, it can be seen that the student's highest score was 90 and the student's lowest score was 50. The writer determined the range of score, class interval, and interval of temporary. They can be concluded using formula as follows:

The highest score (H) = 88

The lowest score (L) = 48

The range of score (R) = $H - L + 1$

$$= 88 - 48 + 1$$

$$= 41$$

$$\begin{aligned}
 \text{Class interval (K)} &= 1 + (3.3) \times \text{Log } n \\
 &= 1 + (3.3) \times \text{Log } 22 \\
 &= 1 + (3.3) \times 1.342422 \\
 &= 1 + 4.423 \\
 &= 5.423 \\
 \text{Interval of temporary} &= \frac{R}{K} = \frac{41}{5} \\
 &= 8.2
 \end{aligned}$$

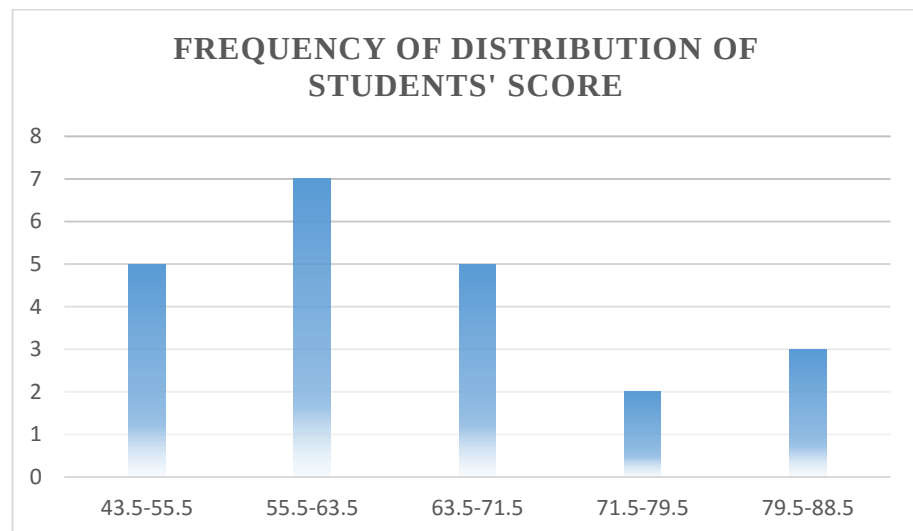
The range of score was 41, class interval was 5, and interval of temporary was 8. It was presented using frequency of distribution in the following table:

Table 4.1.2. Frequency of distribution

Class (K)	Interval (I)	Freq. (F)	Mid-point (X)	Limitation of each group	Freq. Relative (%)	Freq. Cumulative (%)
1	80-88	3	84	79.5-88.5	13.63	100
2	72-79	2	75.5	71.5-79,5	9.09	86.35
3	64-71	5	67.5	63.5-71,5	22.72	77.26
4	56-63	7	59.5	55.5-63,5	31.81	54.54
5	48-55	5	51.5	43.5-55,5	22.72	22.72
Total		$\sum F =$ 22			$\sum Fx =$ 100	

The distribution of the score of the students can be seen in the following chart:

Figure 4.1. Frequency of Distribution of Students' Score



The writer shown on the chart above the score of students in office administration program. There were five students who got score 43.5 to 55.5. Seven students who got 55.5 to 63.5. Five students who got 63.5 to 71.5. Two students who got the score 71.5 to 79.5. There were three students who got 79.5 to 88.5.

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

Table 4.1.3. The calculation of mean, median, and modus

Interval (I)	Frequency (F)	Mid-point (x)	Fx	Fka	Fkb
80-88	3	84	249	3	22
72-79	2	75.5	151	5	19
64-71	5	67.5	337.5	10	17
56-63	7	59.5	416.5	17	12

48-55	5	51.5	257.5	22	5
Total	$\sum Fx = 22$		$\sum Fx = 1311.5$		

a. Mean

$$\begin{aligned}
 Mx &= \frac{\sum fx}{N} \\
 &= \frac{1311,5}{22} \\
 &= 59.61
 \end{aligned}$$

b. Median

$$\begin{aligned}
 Mdn &= l + \frac{\frac{1}{2}N - f_{kb}}{fi} \times i \\
 &= 55.5 + \frac{\frac{1}{2}22 - 5}{7} \times 10 \\
 &= 55.5 + \frac{\frac{1}{2}22 - 5}{7} \times 10 \\
 &= 55.5 + 8.5 \\
 &= 64
 \end{aligned}$$

c. Modus

$$\begin{aligned}
 Mo &= u + \left(\frac{fa}{fa + fb} \right) \\
 &= 55.5 + \left(\frac{7-5}{(7-5) + (7-5)} \right) \\
 &= 55.5 + \left(\frac{2}{4} \right) \\
 &= 55.5 + 0.5 \\
 &= 56
 \end{aligned}$$

The calculation above showed of mean value was 59.61, median value was 64, and modus value was 56. The writer tabulated the students' score into the table to calculate standard deviation as follows:

Table 4.1.4. The calculation of standard deviation

Interval (I)	Frequency (F)	Mid- point (x)	Fx	Fx ²
80-88	3	84	252	63504
72-79	2	75.5	151	22801
64-71	5	67.5	337.5	113906.25
56-63	7	59.5	416.5	173472.25
48-55	5	51.5	257.5	66306.25
Total			$\sum Fx =$ 1311.5	$\sum Fx^2 =$ 353684.75

$$\begin{aligned}
 \text{d. Standard Deviation (SD)} &= \sqrt{\frac{\sum Fx^2 - \frac{(\sum Fx)^2}{n}}{n-1}} \\
 &= \sqrt{\frac{\sum 353684.75 - \frac{(\sum 1311.5)^2}{22}}{22-1}} \\
 &= \sqrt{\frac{\sum 353684.75 - \frac{1720032.25}{22}}{21}} \\
 &= \sqrt{\frac{\sum 353684.75 - 78183.28}{21}} \\
 &= \sqrt{\frac{275501.47}{21}} = \sqrt{13119} = 114
 \end{aligned}$$

e. Standard Error (SE)

$$SE_{Mx_1} = \frac{SD}{\sqrt{N-1}} = \frac{144}{\sqrt{22-1}} = \frac{144}{\sqrt{21}} = \frac{144}{4.58} = 31.44$$

After calculating, it found that the standard deviation was 114 and standard error was 31.44.

2. The score of the students in marketing program

The data presentation of the score of students in marketing program shown in the table frequency of distribution, the chart of frequency of distribution, the measurement of central tendency (mean, median, and modus) and the measurement of deviation standard. The score of the students in marketing program can be seen by following table:

Table 4.2.1. Score of test of the students in Marketing Program

No	Student's code	Rater I	Rater II	Final Score
1	AS	60	66.6	63
2	DTF	56.6	56.6	57
3	EDAL	56.6	56.6	57
4	ET	63.2	63.2	63
5	HF	50	60	55
6	IW	50	53.3	52
7	IA	66,6	63.2	65
8	LNS	50	50	50
9	LAL	60	60	60
10	LDU	63.2	63.2	63
11	MA	66.6	70	68
12	MY	60	53.3	57
13	MRA	66.6	73.3	70
14	PA	56.6	53.3	55
15	PY	66.6	70	68
16	RD	80	80	80
17	REM	56.6	53.3	55

18	RP	53,2	53.2	53
19	RA	66.6	63.3	65
20	ROM	66.6	63.3	65
21	SRD	50	60	55
22	ST	50	50	50
23	YP	50	53.3	52

Based on the data above, it can be seen that the student's highest score was 90 and the student's lowest score was 50. The writer determined the range of score, class interval, and interval of temporary. They can be concluded using formula as follows:

$$\text{The highest score (H)} = 80$$

$$\text{The lowest score (L)} = 50$$

$$\begin{aligned} \text{The range of score (R)} &= H - L + 1 \\ &= 80 - 50 + 1 \\ &= 31 \end{aligned}$$

$$\begin{aligned} \text{Class interval (K)} &= 1 + (3.3) \times \log n \\ &= 1 + (3.3) \times \log 23 \\ &= 1 + (3.3) \times 1.361727 \\ &= 1 + 4.493701 \\ &= 5.493701 \end{aligned}$$

$$\begin{aligned}\text{Interval of temporary} &= \frac{R}{K} = \frac{31}{5} \\ &= 6.2\end{aligned}$$

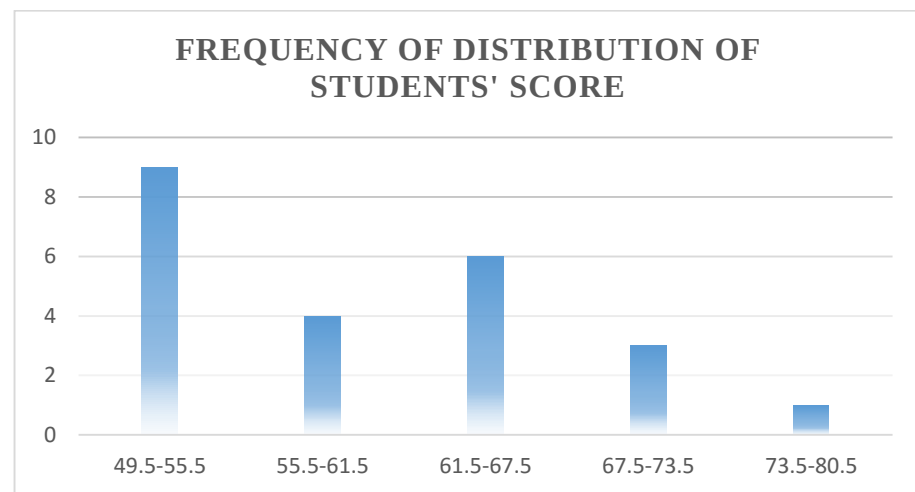
The range of score was 31, class interval was 5, and interval of temporary was 6. It was presented using frequency of distribution in the following table:

Table 4.2.2. Frequency of distribution

Class (K)	Interval (I)	Freq. (F)	Mid- point (X)	Limitation of each group	Freq. Relative (%)	Freq. Cumulative (%)
1	74-80	1	77	73.5-80.5	4.35	100
2	68-73	3	70.5	67.5-73.5	13.04	95.65
3	62-67	6	64.5	61.5-67.5	26.08	82.6
4	56-61	4	58.5	55.5-61.5	17.39	56.52
5	50-55	9	52.5	49.5-55.5	39.13	39.13
Total		$\sum F =$ 23			$\sum Fx =$ 100	

The distribution of the score of the students can be seen in the following chart:

Figure 4.2. Frequency of Distribution of Students' Score



It can be seen from the chart above the score of students in office administration program. There were nine students who got score between 49.5 to 55.5. Four students who got 55.5 to 61.5. Six students who got 61.5 to 67.5. Three students who got the score 67.5 to 73.5. There a student who got 73.5 to 80.5.

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

Table 4.2.3. The calculation of mean, median, and modus

Interval (I)	Frequency (F)	Mid-point (x)	Fx	Fka	Fkb
74-80	1	77	77	1	23
68-73	3	70.5	211.5	4	22
62-67	6	64.5	387	10	19
56-61	4	58.5	234	14	14
50-55	9	52.5	472.5	23	10
Total	$\sum F = 23$		$\sum Fx = 1382$		

a. Mean

$$\begin{aligned} M_x &= \frac{\sum fx}{N} \\ &= \frac{1382}{23} \\ &= 60.08 \end{aligned}$$

b. Median

$$\begin{aligned} M_{dn} &= u + \frac{\frac{1}{2}N - f_{ka}}{f_i} \times i \\ &= 55.5 + \frac{\frac{1}{2}23 - 13}{10} \times 6 \\ &= 55.5 + \frac{-1.5}{10} \times 6 \\ &= 55.5 - 0.9 = 54.6 \end{aligned}$$

c. Modus

$$\begin{aligned} M_o &= u + \left(\frac{fa}{f_a + f_b} \right) \\ &= 55.5 + \left(\frac{5}{5+10} \right) \\ &= 55.5 + \left(\frac{5}{15} \right) \\ &= 55.5 + 0,3 \\ &= 55.8 \end{aligned}$$

The calculation above showed of mean value was 60.08, median value was 54.6, and modus value was 55.8. The writer tabulated the students' score into the table to calculate standard deviation as follows:

Table 4.2.4. The calculation of standard deviation

Interval (I)	Frequency (F)	Mid- point (x)	Fx	Fx ²
74-80	1	77	77	5929
68-73	3	70.5	211.5	44732,25
62-67	6	64.5	387	149769
56-61	4	58.5	234	54756
50-55	9	52.5	472.5	223256.25
Total			$\sum Fx=1382$	$\sum Fx^2=478442.5$

$$\begin{aligned}
 \text{d. Standard Deviation (SD)} &= \sqrt{\frac{\sum Fx^2 - \frac{(\sum Fx)^2}{n}}{n-1}} \\
 &= \sqrt{\frac{\sum 478442.5 - \frac{(\sum 1386)^2}{23}}{23-1}} \\
 &= \sqrt{\frac{\sum 478442.5 - \frac{1909924}{23}}{22}} \\
 &= \sqrt{\frac{\sum 478442.5 - 83040.2}{22}} \\
 &= \sqrt{\frac{395402.3}{22}} = \sqrt{17972.83} = 134
 \end{aligned}$$

e. Standard Error

$$SE_{Mx_2} = \frac{SD}{\sqrt{N-1}} = \frac{134}{\sqrt{23-1}} = \frac{134}{\sqrt{22}} = \frac{134}{4.69} = 28.57$$

After calculating, it found that the standard deviation was 134 and standard error was 28.57.

3. The Result of Data Analysis

Based on the analysis above, the writer concluded the result in following the table:

Table. 4.3. The data of test score of the students in office administration and marketing programs

	Office Administration Program	Marketing Program
N	22	23
R	41	31
K	5.4	5.4
I	8.2	6.2
Mx	69.61	60.08
Mdn	64	54.6
Mo	56	55.8
SD	144	134
SE	31.44	28.57

4. Testing of Normality and Homogeneity

a. Normality test

The writer calculated the normality test using SPSS 22 program.

Table 4.4.1. Normality Test of students of office administration and marketing programs

Tests of Normality							
	XI APK 1 and	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	XI SAR 1	Statistic	df	Sig.	Statistic	df	Sig.
Students' score	XI SAR 1	,173	23	,072	,930	23	,109
	XI APK 1	,115	22	,200*	,944	22	,244

The table showed the result of normality test using SPSS 22 program. To know the normality of data, the formula could be seen as follows:

If the number of sample. > 50 = Kolmogorov-Smirnov

If the number of sample. < 50 = Shapiro-Wilk

Based on the number of data the writer was $45 < 50$, so to analyzed normality data was used Shapiro-Wilk. The next step, the writer analyzed normality of data used formula as follows:

If Significance > 0.05 = data is normal distribution

If Significance < 0.05 = data is not normal distribution

Based on data above, significant data of students of office administration and marketing programs used Shapiro-Wilk was 0.109 > 0.05 and 0.244 > 0.05 . It could be concluded that the data was normal distribution.

b. Homogeneity test

The writer calculated the normality test using SPSS 22 program.

Table 4.4.2. Homogeneity test of students of office administration and marketing programs

Homogeneity Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Students' score	Equal variances assumed	2,356	,132	-1,793	43	,080	-5,042	2,812	-10,712	,629
	Equal variances not assumed			-1,778	36,631	,084	-5,042	2,836	-10,789	,706

The table showed the result of Homogeneity test calculation using SPSS 21.0 program. To know the Homogeneity of data, the formula could be seen as follows:

If Sig. > 0,01 = Equal variances assumed or Homogeny distribution

If Sig. < 0,01 = Equal variances not assumed or not Homogeny distribution

Based on data above, significant data was 0,132. The result was $0,132 > 0,01$, it meant the calculation used at the equal variances assumed or data was Homogeny distribution.

5. Testing Hypothesis

In order to calculate the result of data analysis, the writer calculated it using t test. There were manual calculation and SPSS Program version 22.

a. Testing hypothesis using manual calculation

The computation for the independent t test. First, writer calculate Error Standard of differences mean as follows:

$$SE_{Mx_1} - SE_{Mx_2} = \sqrt{(SE_{Mx_1})^2 + (SE_{Mx_2})^2}$$

$$SE_{Mx_1} - SE_{Mx_2} = \sqrt{(31.44)^2 + (28.57)^2}$$

$$SE_{Mx_1} - SE_{Mx_2} = \sqrt{988.47 + 816.24} = \sqrt{1804.71} = 42.48$$

The next step, the writer calculated testing hypothesis as follows:

$$t = \frac{\bar{X}_1 - \bar{X}_2}{SE_{Mx_1} - SE_{Mx_2}}$$

$$t = \frac{59.61 - 60.08}{42.48}$$

$$t = \frac{-0.47}{42.48} = -0.011$$

Here, writer have calculated the observed ratio was -0.011.

Then, the next step, the writer consider degrees of freedom. The

degrees of freedom for the t test for independent means are $n_1 + n_2 - 2$.⁵¹

$$\begin{aligned} \text{df} &= n_1 + n_2 - 2 \\ &= 22 + 23 - 2 \\ &= 43 \end{aligned}$$

The calculation above showed that degrees of freedom (df) was 43 at 5% level of significant = 2.018. It meant the observed ratio of -0.011 was smaller than 2.018. It could be interpreted that H_a stating that there is a significant difference on students' ability of the students of Office Administration and Marketing Programs in writing application letter was rejected and H_o stating that there is no significant difference on students' ability of the students of Office Administration and Marketing Programs in writing application letter was accepted. It meant that there is no significant difference on students' ability of the students of Office Administration and Marketing Programs in writing application letter at the eleventh-grade students of SMKN 2 Palangka Raya.

b. Testing hypothesis using spss 22 program

Meanwhile, the calculation of t_{test} using SPSS 22 program can be seen in the following table:

⁵¹Donal Ary, at all., *Introduction to Research in Education*, Wadsworth, 2010., p.174.

Table 4.5.1. Mean, Standard deviation, and standard error using SPSS 22 program.

Group Statistics					
	XI APK 1 and XI SAR 1	N	Mean	Std. Deviation	Std. Error Mean
Students' score	XI SAR 1	23	59,91	7,489	1,562
	XI APK 1	22	64,95	11,103	2,367

Table 4.5.2. Independent sample test using SPSS 22 program

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Students' score	Equal variances assumed	2,356	,132	-1,793	43	,080	-5,042	2,812	-10,712	,629
	Equal variances not assumed			-1,778	36,631	,084	-5,042	2,836	-10,789	,706

The result of t test using SPSS 22 program had shown that the result on the table above that t was -1,793. It was lower than t table at 5% (2.018) level of significance. Therefore, it could be interpreted that H_a stating that there is a significant difference on students' ability of the students of Office Administration and Marketing Programs in writing application letter was rejected and H_o stating that there is no significant difference on students' ability of the students of Office Administration and Marketing Programs in writing application letter

letter at the eleventh-grade students of SMKN 2 Palangka Raya was accepted at 5% level of significance.

B. Discussion

The result of the analysis showed that there is no any significant difference on students' ability between Office Administration Program (APK) And Marketing Program (SAR) in writing application letter at the eleventh Grade Students of SMKN 2 Palangka Raya. It could be proved from the students' score that the score of students in office administration program was not significant difference with the score of students in marketing program. It was found the mean of students in office administration program (X_1) was 59.61 and the mean of students in marketing program (X_2) was 60.08. Furthermore, the deviation standard of students in office administration program was 144 and the deviation standard of students in marketing program was 143. Then, those results were compared using t-test with pooled variant formula and it was found that t_{observed} was -0,011 and t_{table} was 2,018. It meant, H_a was rejected and H_o was accepted based on the computation that found $t_{\text{observed}} < t_{\text{table}}$.

The result above was rejected the alternative hypothesis (H_o). The writer stated that the students in office administration program had more skills in writing application letter than the students in marketing program at the eleventh grade students of SMKN 2 Palangka Raya. Surely, the writer stated it based on the theory which taking from curriculum of vocational high school that Office Administration Program is a program that is ready to be taught

skills and create employment candidates who are competent, competitive, and independent in the secretarial field. Expertise in this program will educate students to be able to handle the administration of the company which includes handling incoming and outgoing mail, letters agenda, and schedule management. Meanwhile, Marketing Program is a program to equip students with the skills, knowledge and attitudes, and aims to equip students' abilities and skills in maximizing the potential with adequate facilities so as to produce skilled manpower in the field of marketing. Then, Improve the abilities and skills of students by involving schools and the World Business Council or World Industries to meet market needs.

Both explanation above shown the difference purpose between the students in office administration and marketing program. However, after the writer did research by giving the test to the students in different programs, in writing application letter in english subject, the result shown that there is no significant difference ability in writing application business letter between the students in office administration and marketing programs at the eleventh grade students of SMKN 2 Palangka Raya. It was supported by the theory that stated “English for specific purposes is a term that refers to teaching or studying English for a particular career (like law, medicine) or for business in general.”⁵²

⁵²Veronika Burdová,, *English for Specific Purposes (Tourist Management and Hotel Industry)*, Masaryk University Faculty of Education Department of English Language and Literature, 2007., p.7.

Based on the explanation above, the writer concluded some of possibilities could be caused why the students in the different of programs do not meant had different abilities in writing application business letter between the students in office administration and marketing programs at the eleventh grade students of SMKN 2 Palangka Raya. First, the students in different programs got the same chance materials on learning process. Second, the syllabus that being teachers' reference in teaching English was the same syllabus. Third, the students in different programs got the same chance in time that five hours per weeks by description twice a week: two hours and three hours per meeting. The writer found all the factors by doing interview. The writer did the interview to the students and the teachers of office administration and marketing programs.

Finally, based on result founding above, the writer could be concluded that the students did the same chance on learning process such as they have the same materials, syllabus that teacher used as reference to teach the students was same and they have the same time on learning process. So, the programs difference does not give the different significance especially in writing application letter at the eleventh grade students of SMKN 2 Palangka Raya.