

## CHAPTER IV

### DATA PRESENTATION AND ANALYSIS

#### A. Data Presentation

##### 1. Data X (Students' perception toward English subject)

Data X (students' perception toward English subject) was acquired from questionnaire. After the questionnaire has been collected, this data is in the form of qualitative data. Then, the data is changed to be quantitative data through quantification process. Furthermore, the result of questionnaire is in the table as follows.

Table IV. 1. Score of students' perception toward English subject

Respondent No	Students' Score of Perception toward English subject	Respondent No	Students' Score of Perception toward English subject
1.	73	24.	74
2.	73	25.	73
3.	75	26.	63
4.	80	27.	70
5.	78	28.	71
6.	73	29.	87
7.	76	30.	72
8.	73	31.	78
9.	71	32.	61
10.	73	33.	81
11.	77	34.	69

Continuation of Table IV. 1.

Respondent	Students' Score of	Respondent	Students' Score of
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No	Perception toward English subject	No	Perception toward English subject
12.	82	35.	61
13.	72	36.	80
14.	59	37.	70
15.	61	38.	78
16.	84	39.	73
17.	62	40.	69
18.	59	41.	69
19.	66	42.	65
20.	78	43.	78
21.	65	44.	53
22.	76	45.	66
23	78	46.	77

Then, this data is classified into three criteria, namely good, medium, and bad.

The classification of these criteria can be seen in the table below.

Table IV. 2. Students' perception toward English subject

Class	Students' Perception			Sum
	Good	Medium	Bad	
VII A	5	6	0	11
VII B	3	7	0	10
VIII	8	11	0	19
IX	2	4	0	6
Sum	18	28	0	N = 46

## 2. Data Y (English Learning Achievement)

While data Y (English learning achievement) was acquired from the result of English examination grades in the odd semester academic year 2009/2010. The data is in the table IV. 3.

Table IV. 3. Students' grades of English learning achievement

Respondent No	Students' grades of English Learning Achievement	Respondent No	Students' grades of English Learning Achievement
1.	60	24.	61
2.	60	25.	48
3.	70	26.	52
4.	60	27.	55
5.	60	28.	55
6.	65	29.	62
7.	70	30.	55
8.	55	31.	64
9.	70	32.	63
10.	60	33.	65
11.	60	34.	71
12.	60	35.	60
13.	60	36.	57
14.	65	37.	61
15.	60	38.	60
16.	70	39.	67
17.	60	40.	70
18.	60	41.	63
19.	70	42.	62

Continuation of Table IV. 3.

Respondent	Students' grades of English	Respondent	Students' grades of
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No	Learning Achievement	No	English Learning Achievement
20.	55	43.	65
21.	60	44.	64
22.	51	45.	61
23	68	46.	73

Then, this data is classified into five criteria, namely excellent, good, enough, poor, and bad. The classification of these criteria can be seen in the table below.

Table IV. 4. Students' English learning achievement

Class	Students' English Learning Achievement					Sum
	Excellent	Good	Enough	Poor	Bad	
VII A	0	3	7	1	0	11
VII B	0	2	7	1	0	10
VIII	0	2	10	6	1	19
IX	0	1	5	0	0	6
Sum	0	8	29	8	1	N = 46

## B. Data Analysis

In data analysis, there are two steps in analyzing data. The first step is to know the normality of data, while the last step is to test hypothesis.

### 1. Testing Normality of Data

a. Testing data X

To test whether the obtained data is in normal situation or not, this research uses Chi Quadrate Test. The formula and steps to calculate it as follows:

The formula is:

$$\chi^2 = \sum \frac{(f_o - f_h)^2}{f_h}$$

Afterwards, the first needed thing is to formulate alternative hypothesis ( $H_a$ ) and nil hypothesis ( $H_0$ ) as below.

$H_a$  : There is significance difference between Obtained frequency ( $f_o$ ) and expected frequency ( $f_h$ ).

$H_0$  : There is no significance difference between Obtained frequency ( $f_o$ ) and expected frequency ( $f_h$ ).

Then, the next step is to make distribution table of data X as follows:

Table IV. 5. Data about students' perception toward English subject

Class	Students' Perception			Sum
	Good	Medium	Bad	
VII A	5	6	0	11
VII B	3	7	0	10
VIII	8	11	0	19
IX	2	4	0	6
Sum	18	28	0	N = 46

To finish this formulation, a thing needed is:

Table IV. 6. Obtained frequency ( $f_o$ ) and expected frequency ( $f_h$ )

Class	Students' Perception			Sum
	Good	Medium	Bad	
VII A	5 (4.304)	6 (6.696)	0 (0)	11
VII B	3 (3.913)	7 (6.087)	0 (0)	10
VIII	8 (7.435)	11 (11.565)	0 (0)	19
IX	2 (2.348)	4 (3.652)	0 (0)	6
Sum	18	28	0	N = 46

Notice:

The scores in the parenthesis is the amount of expected frequency ( $f_h$ )

Furthermore, preparing work table to calculate Chi Quadrate.

Table IV. 7. Work table to calculate Chi Quadrate ( $X^2$ ) from table IV. 6.

Class	Category	$f_o$	$f_h$	$(f_o - f_h)$	$(f_o - f_h)^2$	$\frac{(f_o - f_h)^2}{f_h}$
VII A	Good	5	4.304	0.696	0.484	0.112
	Medium	6	6.696	-0.696	0.484	0.072
	Bad	0	0	0	0	0
VII B	Good	3	3.913	-0.913	0.834	0.213
	Medium	7	6.087	0.913	0.834	0.137
	Bad	0	0	0	0	0

Continuation of Table IV. 7.

Class	Category	$f_o$	$f_h$	$(f_o - f_h)$	$(f_o - f_h)^2$	$\frac{(f_o - f_h)^2}{f_h}$
VIII	Good	8	7.435	0.565	0.319	0.043
	Medium	11	11.565	-0.565	0.319	0.028
	Bad	0	0	0	0	0
IX	Good	2	2.348	-0.348	0.121	0.052
	Medium	4	3.652	0.348	0.121	0.033
	Bad	0	0	0	0	0
		46	46	$\Sigma(f_o - f_h)$ 0		$\Sigma \frac{(f_o - f_h)^2}{f_h}$ 0.69

Therefore, Chi Quadrate is 0.69

Then, this result is consulted with critical value of  $X^2$  and previously, the result needs to calculate free degree (db) that is  $(k-1)(b-1)$ . While there are three columns (k) and four lines (b). So,  $(3-1)(4-1) = 2 \times 3 = 6$ . So, from db 6, the critical value of  $X^2$  as follows.

- In the degree of significance 5% = 12.592
- In the degree of significance 1% = 16.812

The value of  $X^2$  0.69 is smaller than critical value of  $X^2$ , both in the degree of significance 5% and in the degree of significance 1% that is  $12.592 > 0.65 < 16.812$ . So, alternative hypothesis is denied and nil hypothesis is accepted.

In short, data X is in normal situation.

b. Testing Data Y

The first needed thing is to formulate alternative hypothesis ( $H_a$ ) and nil hypothesis as below.

$H_a$  : There is significance difference between Obtained frequency ( $f_o$ ) and expected frequency ( $f_h$ ).

$H_0$  : There is no significance difference between Obtained frequency ( $f_o$ ) and expected frequency ( $f_h$ ).

Then, the next step is to make distribution table of data Y as follows:

Table IV. 8. Data about students' English learning achievement

Class	Students' English Learning Achievement					Sum
	Excellent	Good	Enough	Poor	Bad	
VII A	0	3	7	1	0	11
VII B	0	2	7	1	0	10
VIII	0	2	10	6	1	19
IX	0	1	5	0	0	6
Sum	0	8	29	8	1	N = 46

To finish this formulation, a thing needed is:

Table IV. 9. Obtained frequency ( $f_o$ ) and expected frequency ( $f_h$ )



Class	Students' English Learning Achievement					Sum
	Excellent	Good	Enough	Poor	Bad	
VII A	0 (0)	3 (1.913)	7 (6.935)	1 (1.913)	0 (0.239)	11
VII B	0 (0)	2 (1.739)	7 (6.304)	1 (1.739)	0 (0.217)	10
VIII	0 (0)	2 (3.304)	10 (11.978)	6 (3.304)	1 (0.413)	19
IX	0 (0)	1 (1.043)	5 (3.783)	0 (1.043)	0 (0.130)	6
Sum	0	8	29	8	1	N = 46

Notice:

The scores in the parenthesis is the amount of expected frequency ( $f_h$ ).

Furthermore, preparing work table to calculate Chi Quadrate.

Table IV. 10. Work table to calculate Chi Quadrate ( $X^2$ ) from table IV. 9.

Class	Category	$f_o$	$f_h$	$(f_o - f_h)$	$(f_o - f_h)^2$	$\frac{(f_o - f_h)^2}{f_h}$
VII A	Excellent	0	0	0	0	0
	Good	3	1.913	1.087	1.182	0.618
	Enough	7	6.935	0.065	0.004	0.001
	Poor	1	1.913	-0.913	0.834	0.436
	Bad	0	0.239	-0.239	0.057	0.238

Continuation of Table IV. 10.

Class	Category	$f_o$	$f_h$	$(f_o - f_h)$	$(f_o - f_h)^2$	$\frac{(f_o - f_h)^2}{f_h}$
VII B	Excellent	0	0	0	0	0
	Good	2	1.739	0.261	0.068	0.039
	Enough	7	6.304	0.696	0.484	0.077
	Poor	1	1.739	-0.739	0.546	0.314
	Bad	0	0.217	-0.217	0.047	0.217
VIII	Excellent	0	0	0	0	0
	Good	2	3.304	-1.304	1.700	0.515
	Enough	10	11.978	-1.978	3.912	0.327
	Poor	6	3.304	2.696	7.268	2.199
	Bad	1	0.413	0.587	0.345	0.835
IX	Excellent	0	0	0	0	0
	Good	1	1.043	-0.043	0.002	0.002
	Enough	5	3.783	1.217	1.481	0.391
	Poor	0	1.043	-1.043	1.088	1.043
	Bad	0	0.130	-0.130	0.016	0.123
		46	45.997	$\Sigma(f_o - f_h)$ 0.005		$\Sigma \frac{(f_o - f_h)^2}{f_h}$ 7.375

Therefore, the Chi Quadrate is 7.375

Then, this result is consulted with critical value of  $X^2$  and previously, the result needs to calculate free degree (db) that is  $(k-1)(b-1)$ . While there are three columns (k) and four lines (b). So,  $(5-1)(4-1) = 4 \times 3 = 12$ . So, from db 12, the critical value of  $X^2$  as follows.

- In the degree of significance 5% = 21.026
- In the degree of significance 1% = 26.217

The value of  $X^2$  7.375 is smaller than critical value of  $X^2$ , both in the degree of significance 5% and in the degree of significance 1% that is  $21.026 > 7.375 < 26.217$ .

So, alternative hypothesis is denied and nil hypothesis is accepted.

In short, data Y is in normal situation.

## 2. Testing Hypothesis

To find out the correlation between perception and English learning achievement, kontingensi coefficient correlation technique is used, the formula and the steps as follows.

The formula is:

$$KK = \sqrt{\frac{X^2}{X^2 + N}}$$

Then, the first thing is to make a table about the data that are correlated as follows.

Table IV. 11. Data about perception and English learning achievement from 46 subjects

Students' English Learning Achievement	Students' Perception			Sum
	Good	Medium	Bad	
Excellent	0	0	0	0
Good	4	4	0	8

Enough	11	18	0	29
Poor	3	5	0	8
Bad	0	1	0	1
	18	28	0	46 = N

Then, to calculate the grade of Kontingensi Coefficient Index, there are some steps ought to be done previously.

Finding out how big Chi Quadrate is, by the formula:

$$X^2 = \sum \frac{(f_o - f_h)^2}{f_h}$$

To finish this formula, a work table is needed as follows:

Table IV. 12. Work table to calculate Chi Quadrate ( $X^2$ ) from table IV. 11.

Sel	$f_o$	$f_h$	$(f_o - f_h)$	$(f_o - f_h)^2$	$\frac{(f_o - f_h)^2}{f_h}$
1	4	$\frac{18 \times 8}{46} = 3.130$	0.87	0.757	0.242
2	4	$\frac{28 \times 8}{46} = 4.869$	-0.869	0.755	0.155
3	11	$\frac{18 \times 29}{46} = 11.348$	-0.348	0.121	0.011
4	18	$\frac{28 \times 29}{46} = 17.652$	0.348	0.121	0.007
5	3	$\frac{18 \times 8}{46} = 3.130$	-0.130	0.017	0.005

Continuation of Table IV. 12.

Sel	$f_o$	$f_h$	$(f_o - f_h)$	$(f_o - f_h)^2$	$\frac{(f_o - f_h)^2}{f_h}$
6	5	$\frac{28 \times 8}{46} = 4.869$	0.131	0.017	0.003
7	0	$\frac{18 \times 1}{46} = 0.391$	-0.391	0.153	0.391

8	1	$\frac{28 \times 1}{46} = 0.609$	0.391	0.153	0.251
			$\sum(f_o - f_h)$ 0.002		$\sum \frac{(f_o - f_h)^2}{f_h}$ 1.065

From table above, the obtained Chi Quadrate is 1.065 ( $X^2 = 1.065$ )

Finishing Kontingensi Coefficient Correlation formula.

The formula is:

$$KK = \sqrt{\frac{X^2}{X^2 + N}}$$

As known above that  $X^2 = 1.065$  and  $N = 46$ . So to finish this formula as follows:

$$\begin{aligned} KK &= \sqrt{\frac{1.065}{1.065 + 46}} \\ &= \sqrt{\frac{1.065}{47.065}} \\ &= \sqrt{0.023} \\ &= 0.152 \end{aligned}$$

For giving interpretation to the value of Kontingensi Coefficient, it has to be changed to be Phi and the formula is:

$$\text{Phi} = \frac{KK}{\sqrt{1 - KK^2}}$$

$$\begin{aligned}
\text{Phi} &= \frac{0.152}{\sqrt{1-0.152^2}} \\
&= \frac{0.152}{\sqrt{1-0.023}} \\
&= \frac{0.152}{\sqrt{0.977}} \\
&= \frac{0.152}{0.988} \\
&= 0.154
\end{aligned}$$

Furthermore, the obtained value of Phi is consulted with table of grades r Product Moment, where N = 46 the obtained value of r table in the trust interval 95% is 0.291 and in the trust interval 99% is 0.376

As known that the obtained value of Phi is 0.154, it is smaller than r table, both in the trust interval 95% and in the trust interval 99%. So, alternative hypothesis (ha) goes as follows: There is significant positive correlation between perception and English learning achievement is denied. It meant that nil hypothesis (ho) that goes as follows: There is no significant positive correlation between perception and English learning achievement is accepted.