

CHAPTER IV

RESEARCH FINDINGS AND ANALYSIS

A. Description of the Research Result

To find out the influence of students' achievement of phonology toward their pronunciation with the students of English Language Education Department on fourth semester, the writer did an analysis of quantitative data. The data is obtained by giving phonology and pronunciation test.

The subjects of this research were the students of English Department on fourth semester. There are two classes of them, TBI 4A and TBI 4B. Before conducting the tests on them, the writer gave the try out test to the students of TBI 4B. The test is phonology test and it consist of 12 questions.

After the data were collected, the writer analyzed it. The first analysis data is the result of try out test. The analysis consists of validity, reliability, level of difficulty and discriminating power. After analyzing the try out test, the writer gave the phonology and pronunciation test to both of class, TBI 4A and TBI 4 B. Then, the analysis of the test result is described below.

B. The Data Analysis and Test of Hypothesis

1. The Data Analysis

a. The Data Analysis of Try-out Test Instrument

This discussion covers validity, reliability, level of difficulty and discriminating power.

1. Validity of Instrument

As mentioned in chapter III, validity refers to the precise measurement of the test. In this study, item validity is used to know the index validity of the test. To know the validity of instrument, the writer used the Pearson product moment formula to analyze each item.

It is obtained that from 15 test items; there are 13 test items which are valid and 2 test items which are invalid. They are on number 7 and 9. They are invalid with the reason that the computation result of their r_{xy} value (the correlation of score each item) is lower than their r_{table} value.

The following is the example of item validity computation for item number 1 and for the other items would use the same formula.

$$\begin{array}{ll} N = 38 & \sum Y = 341 \\ \sum XY = 206 & \sum X^2 = 21 \end{array}$$

$$\sum X = 21 \qquad \sum Y^2 = 3273$$

$$r_{xy} = \frac{N \sum XY - \sum (X) \sum (Y)}{\sqrt{\{N \sum X^2 - (\sum X)^2\} \{N \sum Y^2 - (\sum Y)^2\}}}$$

$$r_{xy} = \frac{38(206) - 21(341)}{\sqrt{\{38(21) - (21)^2\} \{38(3273) - (691)^2\}}}$$

$$r_{xy} = \frac{7828 - 7161}{\sqrt{(798 - 441)(124374 - 116281)}}$$

$$r_{xy} = \frac{667}{\sqrt{(357)(8093)}}$$

$$r_{xy} = \frac{667}{1699.7}$$

$$r_{xy} = 0.3924$$

From the computation above, the result of computing validity of the item number 1 is 0.39. After that, the writer consulted the result to the table of r Product Moment with the number of subject (N) = 38 and significance level 5% it is 0.320. Since the result of the computation is higher than r in table, the index of validity of the item number 1 is considered to be valid. The list of the validity of each item can be seen in **appendix 12**.

2. Reliability of Instrument

A good test must be valid and reliable. Besides the index of validity, the writer calculated the reliability of the test using Kuder- Richardson formula 20(K-R 20).

Before computing the reliability, the writer had to compute Varian (S^2) with the formula below:

$$N = 38 \qquad \sum Y = 341$$

$$\sum Y^2 = 3273 \qquad \sum pq = 3,26$$

$$S^2 = \frac{\sum y^2 - \frac{(\sum y)^2}{N}}{N}$$

$$S^2 = \frac{3273 - \frac{(341)^2}{38}}{38}$$

$$S^2 = \frac{3273 - 3060}{38}$$

$$S^2 = \frac{213}{38}$$

$$S^2 = 5.605$$

The computation of the Varian (S^2) is 5.605. After finding the Varian (S^2) the writer computed the reliability of the test as follows:

$$r_{11} = \left(\frac{n}{n-1} \right) \left(\frac{S - \sum pq}{S^2} \right)$$

$$r_{11} = \left(\frac{38}{38-1} \right) \left(\frac{5.605 - 3.227}{5.605} \right)$$

$$r_{11} = 1.04 \left(\frac{15.8772}{20.72} \right)$$

$$r_{11} = 0.454$$

From the computation above, it is found out that r_{11} (the total of reliability test) is 0.454, whereas the number of subjects is 38 and the critical value for r-table with significance level 5% is 0.320. Thus, the value resulted from the computation is higher than its critical value. It could be concluded that the instrument used in this research is reliable.

3. The level of Difficulty

The following is the computation of the level difficulty for item number 1 and for the other items would use the same formula.

$$B=21$$

$$JS= 38$$

$$P = \frac{B}{JS} \quad P = \frac{21}{38}$$

$$P = 0.55$$

It is proper to say that the index difficulty of the item number 1 above can be said as the sufficient category, because the calculation result of the item number 1 is in the interval $0.30 \leq p \leq 0.70$.

After computing 15 items of the try-out test, there are 5 items are considered to be easy, 10 items are sufficient. The whole computation result of difficulty level can be seen in **appendix 12**.

4. The Discriminating Power

The discrimination power of an item indicated the extent to which the item discriminated between the testees, separating the more able testees from the less able. The index of discriminating power told us whether those students who performed well on the whole test tended to do well or badly on each item in the test. To do this analysis, the number of try-out subjects was divided into two groups, upper and lower groups.

The following is the computation of the discriminating power for item number 1, and for other items are used the same formula.

$$\begin{array}{ll} BA=14 & BB=7 \\ JA= 19 & JB=19 \end{array}$$

$$D = \frac{BA}{JA} - \frac{BB}{JB}$$

$$D = \frac{14}{19} - \frac{7}{19}$$

$$D = 0.74 - 0.37$$

$$D = 0.37$$

According to the criteria, the item number 1 above is enough category, because the calculation result of the item number 1 is in the interval $0.20 \leq p \leq 0.40$.

After computing 15 items of try –out test, there are 2 items are considered to be good, 10 items are enough, and 3 items are poor. The result of the discriminating power of each item could be seen **appendix 12**.

Based on the analysis of validity, reliability, difficulty level, and discriminating power, finally 12 items are accepted. They are number 1, 2, 4, 5, 6, 8, 10, 11, 12, 13, 14, 15.

b. The Score of English Phonology

From the result of try out analysis, there are 12 questions were valid. The classification, 7 questions are multiple choice and 5 questions are transcription. Each

correct answer is scored 1, and each incorrect answer is scored 0. The total score is 12.

The score of students' achievement of English phonology can be described on the table below:

Table 4.1
The Data of Students' Achievement of English Phonology

No	Code	Test Items												Total
		1	2	3	4	5	6	7	8	9	10	11	12	
1	C1	0	1	1	1	1	0	1	0	0	1	0	1	7
2	C2	1	0	0	0	1	1	0	1	1	1	0	0	6
3	C3	1	0	1	1	1	1	0	1	1	1	0	0	8
4	C4	1	1	0	0	1	1	1	0	0	0	0	1	6
5	C5	1	1	1	1	1	0	1	1	1	1	0	1	10
6	C6	1	1	0	0	1	0	1	1	0	1	1	1	8
7	C7	0	0	1	1	1	0	1	1	0	1	0	1	7
8	C8	1	1	0	1	1	1	1	1	0	1	0	1	9
9	C9	0	1	0	1	0	1	1	1	0	1	0	1	7
10	C10	0	1	0	1	0	1	0	1	1	1	0	0	6
11	C11	0	1	0	1	1	0	1	1	1	1	0	1	8
12	C12	1	1	0	1	1	1	1	0	0	1	1	1	9
13	C13	0	1	0	1	1	1	0	0	0	1	1	1	7
14	C14	1	1	0	1	1	1	0	1	1	1	0	0	8
15	C15	0	1	0	1	0	1	1	1	0	1	0	0	6
16	C16	1	0	0	0	1	1	1	1	1	1	1	0	8
17	C17	1	1	0	1	0	1	0	1	0	1	0	1	7
18	C18	1	1	0	1	0	1	1	1	1	1	0	1	9
19	C19	1	1	0	1	0	0	1	1	0	1	0	0	6
20	C20	0	1	0	1	0	1	1	1	1	1	0	0	7
21	C21	1	1	1	0	1	1	0	0	1	1	0	1	8
22	C22	0	1	0	1	0	0	1	1	0	1	0	1	6
23	C23	1	1	0	1	1	0	1	1	0	1	1	0	8
24	C24	1	0	1	0	0	1	0	1	1	1	0	0	6

No	Code	Test Items												Total
		1	2	3	4	5	6	7	8	9	10	11	12	
25	C25	1	0	1	1	0	0	1	0	1	1	1	0	7
26	C26	1	1	0	1	1	0	1	1	0	1	0	1	8
27	C27	1	1	1	1	1	1	0	1	1	1	0	0	9
28	C28	1	1	0	1	0	1	0	0	1	1	0	0	6
29	C29	1	1	0	1	0	1	1	1	0	1	0	1	8
30	C30	1	0	0	1	0	1	0	1	0	1	0	0	5
31	C31	1	1	1	1	0	1	0	1	1	1	1	0	9
32	C32	0	1	1	1	0	0	0	1	1	0	0	1	6
33	C33	1	0	0	1	0	1	0	1	1	1	0	0	6
34	C34	1	1	1	1	1	1	0	1	1	1	0	0	9
35	C35	1	0	0	1	0	0	1	1	1	1	0	0	6
36	C36	1	1	1	1	0	1	0	1	1	1	0	0	8
37	C37	0	1	0	0	1	0	1	1	0	1	0	1	7
38	C38	1	0	1	0	1	0	0	1	1	1	0	0	6
39	C39	0	1	0	0	1	1	0	1	1	1	0	0	6
40	C40	1	0	0	1	0	1	1	1	0	1	1	1	8
41	C41	1	0	1	0	0	1	0	1	0	1	0	0	5
42	C42	0	1	0	1	1	1	1	0	1	1	1	0	8
43	C43	1	0	0	0	1	1	0	0	1	1	0	1	6
44	C44	0	1	1	1	1	1	1	1	1	1	1	0	10
45	C45	1	1	1	1	1	1	1	1	0	1	1	1	11
46	C46	0	1	1	1	0	1	1	1	1	1	1	1	10
47	C47	1	1	1	1	1	0	1	1	0	1	0	1	9
48	C48	0	1	0	1	1	0	1	1	1	1	1	0	8
49	C49	0	1	0	0	1	1	0	1	1	1	0	0	6
50	C50	1	1	0	0	1	1	0	0	1	1	1	0	7
51	C51	1	0		1	0	1	1	1	0	1	0	1	8
52	C52	0	0	0	1	0	1	1	1	0	1	0	0	5
53	C53	1	1	0	1	1	0	1	1	0	1	0	1	8
54	C54	0	1	0	0	1	0	0	1	1	0	0	0	4
55	C55	1	0	1	1	0	1	1	1	0	1	1	0	8
56	C56	1	1	0	0	1	1	1	1	0	1	1	1	9
57	C57	1	0	0	1	1	0	1	1	0	1	1	1	8
58	C58	1	1	1	1	1	1	1	1	1	1	0	0	10

No	Code	Test Items												Total
		1	2	3	4	5	6	7	8	9	10	11	12	
59	C59	1	1	0	1	1	1	0	1	1	1	0	0	8
60	C60	1	1	0	1	1	1	1	0	1	1	0	1	9
61	C61	1	1	0	1	0	1	0	1	0	1	0	1	7
62	C62	1	0	0	1	1	0	0	1	1	1	0	0	6
63	C63	0	1	0	1	1	0	1	1	0	1	0	1	7
64	C64	1	1	1	1	1	1	0	1	1	1	0	0	9
65	C65	1	1	1	0	1	1	0	1	1	1	1	1	10
66	C66	1	1	1	1	1	1	0	1	1	1	0	0	9
67	C67	1	0	0	0	1	1	0	0	0	1	0	1	5
68	68	0	1	0	1	1	1	0	1	1	0	0	0	6
69	C69	0	1	1	1	1	1	0	1	0	1	0	1	8
70	C70	1	1	1	0	1	0	1	1	0	1	1	1	9
71	C71	1	1	0	1	1	0	1	1	0	0	1	1	8
72	C72	1	1	0	0	1	1	1	0	0	1	0	1	7
73	C73	0	0	0	1	1	0	1	1	0	1	0	0	5
74	C74	1	0	0	0	1	1	0	1	0	1	0	1	6
75	C75	0	1	0	1	1	0	1	1	1	1	0	0	7
76	C76	1	1	0	0	1	1	0	1	1	0	1	0	7
77	C77	1	1	0	1	1	1	0	1	1	1	0	0	8
78	C78	1	1	0	1	1	0	1	0	0	1	1	1	8
79	C79	1	1	1	0	1	1	1	1	1	1	1	1	11
80	C80	1	1	0	0	1	0	0	1	0	1	0	1	6
81	C81	0	0	1	1	1	1	0	1	1	1	0	0	7
		TOTAL												604

Based on the above table, the highest score of phonology is 11 and the lowest is 4. The score (X) is 604 and the participants (N) are 81.

The next step is to calculate Mean of students' achievement of English phonology:

$$\begin{aligned}
 Mx &= \frac{\sum X}{N} \\
 &= \frac{604}{81} \\
 &= 7.457
 \end{aligned}$$

c. The Score of Pronunciation

The next, the writer wants to find out data about the students' achievement of pronunciation. In this case, the students read the dialogue in pair with the scoring attitudes as below:

NO	INDICATOR			SCORE
1	Pitch and Intonation	Falling intonation	11	19
		Mid high intonation	4	
		High normal intonation	4	
2	Word stress		22	22
3	Speech sound	Vowel	9	50
		Consonant	22	
		Cluster	11	
		Diphthong	8	
	Total Score		91	91

The students' score of pronunciation are described in the table below:

Table 4.2
The data of students' achievement of pronunciation

Code	Score
C1	71
C2	74
C3	70
C4	74
C5	73
C6	85
C7	76
C8	73
C9	79
C10	77
C11	67
C12	79
C13	85
C14	75
C15	79
C16	71
C17	77
C18	74
C19	85
C20	76
C21	80
C22	80
C23	71
C24	80
C25	68
C26	77
C27	80
C28	85
C29	68
C30	79
C31	68
C32	80

Code	Score
C42	79
C43	69
C44	86
C45	81
C46	86
C47	80
C48	79
C49	74
C50	80
C51	77
C52	69
C53	65
C54	79
C55	76
C56	83
C57	80
C58	79
C59	73
C60	83
C61	78
C62	66
C63	78
C64	81
C65	85
C66	74
C67	73
68	73
C69	85
C70	82
C71	83
C72	83
C73	73

C33	71
C34	67
C35	74
C36	68
C37	80
C38	77
C39	71
C40	73
C41	69

C74	69
C75	73
C76	76
C77	80
C78	71
C79	82
C80	73
C81	77
	6179

Based on the above table, the highest score of pronunciation is 86 and the lowest is 65. The score (X) is 6179 and the participants (N) are 81.

The next step is to calculate Mean of students' achievement of phonology:

$$\begin{aligned}
 M_x &= \frac{\sum X}{N} \\
 &= \frac{6179}{81} \\
 &= 76.28
 \end{aligned}$$

2. Hypothesis Analysis

The purpose of hypothesis analysis is to know is there an influence between students' achievement of English phonology toward their pronunciation. The data of students' score of English phonology (X) and students' score of pronunciation (Y) are entered on a table of regression analysis as below:

Table 4.3
Regression Analysis Table of
Students' achievement of English phonology (X)
and Students' achievement of pronunciation (Y)

No	Code	X	Y	X ²	Y ²	XY
1	C1	7	71	49	5041	497
2	C2	6	74	36	5476	444
3	C3	8	70	64	4900	560
4	C4	6	74	36	5476	444
5	C5	10	73	100	5329	730
6	C6	8	85	64	7225	680
7	C7	7	76	49	5776	532
8	C8	9	73	81	5329	657
9	C9	7	79	49	6241	553
10	C10	6	77	36	5929	462
11	C11	8	67	64	4489	536
12	C12	9	79	81	6241	711
13	C13	7	85	49	7225	595
14	C14	8	75	64	5625	600
15	C15	6	79	36	6241	474
16	C16	8	71	64	5041	568
17	C17	7	77	49	5929	539
18	C18	9	74	81	5476	666
19	C19	6	85	36	7225	510
20	C20	7	76	49	5776	532
21	C21	8	80	64	6400	640
22	C22	6	80	36	6400	480
23	C23	8	71	64	5041	568
24	C24	6	80	36	6400	480
25	C25	7	68	49	4624	476
26	C26	8	77	64	5929	616
27	C27	9	80	81	6400	720
28	C28	6	85	36	7225	510
29	C29	8	68	64	4624	544
30	C30	5	79	25	6241	395

No	Code	X	Y	X2	Y2	XY
31	C31	9	68	81	4624	612
32	C32	6	80	36	6400	480
33	C33	6	71	36	5041	426
34	C34	9	67	81	4489	603
35	C35	6	74	36	5476	444
36	C36	8	68	64	4624	544
37	C37	7	80	49	6400	560
38	C38	6	77	36	5929	462
39	C39	6	71	36	5041	426
40	C40	8	73	64	5329	584
41	C41	5	69	25	4761	345
42	C42	8	79	64	6241	632
43	C43	6	69	36	4761	414
44	C44	10	86	100	7396	860
45	C45	11	81	121	6561	891
46	C46	10	86	100	7396	860
47	C47	9	80	81	6400	720
48	C48	8	79	64	6241	632
49	C49	6	74	36	5476	444
50	C50	7	80	49	6400	560
51	C51	8	77	64	5929	616
52	C52	5	69	25	4761	345
53	C53	4	65	16	4225	260
54	C54	8	79	64	6241	632
55	C55	8	76	64	5776	608
56	C56	9	83	81	6889	747
57	C57	8	80	64	6400	640
58	C58	10	79	100	6241	790
59	C59	8	73	64	5329	584
60	C60	9	83	81	6889	747
61	C61	7	78	49	6084	546
62	C62	6	66	36	4356	396
63	C63	7	78	49	6084	546
64	C64	9	81	81	6561	729
65	C65	10	85	100	7225	850

No	Code	X	Y	X ²	Y ²	XY
66	C66	9	74	81	5476	666
67	C67	5	73	25	5329	365
68	68	6	73	36	5329	438
69	C69	8	85	64	7225	680
70	C70	9	82	81	6724	738
71	C71	8	83	64	6889	664
72	C72	7	83	49	6889	581
73	C73	5	73	25	5329	365
74	C74	6	69	36	4761	414
75	C75	7	73	49	5329	511
76	C76	7	76	49	5776	532
77	C77	8	80	64	6400	640
78	C78	8	71	64	5041	568
79	C79	11	82	121	6724	902
80	C80	6	73	36	5329	438
81	C81	7	77	49	5929	539
Statistic		X	Y	X²	Y²	XY
Total		604	6179	4682	473729	46295

$$N = 81$$

$$\sum X^2 = 4682$$

$$\sum X = 604$$

$$\sum Y^2 = 473729$$

$$\sum Y = 6179$$

$$\sum XY = 46295$$

The all data is calculated by using *regression one predictor analysis* in order to prove the hypothesis of this research, significant or not significant.

a. Looking for the correlation between X and Y

Correlation between X and Y can be searched through the Pearson product moment correlation formula:

$$r_{xy} = \frac{N \sum XY - \sum(X) \sum(Y)}{\sqrt{\{N \sum X^2 - (\sum X)^2\} \{N \sum Y^2 - (\sum Y)^2\}}}$$

r_{xy} : The correlation coefficient between X
variable and Y variable

N : The number of students

X : The total score of phonology

Y : The total score of pronunciation

From the table above, the writer put the data into
the formula:

$$r_{xy} = \frac{N \sum XY - \sum(X) \sum(Y)}{\sqrt{\{N \sum X^2 - (\sum X)^2\} \{N \sum Y^2 - (\sum Y)^2\}}}$$

$$r_{xy} = \frac{81(46295) - (604)(6179)}{\sqrt{\{81(4682) - (604)^2\} \{81(473729) - (6179)^2\}}}$$

$$r_{xy} = \frac{3749895 - 3732116}{\sqrt{(379242 - 364816)(38372049 - 38180041)}}$$

$$r_{xy} = \frac{17779}{\sqrt{(14426)(192008)}}$$

$$r_{xy} = \frac{17779}{52629.9}$$

From the computation above, the result is 0,338. After that, the writer consulted the result to the table of r Product Moment with the number of subject (N) = 81 and significance level 5% and r_{table} is 0,220. Because $r_{xy} > r_{table}$, it means significant, so it can be concluded that there is correlation between students' achievement of phonology toward their achievement of pronunciation.

From the result above, the writer will interpret that category of correlation based on the following:

0,80 – 1,00 means very high correlation.

0,60 – 0,799 means high correlation.

0,40 – 0,599 means enough correlation.

0,20 – 0,399 means low correlation.

0,00 – 0,199 means very low correlation.

Based on the calculation above, the writer concluded that the correlation between students' achievement of phonology toward their pronunciation had positive correlation with the number of correlation is 0,388, and it was categorized "low correlation".

- b. Looking for the regression similarity

$$\hat{Y} = a + bX$$

With the calculation of coefficient a and b as below:

- 1) The calculation of coefficient b

$$b = \frac{n \sum XY - (\sum X)(\sum Y)}{n \sum X^2 - (\sum X)^2}$$

$$b = \frac{81.(46295) - (604)(6179)}{81.(4682) - (604)^2}$$

$$b = \frac{3749895 - 3732116}{379242 - 364816} = \frac{17779}{14426}$$

$$b = 1,23$$

- 2) The calculation of coefficient a

$$a = \frac{(\sum y) - b(\sum x)}{n}$$

$$a = \frac{6179 - (1,23)(604)}{81}$$

$$a = \frac{6179 - 742,92}{81} = \frac{5436,08}{81}$$

$$a = 67,1$$

From the computation above, the writer concluded that the regression similarity is:

$$\bar{Y} = a + bX$$

$$\bar{Y} = 67,1 + 1,23X$$

- c. Examining the regression significant

After computing the students' score as described on table above, the writer began to examine the regression significant with the steps of calculating as below:

- 1) Total of regression quadrate ($JK_{\text{Reg [a]}}$)

$$JK_{Reg[a]} = \frac{(\sum Y)^2}{n} = \frac{(6179)^2}{81}$$

$$JK_{Reg[a]} = \frac{38180041}{81} = 471358,53$$

- 2) Total of regression quadrate ($JK_{Reg[b/a]}$)

$$JK_{Reg[b/a]} = b \cdot \left\{ \sum XY - \frac{(\sum X) \cdot (\sum Y)}{n} \right\}$$

$$JK_{Reg[b/a]} = 1,23 \cdot \left\{ 46295 - \frac{(604) \cdot (6179)}{81} \right\}$$

$$JK_{Reg[b/a]} = 1,23 \cdot \{ 46295 - 46075,5 \}$$

$$JK_{Reg[b/a]} = (1,23) \cdot (219,5) = 269,985$$

- 3) Total of residue quadrate (JK_{Res})

$$JK_{Res} = \sum Y^2 - JK_{Reg[b/a]} - JK_{Reg[a]}$$

$$JK_{Res} = 473729 - 269,985 - 471358,53$$

$$JK_{Res} = 2100,4$$

- 4) The average of regression quadrate ($RJK_{Reg[a]}$)

$$RJK_{Reg[a]} = JK_{Reg[a]} = 471358,53$$

- 5) The average of regression quadrate ($RJK_{Reg[b/a]}$)

$$RJK_{Reg[b/a]} = JK_{Reg[b/a]} = 269,985$$

6) The average of regression quadrate (RJK_{Res})

$$RJK_{Res} = \frac{JK_{Res}}{n - 2} = \frac{2100,4}{79}$$

$$RJK_{Res} = 26,57$$

7) Examining the significant

After getting the computation above, the next step is examining the regression significant with the formula:

$$F_{Reg} = \frac{RJK_{Reg[b/a]}}{RJK_{Res}} = \frac{269,985}{26,57}$$

$$F_{Reg} = 10,17$$

d. Examining the regression linearity

1) Total of Error Quadrate (JK_E)

Before computing the value of JK_E , the writer arrange the data (X) from the smallest to the highest score with its pair (Y), as described in the table above:

Table 4.4
Regression analysis table of
Total error quadrate

No	Code	X	Y	Group	n
1	C53	4	65	K1	1
2	C41	5	69	K2	5
3	C52	5	69		
4	C67	5	73		
5	C73	5	73		
6	C30	5	79		
7	C62	6	66	K3	19
8	C43	6	69		
9	C74	6	69		
10	C39	6	71		
11	C33	6	71		
12	C68	6	73		
13	C80	6	73		
14	C4	6	74		
15	C2	6	74		
16	C35	6	74		
17	C49	6	74		
18	C10	6	77		
19	C38	6	77		
20	C15	6	79		
21	C22	6	80		
22	C24	6	80		
23	C32	6	80		
24	C19	6	85		
25	C28	6	85		
26	C25	7	68	K4	15
27	C1	7	71		
28	C75	7	73		
29	C76	7	76		
30	C7	7	76		
31	C20	7	76		

No	Code	X	Y	Group	n
32	C17	7	77		
33	C81	7	77		
34	C61	7	78		
35	C63	7	78		
36	C9	7	79		
37	C37	7	80		
38	C50	7	80		
39	C72	7	83		
40	C13	7	85		
41	C11	8	67	K5	22
42	C29	8	68		
43	C36	8	68		
44	C3	8	70		
45	C16	8	71		
46	C23	8	71		
47	C78	8	71		
48	C40	8	73		
49	C59	8	73		
50	C14	8	75		
51	C55	8	76		
52	C26	8	77		
53	C51	8	77		
54	C42	8	79		
55	C54	8	79		
56	C48	8	79		
57	C21	8	80		
58	C57	8	80		
59	C77	8	80		
60	C71	8	83		
61	C6	8	85		
62	C69	8	85		
63	C34	9	67	K6	12
64	C31	9	68		
65	C8	9	73		
66	C18	9	74		

No	Code	X	Y	Group	n
67	C66	9	74		
68	C12	9	79		
69	C27	9	80		
70	C47	9	80		
71	C64	9	81		
72	C70	9	82		
73	C56	9	83		
74	C60	9	83		
75	C5	10	73	K7	5
76	C58	10	79		
77	C65	10	85		
78	C44	10	86		
79	C46	10	86		
80	C45	11	81	K8	2
81	C79	11	82		

After arranging the data above, the writer calculate it into the formula:

$$JK_E = \sum_k \left\{ \sum Y^2 - \frac{(\sum Y)^2}{n} \right\}$$

$$\begin{aligned}
 JK_E &= \left(4225 - \frac{4225}{1} \right) + \left(26421 - \frac{131769}{5} \right) + \left(108271 - \frac{2047761}{19} \right) + \\
 &= \left(89503 - \frac{1338649}{15} \right) + \left(126939 - \frac{2778889}{22} \right) + \\
 &= \left(71498 - \frac{853776}{12} \right) + \left(33587 - \frac{167281}{5} \right) + \left(13285 - \frac{26569}{2} \right) \\
 &= 0 + 67,2 + 494,1 + 259,7 + 625,9 + 350 + 130,8 + 0,5
 \end{aligned}$$

$$JK_E = 1928,2$$

- 2) Total of tuna agreement quadrate (JK_{TC})

$$\begin{aligned} JK_{TC} &= JK_{Res} - JK_E \\ &= 2100,485 - 1928,2 \\ JK_{TC} &= 172,285 \end{aligned}$$

- 3) The average of error quadrate (RJK_{TC})

$$\begin{aligned} RJK_{TC} &= \frac{JK_{TC}}{k - 2} = \frac{172,285}{6} \\ RJK_{TC} &= 29,21 \end{aligned}$$

- 4) The average of error quadrate (RJK_E)

$$\begin{aligned} RJK_E &= \frac{JK_E}{n - k} = \frac{1928,2}{73} \\ RJK_E &= 26,41 \end{aligned}$$

- 5) Examining regression linearity (F_{reg})

$$F_{reg} = \frac{RJK_{TC}}{RJK_E} = \frac{29.21}{26.41} = 1.116$$

3. Final analysis

To know the result of the regression analysis computation above, it could be seen on the summary of regression analysis table as followed:

Table 4.5
The summary of Anava X and Y variable
Significant and linearity hypothesis

Variance analysis	dk	JK	RJK	F _{reg}	F _{table}
Total	81	6179		Significant	
				Liniear	
Regression (a)	1	471358.53	471358.53	F _{reg} and F _{table} Significant and Linearity: 10.17 > 3.98 (significant) 1.11 < 2.23 (Liniear)	
Regression (b/a)	1	269.985	269.985		
Residue	79	2100.485	26.59		
Tuna agreement Error	6 73	172.285 1928.2	29.21 26.41		

After knowing the regression analysis, the next step was consulting the result with F_{table} , on the significant level 5%. From the hypothesis test above, it was known that $F_{reg} = 10.17 > F_{table} = 3.98$, it meant the hypothesis was accepted. So there was positive influence between students' achievement of phonology toward their pronunciation.

C. Discussion

This research was done at the fourth semester of English Department of IAIN Walisongo. They have got Phonology subject at the third semester, so that the researcher choose them as the object of this research to know the influence of the students' achievement of English Phonology toward their Pronunciation.

There were two classes of fourth semester of English Department, TBI A and TBI B. The researcher has done the observation and gave try out test to TBI B. After giving tryout test, the researcher examined the test item validity, reliability, degree of difficulties and discriminating power. From the analysis, 12 questions were used for the Phonology test.

The next, the researcher gave the students Phonology and Pronunciation test, then analyzed the students' score of Phonology and Pronunciation. After knowing the students' score, the researcher examined it into regression analysis to know the influence of students' achievement of English Phonology toward their Pronunciation.

The students' main problem in learning language is the differences between students' language and target language and also the differences in phonetic features of similar sounds, vowel or consonant sound, etc. Studying phonology concerns with phonetics, phonology concerns with rules of speech sound, structure of language and etc. It's also related to the pronunciation. Pronunciation concerns with phonetics and

Phonetics concerns with phonology. By understanding English Phonology, the students will understand the phonetic features, vowel and consonant sounds and etc. The students also can understand the relation between Phonology and Pronunciation, so that they can pronounce the word correctly with the good stressing and intonation.

From the theories above, this research showed that the achievement of phonology influences the achievement of pronunciation. The computation of regression analysis before being proved that the influence between the students' achievement of English phonology and their pronunciation is significant with the significant of 5% and the result is 10.17. Then, the hypothesis was accepted.

From the coefficient test above, it could be known that $r_{xy} = 10.17$, because $r_{xy} = 0.338 > r_t(5\%) = 0.220$ it means significant. From the result of regression analysis between students' achievement of phonology and their pronunciation, it was known that $F_{reg} = 10.17 > F_{table}(5\%) = 3.98$ it meant significant. So, there was influence between these two variables. Thus, higher achievement of student's English phonology, the higher students' achievement of pronunciation.

There was some reasons why the students' achievement of phonology influence their achievement of pronunciation.

1. Understanding phonology, then understand the rest of sound systems, phonetic transcription and etc. When the students

practice it in their pronunciation, it also will influence their pronunciation with the good pronunciation.

2. When producing certain speech sounds, the students will know and be aware of what they speak to others. By achieving phonology, at the same time they can identify and correct any mistakes in their pronunciation.
3. The knowledge about the theories of producing speech sounds should be accompanied with exercising in producing them in order that the goal of achieving phonology and good pronunciation will be achieved.

This research has found the influence between students' achievement of phonology toward their pronunciation. Eventhough, the students' achievement of phonology is still less. Studying speech sound and sound system is rather difficult for them, without any concern on it, the goal of achieving phonology and pronunciation can't be satisfactorily achieved.