CHAPTER IV

RESEARCH FINDINGS AND DISCUSSION

This chapter presents the result of the research and discussion about the data analyzed by using the statistical procedure. The contents of this chapter are the description of data, hypothesis testing, and discussion.

A. Data Description

The total population taken from all the fifth-semester students of the English Department is 168 students. Then, the researcher took 17 samples from each class to be used as research materials consisting of 9 men and 8 women, as shown in the table below:

Table 4.1
Table of Respondent Data of the Gender

Gender	Total
Male	9
Female	8
Total	17 Respondents

1. The Correlation between Arabic Consonant Sound and English Consonant Sound Pronunciation

After the researcher got the data between the X variable (Arabic consonant) and Y variable (English consonant) as attached in appendix IV, the researcher correlated both variables using the formula of Spearman rank to get the statistical numerical data from the test score. The researcher had

to find out the total of "d^2" to analyze the data using the Spearman rank correlation formula. The way to find out the sum of "d^2" is presented in the following table:

Table 4.2
Table of Preparation to Find Out the Coefficient of Spearman Rank

Respondent	X	Y	Rank X	Rank Y	D	d^2
R1	100	94	3.5	9.5	-6	36
R2	100	88	3.5	12	-8.5	72.25
R3	92	87	12	13	-1	1
R4	96	100	10.5	4	6.5	42.25
R5	75	72	16	16	0	0
R6	100	100	3.5	4	-0.5	0.25
R7	100	100	3.5	4	-0.5	0.25
R8	98	100	8	4	4	16
R9	77	83	15	14	1	1
R10	81	81	14	15	-1	1
R11	98	100	8	4	4	16
R12	68	66	17	17	0	0
R13	100	100	3.5	4	-0.5	0.25
R14	96	96	10.5	8	2.5	6.25
R15	88	94	13	9.5	3.5	12.25
R16	100	90	3.5	11	-7.5	56.25
R17	98	100	8	4	4	16
Total						**277**

Based on the table above, the total of "d^2" is 277, and the total number of respondents (n) is 17. The researcher found the total of "d^2" and "n" then analyzed

the data depending on the formula mentioned in the third chapter. The statistical

analysis of the Spearman rank correlation is as follows:

$$r_s = 1 \frac{6 \sum d^2}{n(n^2 - 1)}$$

$$= 1 \frac{6\,(277)}{17(17^2 - 1)}$$

$$= 1 \frac{1.662}{17(289 - 1)}$$

$$= 1 \frac{1.662}{17(288)}$$

$$= 1 \frac{1.662}{4.896}$$

$$= 1 - 0.361$$

$$= 0.639$$

Based on the calculation of Spearman rank correlation above, the researcher found the r_s or r_{count} is 0.639. In addition, the researcher also used SPSS to ensure that the result of the formula analysis of Spearman rank analysis is correct. The result of SPSS is presented below:

Table 4.3
The SPSS Output of Spearman Rank Correlation

Correlations

			Arabic Consonant	English Consonant
Spearman's rho	Arabic Consonant	Correlation Coefficient	1,000	,639**
		Sig. (2-tailed)	.	,006
		N	17	17
	English Consonant	Correlation Coefficient	,639**	1,000
		Sig. (2-tailed)	,006	.
		N	17	17

**. Correlation is significant at the 0.01 level (2-tailed).

Based on table 4.3, the result of this research analyzed by statistical analysis of Spearman rank correlations shows a correlation between Arabic consonant sound and English consonant sound pronunciation of English department students of IAIN Madura because the result of r_{count} is higher than r_{table}. It is proved by comparing the result of r_{count} with r_{table}. The result of r_{count} is 0.639, and the value of r_{table} is 0.506.

When the researcher checked the table interpretation of 'r' Spearman rank value, the value of r_{count} is 0.639, including the third interpretation is 0.51 – 0.75, and the interpretation is the correlation between variables X

and Y are high. Therefore, the researcher concluded that Arabic consonant sounds significantly correlate with English consonant sound pronunciation.

However, to know whether the correlation between the two variables is significant or not, the researcher applied hypothesis testing. The hypothesis testing will be discussed by the researcher later.

2. Validity

Validity is used to make sure that the test data is valid. The kind of validity used by the researcher is Spearman rank validity. The researcher applied SPSS 20 to make measuring the test's validity easier. The validity result between the Arabic consonant and English consonant pronunciation tests are explained in appendix II and III.

The item's validity is appointed by analyzing the r_{count} and r_{table}. If the value of r_{count} is bigger than r_{table}, the test item is valid. If the value of r_{count} is lower than r_{table}, the test item is not valid. The way to get the value of r_{table} can be seen in a book.[1] By determining the amount of N and the signification of the table is 5%. In this research, N is 17, and the value of r_{table} is 0.506 in 5% signification specifically.

a. Arabic Consonant Test

Based on the validity result in appendix V, all the Arabic consonant pronunciation test questions are valid because the value of r_{count} is higher than r_{table}, as attached in appendix VI.

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[1] Ibid., 403.

b. English Consonant Test

Likewise, in the English consonant test pronunciation, Based on the validity result in appendix VII, all the test questions are valid because the value of r_{count} is higher than r_{table} as attached in appendix VIII.

Therefore, all Arabic consonant and English consonant test questions are valid. Then, the researcher can use the data for the next steps, that is, testing the reliability of the data.

3. **Reliability**

Reliability is used to ensure whether the obtained data is reliable. The researcher uses the alpha Cronbach technique by software SPSS 20 for windows. In this technique, the instrument will be reliable since the score of alpha Cronbach > 0.6.[2]

a. Arabic Consonant Test

The calculation result from the SPSS application is presented in the following table:

Table 4.4
The SPSS Output of Arabic Consonant Cronbach's Alpha

Reliability Statistics

Cronbach's Alpha	N of Items
,930	18

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[2] Siregar, *Metode Penelitian Kuantitatif: Dilengkapi Perbandingan Perhitungan Manual & SPSS*, 57.

Based on the result of SPSS above, the Cronbach's alpha score of the test is 0.930. The researcher concluded that the reliability is high because 0.930 is more than 0.6, as stated in table 4.4.

b. English Consonant Test

The calculation result from the SPSS application is presented in the following table:

Table 4.5
The SPSS Output of English Consonant Cronbach's Alpha

Reliability Statistics

Cronbach's Alpha	N of Items
,923	18

Based on the result of SPSS above, the Cronbach's alpha score of the test is 0.923. The researcher concluded that the reliability is high because 0.923 is more than 0.6, as stated in table 4.5.

B. Hypothesis Testing

From the SPSS result of Spearman rank correlation in the previous pages, the researcher knows that the significant value between Arabic consonant sound and English consonant sound pronunciation is 0.006. The criteria of the correlation significance between the two variables are as follows:

1. If the result of significant value > 0.05, there is no significant correlation between Arabic consonant sound and English consonant sound pronunciation. The alternative hypothesis is rejected, and the null hypothesis is accepted.

2. If the result of significant value < 0.05, it means there is a significant correlation between Arabic consonant sound and English consonant sound pronunciation. The alternative hypothesis is accepted, and the null hypothesis is rejected.

Therefore, based on the criteria of the correlation significant above, the result of the significant value is significant because it is less than 0.05. Then, the researcher can conclude that the value of statistical significance is $0.006 < 0.05$. It means the alternative hypothesis is accepted, and the null hypothesis is rejected. Hence, the researcher finds out that there is a highly significant correlation between Arabic consonant sound and English consonant sound pronunciation of English department students of IAIN Madura.

C. Discussion

The result of this research reveals that there is a positive correlation between Arabic consonant sound and English consonant sound pronunciation of English department students of IAIN Madura and it is proved by the result of r_{count} is higher than r_{table} that is $0.639 > 0.506$.

From several previous studies, it turns out that there is one previous study that has a higher r_{count} than this research. The research conducted by Rizza;[3] His research showed that the r_{count} 0.703 was also higher than r_{table} 0.396. In addition, from the comparison between the result of r_{count} and r_{table}, the researcher could conclude that the pronunciation of Arabic letters of the students affects their English pronunciation. This previous study had the same research design but had a different data analysis, using the product-moment correlation, while this research uses the Spearman rank correlation.

It is different from other quantitative research conducted by Linniyati;[4] The results show no difference and significant difference between students who had good *makharijul huruf* and students who did not good in *makharijul huruf*. It is proved that the result of the t-test is lower than t-table, which is $-1.650 < 2.145$ and 2.977. Linniyati's research had a different research design from this research, the research design used was ex post facto research.

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[3] Muhammad Hasan Fauzi Rizza, "Contrastive Analysis on Arabic and English Pronunciation of The Tenth Grade Students of Language Class at MAN 1 Nganjuk" (State Islamic Institute of Kediri, 2018).

[4] Linniyati, "The Comparison between Students Who Good in Makharijul Huruf and Students Who Don't Good in Makharijul Huruf to English Pronunciation Ability in Female Class of Tenth Grade at MA Al-Abror Blumbungan."

The correlation between Arabic consonant sound and English consonant sound pronunciation is high because the interpretation of the 'r' Spearman rank value is in the third interpretation. The result of r_{count} is 0.639, including the third interpretation of 0.51 – 0.75. In this case, the correlation level of Kurniasih's research was also high because the interpretation of the 'r' product-moment value was in the fourth interpretation and proved by the result of r_{count} included in 0.60 – 0.799. In addition, the result of r_{count} was 0.70.[5]

In this research, the consonants going to measure are English and Arabic consonants. The English consonants are /b/, /t/, /d/, /k/, /dʒ/, /f/, /θ/, /ð/, /s/, /z/, /ʃ/, /h/, /m/, /n/, /l/, /r/, /j/, and /w/. While the Arabic consonants going to measure are /ب/, /ت/, / د /, / ك/, /ج/, /ف/, /ث/, /ذ/, /س/, /ز/, /ش/, /ح/, /م/, /ن/, / ل/, /ر/, /ي/, and /و/. Then, the researcher collect the data of X variable (Arabic consonant) and Y variable (English consonant) from the test given to the respondents. After the researcher got the data of X variable (Arabic consonant) and Y variable (English consonant), obviously the consonants measured by the researcher had correlation each other. The consonants that correlate each other are /b/ and ب, /t/ and ت, /d/ and د, /k/ and ك, /dʒ/ and ج, /f/ and ف, /θ/ and ث, /ð/ and ذ, /s/ and س, /z/ and ز, /ʃ/ and ش, /h/ and ح, /m/ and م, /n/ and ن, /l/ and ل, /r/ and ر, /j/ and ي, and /w/ and و.

The Arabic consonant sound and English consonant sound correlate with each other because they had the same rules in voicing, place of articulation, and

[5] Kurniasih, "The Correlation between Student's Arabic Pronunciation Ability of Eleventh Grade Students of MAN 1 Kebuman in the Academic Year 2016/2017."

manner of articulation. The rules were discussed in the previous chapter, chapter II. Logically, students who can pronounce Arabic consonants also can pronounce English consonants well. Based on the test given by the researcher to the respondent, some of them cannot pronounce / θ /, / ð /and / ʃ / because they do not know that those consonants correlate with /ث/, /ذ/ and /ش/. The consonants /ث/, /ذ/, and /ش/ exist in the Holy Quran. The holy Quran is a guide of Muslims, and it consists of some of the Arabic consonants that have the same rules with English consonant sound pronunciation. The respondents of this research are Muslims because they are students of the English department of IAIN Madura.

The contrastive analysis argues that Madurese cannot pronounce consonants / θ /, / ð /, and / ʃ / because these consonants do not exist in Madurese's vocabulary. The contrastive analysis is an approach to the study of second language acquisition, which involves predicting and describing learner problems through comparison of L1 and L2 to discover the differences and the similarities.[6] Supposedly, the learner cannot sound the consonants / θ /, / ð /, / ʃ /, because of the learner's condition. They cannot pronounce consonants / θ /, / ð /, / ʃ / because of the absence in their mother tongue.

Although there is no consonants / θ /, / ð /and / ʃ / in the Madura pronunciation, the State Islamic Institute of Madura students still can pronounce the consonants / θ /, / ð /and / ʃ / because those consonants exist in the Arabic pronunciation. The Arabic language is the interlanguage of the Madurese

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[6] Rahmawati, *Second Language Acquisition (SLA)*, 43.

people. The interlanguage is influenced by the first language (native language) and input from the second language (target language).[7] The Arabic language is considered the interlanguage because it is a third system that differs from the Madura and English languages. In conclusion, the Arabic language may influence the English consonant pronunciation because they have the same pronunciation rules.

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[7] Ibid, 48.