

## CHAPTER IV

### RESEARCH FINDING AND DISCUSSION

This chapter presents and discusses the statistical result based on the instruments that are used in conducting the research. The data is presented which are presentation of data, hypothesis testing and measurement of validity and reliability of the test

#### A. Presentation of Data

As stated in the chapter 1 that there are two research problems of this study. The problems are whether there is the effect of asynchronous method for students' comprehension in English Syntax at the fifth semester of English Department IAIN Madura or not and whether there is the significance of effect of asynchronous method for students' comprehension in English Syntax at the fifth semester of English Department IAIN Madura or not.

In this part, the researcher has to present the data to know both of variables as include in the research problem above about independent and dependent variable after computing all of the data during the researcher process as a form of the result. The researcher used questionnaire, test and documentation as the instruments in collecting the data. Data will be presented is the data which researcher got during the research process. That is the result of test and documentation data as method to collect the data related to variable X (asynchronous method) and variable Y (students' comprehend in English syntax)

The researcher takes some samples as the population sampling whether this the students understand or not in this subject. So, the researcher conducts giving test and questionnaire in D class in the fifth semester at English department of IAIN Madura.

## 1. Data Presentation of the Test

### a. Presentation of Questionnaire

In this part, the researcher gives the questionnaire to make sure the use of asynchronous method in English syntax. Questionnaire is given to the student. The questionnaire consists of twenty questions.

The questionnaire is used to collect data for independent variable (X) exactly asynchronous method in learning. To measure behavioral data, the researcher uses scale likert. Skala likert assesses attitudes toward a topic by presenting a set of statements about the topic and asking respondents to indicate for each whether the options are concerning with frequency or not, such as always, often, sometimes, seldom, and never. To score the scale, the response categories must be weighted. Always is scored 5, often is scored 4, sometimes is scored 3, seldom is scored 2 and never is scored 1. If the students can answer all of the questions correctly the score are 100 scores. After the student submitted the questionnaire to researcher, the researcher gives the score as criteria of scoring the questionnaire. The students' questionnaire score is displayed in the table 1 below

Table I. The score of questionnaire

| no | The correspondents | Score |
|----|--------------------|-------|
| 1  | AF                 | 70    |
| 2  | ASR                | 70    |
| 3  | FY                 | 80    |
| 4  | KA                 | 70    |
| 5  | An                 | 70    |
| 6  | AF                 | 80    |
| 7  | CE                 | 80    |
| 8  | FCN                | 80    |
| 9  | HDI                | 60    |
| 10 | KS                 | 70    |
| 11 | KA                 | 62    |
| 12 | LHB                | 70    |
| 13 | LA                 | 80    |
| 14 | ML                 | 60    |
| 15 | MSF                | 74    |
| 16 | Mu                 | 78    |
| 17 | NW                 | 70    |
| 18 | NH                 | 68    |
| 19 | NL                 | 64    |
| 20 | RKL                | 68    |
| 21 | RM                 | 70    |

|     |     |      |
|-----|-----|------|
| 22  | RH  | 72   |
| 23  | RDH | 62   |
| 24  | SR  | 74   |
| SUM |     | 1702 |

b. Presentation of Test

In this part, as the researcher stated in the chapter III, the test is used to measure students' comprehension in English syntax by D. Krashen and D. Terrell from the score of the test. The form of the test is answering questions which consist of 10 questions. Every correct answer gets 10 points, get 0 point for incorrect point and get 5 point for almost correct which have been provided by the researcher. If the students can answer all of the questions correctly the score are 100 scores. After the student submitted the test to researcher, the researcher gives the score as criteria of scoring which are taken from teacher made test. The students' test score is displayed in the table 1 below

Table II. The scores of test

| No | The correspondents | test score |
|----|--------------------|------------|
| 1. | AF                 | 75         |
| 2. | ASR                | 55         |
| 3. | FY                 | 70         |
| 4. | KA                 | 60         |
| 5. | An                 | 70         |

|            |     |      |
|------------|-----|------|
| 6.         | AF  | 85   |
| 7.         | CE  | 65   |
| 8.         | FCN | 75   |
| 9.         | HDI | 50   |
| 10.        | KS  | 85   |
| 11.        | KA  | 60   |
| 12.        | LHB | 75   |
| 13.        | LA  | 85   |
| 14.        | ML  | 70   |
| 15.        | MSF | 50   |
| 16.        | Mu  | 85   |
| 17.        | NW  | 80   |
| 18.        | NH  | 55   |
| 19.        | NL  | 50   |
| 20.        | RKL | 55   |
| 21.        | RM  | 55   |
| 22.        | RH  | 55   |
| 23.        | RDH | 85   |
| 24.        | SR  | 70   |
| <b>SUM</b> |     | 1620 |

Based on the table above, it is known that the students are twenty four. The first column is a number of the students, the second column is the name of student and the third column is table

of test score. It is found that the total test score of students' comprehension in English syntax is 1620 scores using asynchronous method.

From the table above, there many various scores. Students who get the score above 60 are 16 students, it is called as a good comprehension and students who get score under 59 are 8 students and it is called by a weak comprehension.

## 2. Data Presentation of Documentation

The data were gotten from documentation, as follow:

- a. The fifth semester of D class consists of thirty Students name list of E-learning application.
- b. Students score
- c. Lesson plan
- d. The Screenshot photos for getting the test.
- e. The Screenshot photos for giving questionnaire.
- f. The screenshot of teaching learning activities of asynchronous method.

After researcher counted the score of questionnaire and test, the researcher analyzes the data.

## 3. Data analysis

The research has to analyze the scores to get statistical form in questionnaire and test of this research. Then, before testing the hypothesis, the researcher would like to analyze the data to get the result of this research. The research used independent t-test to analyze

the data which included two result of test instrument. The calculation of independent t-test is formed by considering the table as follow:

Table III. The calculation of paired sample t-test

| No. | Name | score |    | X     | Y     | X <sup>2</sup> | Y <sup>2</sup> |
|-----|------|-------|----|-------|-------|----------------|----------------|
|     |      | X     | Y  |       |       |                |                |
| 1.  | AF   | 70    | 75 | -0.9  | +7.5  | 0.81           | 56.25          |
| 2.  | ASR  | 70    | 55 | -0.9  | -12.5 | 0.81           | 156.25         |
| 3.  | FY   | 80    | 70 | +9.1  | +2.5  | 82.1           | 6.25           |
| 4.  | KA   | 70    | 60 | -0.9  | -7.5  | 0.81           | 56.25          |
| 5.  | An   | 70    | 70 | -0.9  | +2.5  | 0.81           | 6.25           |
| 6.  | AF   | 80    | 85 | +9.1  | +17.5 | 82.1           | 306.25         |
| 7.  | CE   | 80    | 65 | +9.1  | -2.5  | 82.1           | 6.25           |
| 8.  | FCN  | 80    | 75 | +9.1  | +7.5  | 82.1           | 56.25          |
| 9.  | HDI  | 60    | 50 | -10.9 | -17.5 | 118.81         | 306.25         |
| 10  | KS   | 70    | 85 | -0.9  | +17.5 | 0.81           | 306.25         |
| 11. | KA   | 62    | 60 | -8.9  | -7.5  | 79.21          | 56.25          |
| 12. | LHB  | 70    | 75 | -0.9  | +7.5  | 0.81           | 56.25          |
| 13. | LA   | 80    | 85 | +9.1  | +17.5 | 82.1           | 306.25         |
| 14. | ML   | 60    | 70 | -10.9 | +2.5  | 118.81         | 6.25           |
| 15. | MSF  | 74    | 50 | +3.1  | -17.5 | 9.61           | 306.25         |
| 16. | Mu   | 78    | 85 | +7.1  | +17.5 | 50.41          | 306.25         |
| 17. | NW   | 70    | 80 | -0.9  | +12.5 | 0.81           | 156.25         |
| 18. | NH   | 68    | 55 | -2.9  | -12.5 | 8.41           | 156.25         |
| 19. | NL   | 64    | 50 | -6.9  | -17.5 | 47.61          | 306.25         |

|     |     |                      |                      |                     |                      |                          |                        |
|-----|-----|----------------------|----------------------|---------------------|----------------------|--------------------------|------------------------|
| 20. | RKL | 68                   | 55                   | -2.9                | -12.5                | 8.41                     | 156.25                 |
| 21. | RM  | 70                   | 55                   | -0.9                | -12.5                | 0.81                     | 156.25                 |
| 22. | RH  | 72                   | 55                   | +1.1                | -12.5                | 1.21                     | 156.25                 |
| 23  | RDH | 62                   | 85                   | -8.9                | +17.5                | 79.21                    | 306.25                 |
| 24  | SR  | 74                   | 70                   | +3.1                | +2.5                 | 9.61                     | 6.25                   |
|     |     | $\Sigma X =$<br>1702 | $\Sigma Y =$<br>1620 | $\Sigma X =$<br>0.4 | $\Sigma Y =$<br>12.5 | $\Sigma X^2 =$<br>948.29 | $\Sigma Y^2 =$<br>3700 |

Based on the table above, the computation of dependent t-test is administrated as follow:

$$N = 24$$

$$\Sigma X = 1702$$

$$\Sigma Y = 1620$$

$$\Sigma X = 0.4$$

$$\Sigma Y = 12.5$$

$$\Sigma X^2 = 948.29$$

$$\Sigma Y^2 = 3700$$

The counting steps t-test are, as follow:

a. Looking for mean of difference, by formula :

$$M_1 = \frac{\Sigma X}{N} = \frac{1702}{24} = 70.9$$

$$M_2 = \frac{\Sigma Y}{N} = \frac{1620}{24} = 67.5$$



b. Determining standard deviation of sample researched formula:

$$SD_1 = \sqrt{\frac{\sum X^2}{N}} = \sqrt{\frac{948.29}{24}} = \sqrt{39.5} = 6.3$$

$$SD_2 = \sqrt{\frac{\sum y^2}{N}} = \sqrt{\frac{3700}{24}} = \sqrt{154.17} = 12.4$$

c. Determining standard error of the sample mean by formula:

$$SE_{M1} = \frac{SD_1}{\sqrt{N_1-1}} = \frac{6.3}{\sqrt{24-1}} = \frac{6.3}{\sqrt{23}} = \frac{6.3}{4.8} = 1.3$$

$$SE_{M2} = \frac{SD_2}{\sqrt{N_2-1}} = \frac{12.4}{\sqrt{24-1}} = \frac{12.4}{\sqrt{23}} = \frac{12.4}{4.8} = 2.6$$

d. Determining the total of standard of the error of the sample mean

$$\begin{aligned} SE_{M1-M2} &= \sqrt{SE_{M1}^2 + SE_{M2}^2} = \sqrt{1.3 + 2.6} = \\ &\sqrt{3.9} = 1.97 \end{aligned}$$

e. Determining  $t_o$  by the formula :

$$t_o = \frac{M_1 - M_2}{SE_{M1-M2}} = \frac{70.9 - 67.5}{1.97} = \frac{3.4}{1.97} = 1.72$$

Based on the calculation of dependent t-test, the researcher finds  $t_o = 1.72$ . So, to know whether null hypothesis is rejected or not, the researcher must do the process of hypothesis testing.

## B. Hypothesis Testing

Based on the result of  $t_o$ , that is 1.72. It must be consulted with t-table by using significant level 5% to know whether  $H_o$  is rejected or not. It is called by hypothesis testing. Hypothesis testing is a test that important in

quantitative research. In the chapter III, the researcher wrote if  $t_o$  is same or higher value than t-table, it means that  $H_o$  is rejected and  $H_a$  is accepted. In contrast, if  $t_o$  is less than t-table,  $H_o$  is accepted and  $H_a$  is rejected. The researcher uses alpha significance level 5% as it is usually used in educational research. Then to prove alternative hypothesis or null hypothesis are accepted or rejected, the researcher consults  $t_o$  of this research to t-table.

To consult  $t_o$  of this research to t-table, the researcher should determine df (Degree of freedom) by formula  $df = N-1$ . As discussed above the number of participants ( $N=24$ ). So the degree of freedom is calculated as follows:

$$df = N-2$$

$$df = 24-2 = 22$$

Based on df score above, in order to consult to t-value on the level of significance 5%. Obviously, in  $df = 22$ , t-value that can be obtained in t-table in the level significance 5% is 0.404.

After  $t_o = 1.72$  then compare with t-value in t-table of 0.404, the researcher stated that null hypothesis is rejected and alternative hypothesis ( $H_a$ ) is accepted because  $t_o > t\text{-table}$  ( $1.72 > 0.404$ ).

Finally, alternative hypothesis is accepted, the researcher concludes that there is effect of asynchronous method the fifth semester students' comprehension in English Syntax at English Department of IAIN Madura.

## C. Validity and Reliability of the Instrument

### 1. Validity of the Instrument

#### a. Validity of the Test

In this section, the validity is the most important in developing, measuring, and evaluating instrument in using a test. To check the validity of the test, the researcher identifies the test the researcher used. The researcher identifies whether the test is appropriate to the students or not. The test is used in this research based on the material in handbook of English syntax given in the previous semester. Therefore, the researcher can make the test that appropriates with the student gets in this semester.

The next step were looking for the proof of validity. The researcher used content validity to measure the comprehension of the student in English syntax. Before conducting the test, the researcher explains clearly to students about the instruction of test. As stated by Donald Ary that the content validity like to look at the material covered the wording of the question and the adequacy of the sample of items to measure the achievement in question.<sup>1</sup> The researcher makes a test appropriate for the material given in the previous semester. So, the test the researcher given to the students is valid.

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<sup>1</sup> Donald Ary, Lucy Cheser Jacobs, and Chris Sorensen, *Introduction to Research in Education*, eighth (Wadsworth Cengage Learning, 2010), 226.















2. The reliability of Instrument

a. The reliability of Test

After, the validity of the test is provable, the researcher determining the reliability. The reliability uses Chronbach Alpha formula because it is suitable to measure the reliability of the performance of students in testing such as measure the understanding of students.

In this case, the researcher presents the reliability testing.

**Reliability Statistics**

| Cronbach's Alpha | N of Items |
|------------------|------------|
| .649             | 11         |

**Item-Total Statistics**

|     | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Cronbach's Alpha if Item Deleted |
|-----|----------------------------|--------------------------------|----------------------------------|----------------------------------|
| X1  | 125.63                     | 644.158                        | -.041                            | .661                             |
| X2  | 127.29                     | 562.998                        | .515                             | .608                             |
| X3  | 131.67                     | 601.449                        | .204                             | .643                             |
| X4  | 127.08                     | 667.210                        | -.194                            | .697                             |
| X5  | 128.75                     | 467.935                        | .801                             | .533                             |
| X6  | 129.17                     | 488.406                        | .620                             | .564                             |
| X7  | 125.21                     | 633.650                        | .171                             | .650                             |
| X8  | 125.42                     | 625.906                        | .131                             | .650                             |
| X9  | 130.83                     | 601.449                        | .204                             | .643                             |
| X10 | 131.46                     | 601.042                        | .259                             | .637                             |
| SUM | 67.50                      | 160.870                        | 1.000                            | .400                             |

To know the reliability of the test, whether it is reliable or not, the researcher compare the value of  $r_o$  and  $r_{table}$ . To know  $r_o$ , the researcher look for the degrees of freedom by formula:

$$df = N - nr = 24 - 2 = 22$$

df : degrees of freedom

N : Number of cases

nr : total variable which is correlated. nr = 2.

From the analysis above, it is known that the reliability from the instrument is 0,649. The score will be compared with  $r_{table}$  of significance where N is 22 and level of significance is 5%. The value on the  $r_{table}$  is 0,404. Because r value is higher than r table ( $0,649 > 0,404$ ), so the test is reliable.

b. Reliability of Questionnaire

The reliability of questionnaire uses Chronbach Alpha formula because it is suitable to measure the reliability of the performance of students in testing such as measure the understanding of students.

In this case, the researcher presents the reliability testing.

**Reliability Statistics**

| Cronbach's Alpha | N of Items |
|------------------|------------|
| .684             | 21         |

**Item-Total Statistics**

|    | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Cronbach's Alpha if Item Deleted |
|----|----------------------------|--------------------------------|----------------------------------|----------------------------------|
| X1 | 137.12                     | 164.375                        | .061                             | .685                             |
| X2 | 138.29                     | 168.129                        | -.143                            | .697                             |
| X3 | 137.46                     | 157.389                        | .428                             | .670                             |
| X4 | 138.37                     | 169.027                        | -.193                            | .698                             |

|     |        |         |       |      |
|-----|--------|---------|-------|------|
| X5  | 138.58 | 162.862 | .113  | .683 |
| X6  | 138.37 | 147.984 | .609  | .651 |
| X7  | 138.46 | 146.259 | .589  | .649 |
| X8  | 138.83 | 161.884 | .170  | .681 |
| X9  | 139.12 | 155.071 | .455  | .666 |
| X10 | 138.25 | 147.761 | .619  | .650 |
| X11 | 137.12 | 164.375 | .061  | .685 |
| X12 | 138.29 | 168.129 | -.143 | .697 |
| X13 | 137.46 | 157.389 | .428  | .670 |
| X14 | 138.37 | 169.027 | -.193 | .698 |
| X15 | 138.58 | 162.862 | .113  | .683 |
| X16 | 138.37 | 147.984 | .609  | .651 |
| X17 | 138.46 | 146.259 | .589  | .649 |
| X18 | 138.83 | 161.884 | .170  | .681 |
| X19 | 139.12 | 155.071 | .455  | .666 |
| X20 | 138.25 | 147.761 | .619  | .650 |
| SUM |        |         |       |      |
| X   | 70.92  | 41.384  | 1.000 | .638 |

To know the reliability of the question, whether it is reliable or not, the researcher compare the value of  $r_o$  and  $r_{table}$ . To know  $r_o$ , the researcher look for the degrees of freedom by formula:

$$df = N - nr = 24 - 2 = 22$$

df : degrees of freedom

N : Number of cases

nr : total variable which is correlated. nr = 2.

From the analysis above, it is known that the reliability from the instrument is 0,684. The score will be compared with  $r_{table}$  of significance where N is 22 and level of significance is 5%. The value on the  $r_{table}$  is 0,404. Because r value is higher than r table (0,684 > 0,404), so the test is reliable.

#### D. Discussion of Finding

The aim of this research is to find the research problems the research wants to research. Those are:

1. Is there the effect of asynchronous method for students' comprehension in English Syntax at the fifth semester of English Department IAIN Madura?

Based on the data gotten, the finding of this research from statistical analysis present that there is effect of asynchronous method for students' comprehension in English Syntax at the fifth semester of English Department IAIN Madura. It is proved by consulting  $t_o$  and t-table that  $t_o = 1.72$  then compare with t-value in t-table of 0.404, the researcher stated that null hypothesis is rejected and alternative hypothesis ( $H_a$ ) is accepted because  $t_o > t\text{-table}$  ( $1.72 > 0.404$ ). It means that there is effect of asynchronous method for students' comprehension in English Syntax at the fifth semester English Department of IAIN Madura.

2. How significance's the effect of asynchronous method the fifth semester students' comprehension in English Syntax at English Department of IAIN Madura.

In this research, there is the effect of asynchronous method for students' comprehension in English syntax. It is proved by consulting  $t_o$  and t-table that  $t_o = 1.72$  then compare with t-value in t-table of 0.404. The result of analyzing the data presents that t-value is higher than t-table.

To know how strong the significant of effect asynchronous method for students' comprehension, the researcher determined df (Degree of freedom) by formula  $df = N-2$  as the discussed above the number of participants ( $N=24$ ). So the degree of freedom is calculated 22. Based on df score above, in order to consult to t-value on the level of significance 5%. Obviously, in  $df = 22$ , t-value that can be obtained in t-table in the level significance 5% is 0.404. After  $t_o = 1.72$ , then compare with t-value in t-table of 1.72, the researcher stated that asynchronous method has strong significance of the effect of asynchronous method for students' comprehension in English syntax.