

CHAPTER IV

RESEARCH FINDINGS AND DISCUSSION

This chapter tells 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, reliability of the test and discussion of finding.

A. Presentation of Data

As state on the chapter I, there are two research problems of this research. Those are: Is there any effectiveness of mind mapping technique for the third semester students of English teaching learning program IAIN Madura? And How is the significance of mind mapping on students' writing process in writing essay at the third semester of Englishteaching learning program IAIN Madura?

After collecting the data that the researcher needs, the next step is to present the data. After calculating all the data during the researcher process as a form of result, the researcher must present the data to know the comparison of both variables as containing the independent and dependent variables. Researchers use tests and documentation as a instruments in collecting data. The data is described as the data that the researcher acquired during the research process. That is the result of test and documentation data as a method to collect the data related to variable X (Mind Mapping Technique) and variable Y (Essay Writing Skills).

1. Result of Test

Population of this study is the third semester students of English Department IAIN Madura, but the researcher only took (D class consist of 24 students as a sample from 104 population). These result are obtained from the use of purposive sampling.

In this part, as the researcher stated in the previous chapter, the test is used to measure student's Writing Essay by Mind Mapping Technique from the score of the test. The form of the test is written test. The participants will be asked to write a short essay consist of 300-500 words. The length of words can not be more than 500 words. There is no specific topic provide, and the participants are freely to create their own writing and developed into essay composition. The text is analyzed by the organizations of essay including introduction, body, and conclusion. Then, the researcher also had one assessment rubric or analytic scoring guide in analysing or measuring the students' ability in writing essay that was adapted from several aspects, follow as:

Table 4.1

Table of Scoring Rubric of Essay

Elements	Category Descriptor	Maximum Score
Format	Title is in the middle (2), first line of each passage indented (1), margin left on both sides (1), text twofold separated (1)	5
Punctuation & Mechanics	Periods, commas, apostrophes, and quotation marks (3), capital letters (1), spelling (1).	5

Content	The essay fulfills the regulations of the assignment.	5
	The essay is interested.	5
	The essay shows that the author was accustomed to worrying and thinking.	10
Organization	The essay follows the outline, and with an introduction, a body, and a conclusion	5
	Introductory Paragraph: the introductory begin with several general sentences and ends with a dissertation or thesis statements.	5
	Body: Each body paragraph approaches a new point and begins with a clear sentence about the subject.	5
	Each paragraph includes specific supporting material: facts, examples, quotes, paraphrases or summarizes information.	10
	Each paragraph has unity	5
	Each paragraph has coherence	5
	Transitions are used to connect the paragraph	5
	Concluding paragraph: The concluding paragraph summarizes the main points or paraphrases the thesis statements, begin with a conclusion signal, and leaves the readers with the writer's final thoughts on the topic	5
Grammar & Sentence Structure	Assess a grammatical grade and sentence structure.	25
Total		100

The analyzed is guided by the suggested scoring rubric by Olice Oshima.¹Then, the score is classifie based on criteria of ability as follow:

Table 4.2

Table of Criteria of Ability

Score	Criteria of Ability
91-100	Excellent
81-90	Very good
71-80	Good
61-70	Average
51-60	Fair
41-50	Poor
Less than 40	Inadequate

So the answer from respondent will be scored by Uji paired sample t-test and the data must be valid and reliable, to know the validity of the data the researcher uses content validity.

a. The Presentation of Pre-test Scores

The researcher got the data by distributing the test to D class of third semester students. The researcher was held on November, 01 2021 at 10.00 pm up to November 2021. The student's test scores are displayed in the table below:

¹Hogue, *Introduction to Academic Writing*, 197.

Table 4.3
Result of Pre-test Score

No	Name	Pre-test score
1	Ryan Mugen B.S	70
2	Turmedi Bahtiar	55
3	Abd Ghofur	57
4	Fahrur Rosi	50
5	Moh Raihan	65
6	Sulhan Ali	40
7	Syamsul Arifin	45
8	Tri Wahyudi A.M	55
9	Usman Alfiandi	55
10	Rayu Srikandi	55
11	Reza Yuliana P	60
12	Siftia Maulina	40
13	Siti Aisyah	45
14	Sri Wahyuni	78
15	Zesilia Mega S	60
16	Rindi Safitri	57
17	Romlatul Fadhila	50
18	Sa'ida Windi Yanti	55
19	Salsabila Tamimi	70

20	Sulala Wulandari	50
21	Vemby Lamara V	62
22	Selma Damayanti	40
23	Shafiatul Amaliyah	57
24	Robiatul Andawiyah	65
	SUM	1336

Based on the table above, it can be known that there are twenty four students. The first column is the number of the students, the second column is the table of pre-test scores. It is found that the total t-test score of students writing process in writing essay is 1336 scores without giving the treatment.

In this pre-test, the highest score of all items are 100 score, but the result of students answer of the pre-test is lower than 100. The highest score is 78 and the lowest score is 40 of total members are 24 members.

b. The Presentation of Treatment

For the next meeting, the researcher gave a treatment implemented mind mapping twice meeting. The first meeting is done on 8th of November 2021 at 13.00 pm and the second meeting is done on Friday, November 12. The first treatment, the researcher gave warming up to the students about mind mapping technique and how to create it. The researcher also give an example of how to make mind

mapping. The last treatment, the researcher give an example of writing essay on the blackboard by using mind mapping. Then, the researcher asks to the students to practice in writing essay by using mind mapping first. The researcher wants to know how students progress in writing essay using this technique. The researcher implemented mind mapping technique as a treatment with a steps, as follow:

- 1) The researcher entered to the class room.
- 2) The researcher asks the students what mind mapping is.
- 3) The researcher explains about how to create a mind mapping.
- 4) The researcher give the example of mind mapping.
- 5) The researcher give the example of short essay by mind mapping technique.
- 6) The researcher write one of topic of essay on the blackboard and asks to the students to make the list of the topic by mind mapping
- 7) The researcher orders the students to make a short essay by free topic using mind mapping first.
- 8) The researcher looks at the worksheet of every students.
- 9) The researcher closed the meeting by hamdalah.

c. The Presentation of Post-test

Following the researcher's treatment of mind mapping technique, te researcher conducted a post-test in writing essay testing to gather the score after treatment, which is shown in the table below:

Table 4.4
Result of Post-test Score

No	Name	Pos-test Score
1	Ryan Mugen B.S	70
2	Turmedi Bahtiar	62
3	Abd Ghofur	55
4	Fahrur Rosi	60
5	Moh Raihan	67
6	Sulhan Ali	68
7	Syamsul Arifin	70
8	Tri Wahyudi A.M	90
9	Usman Alfiandi	75
10	Rayu Srikandi	62
11	Reza Yuliana P	65
12	Siftia Maulina	45
13	Siti Aisyah	50
14	Sri Wahyuni	85
15	Zesilia Mega S	70
16	Rindi Safitri	75
17	Romlatul Fadhila	57
18	Sa'ida Windi Yanti	65
19	Salsabila Tamimi	68

20	Sulala Wulandari	75
21	Vemby Lamara V	55
22	Selma Damayanti	60
23	Shafiatul Amaliyah	75
24	Robiatul Andawiyah	81
	SUM	1605

Based on the table above, it can be known that there are twenty four students. The first column is the number of the students, the second column is the name of students, the third column is the table of post-test scores. It is found that the total t-test score of students' writing process in writing essay is 1605 scores after the researcher gave the treatment.

From the table above, there are many various scores of twenty four students. Students who get scores above 70 are 10 students, it is called good. And students who get scores under 70 are 14 students, it is called weak comprehension in writing essay.

d. The Validity of Test

The validity use to measure how far the instruments especially test instruments is valid or not. To check the validity of test, the researcher identifies the test the researcher used. The researcher identifies whether the test is appropriate to the students or not. The researcher used content validity to measure students' process in

writing essay. The researcher asked the student's teacher how to made the test in every indicator. Before conducting the test, the researcher explains clearly to students about the instruction of the test. Based on 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.² The researchers make a test appropriate for the material given by the teacher. So, the test the researcher given to the students is valid.

The result of the test is a numerical score, so the researcher use dependent t-test. Before testing validity of test, researcher will present the table coefficient value of correlation rproduct moment, that is:

Table 4.5

Table of Coefficient Value of Correlation R Product Moment³

	The distribution value r_{table}
Significance	5%
N	24
r_{table}	0,388

To test the validity of test, the researcher uses SPSS 20 that is:

Table 4.6

Testing of Validity Pre-test

Correlations

² Donald Ary, 226

³Sudijono, 206

		X1	X2	X3	X4	X5	X
X1	Pearson Correlation	1	-,103	,075	-,157	,308	,050
	Sig. (2-tailed)		,630	,727	,462	,144	,818
	N	24	24	24	24	24	24
X2	Pearson Correlation	-,103	1	-,313	-,285	-,120	-,282
	Sig. (2-tailed)	,630		,137	,178	,577	,182
	N	24	24	24	24	24	24
X3	Pearson Correlation	,075	-,313	1	,774**	,103	,856**
	Sig. (2-tailed)	,727	,137		,000	,631	,000
	N	24	24	24	24	24	24
X4	Pearson Correlation	-,157	-,285	,774**	1	,129	,949**
	Sig. (2-tailed)	,462	,178	,000		,548	,000
	N	24	24	24	24	24	24
X5	Pearson Correlation	,308	-,120	,103	,129	1	,358
	Sig. (2-tailed)	,144	,577	,631	,548		,086
	N	24	24	24	24	24	24
X	Pearson Correlation	,050	-,282	,856**	,949**	,358	1
	Sig. (2-tailed)	,818	,182	,000	,000	,086	
	N	24	24	24	24	24	24

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

Table 4.7

Calculation of The Post-test Scores

		Correlations					
		X1	X2	X3	X4	X5	X
X1	Pearson Correlation	1	,391	,378	,440*	,291	,519**
	Sig. (2-tailed)		,059	,069	,031	,168	,009
	N	24	24	24	24	24	24
X2	Pearson Correlation	,391	1	,434*	,435*	,103	,487*
	Sig. (2-tailed)	,059		,034	,034	,632	,016
	N	24	24	24	24	24	24
X3	Pearson Correlation	,378	,434*	1	,695**	,317	,834**
	Sig. (2-tailed)	,069	,034		,000	,131	,000
	N	24	24	24	24	24	24
X4	Pearson Correlation	,440*	,435*	,695**	1	,345	,949**
	Sig. (2-tailed)	,031	,034	,000		,099	,000

	N	24	24	24	24	24	24
	Pearson Correlation	,291	,103	,317	,345	1	,529**
X5	Sig. (2-tailed)	,168	,632	,131	,099		,008
	N	24	24	24	24	24	24
	Pearson Correlation	,519**	,487*	,834**	,949**	,529**	1
X	Sig. (2-tailed)	,009	,016	,000	,000	,008	
	N	24	24	24	24	24	24

*. Correlation is significant at the 0.05 level (2-tailed).

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

To know which item of the test is valid or not, we must see the r table. In this research, the total of students is 24 students. The researcher uses a significance of 5%, and the r_{table} is 0,388. Based on the data above, all item of test are valid because the value pearson correlation is higher than r_{table} .

e. Reliability of Test

After the validity test has been proven, the researcher determines the reliability. The researcher uses the SPSS application to calculate the result of the test using the Cronbach Alpha formula in order to determine if the test is reliable or not. We must know the level of significance and r_{table} , that is:

Table 4.8

Table of Coefficient Value of Correlation RProduct Moment

	The distribution value r_{table}
Significance	5%
N	24

r _{table}	0,388
--------------------	-------

To measure the reliability of test, the researcher uses SPSS 20 to make the researcher easier and decimate misinterpretation, are as follow:

Table 4.9

Reliability of Pre-Test

Case Processing Summary

		N	%
Cases	Valid	24	100,0
	Excluded ^a	0	,0
	Total	24	100,0

a. Listwise deletion based on all variables in the procedure.

Table 4.10

Reliability Statistics

Cronbach's Alpha	N of Items
,698	6

Table 4.11

Item Total Statistics

Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
X1	107,92	386,775	,008	,728
X2	108,04	393,085	-,304	,735
X3	99,92	304,862	,812	,614
X4	90,75	169,065	,878	,441

X5	94,38	362,332	,260	,706
X	55,67	96,928	1,000	,408

Table 4.12

Reliability of Post-Test

Case Processing Summary

		N	%
Cases	Valid	24	100,0
	Excluded ^a	0	,0
	Total	24	100,0

a. Listwise deletion based on all variables in the procedure.

Table 4.13

Reliability Statistics

Cronbach's Alpha	N of Items
,740	6

Table 4.14

Item Total Statistics

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
X1	129,96	448,216	,499	,758
X2	130,46	451,476	,471	,761
X3	120,38	359,462	,781	,669
X4	105,00	228,957	,895	,541
X5	116,08	417,297	,453	,734
X	66,88	115,245	1,000	,583

From the output, the researcher has gotten the reliability of pre-test score is 0,698 and post-test is 0,740. To know the test is reliable or not, the researcher compares the value. To know the researcher look for the degree of freedom by formula as below:

$$df = N - nr = 24 - 1 = 23$$

df: degrees of freedom

N: Number of cases

nr: a total variable that is correlated. nr = 1

According to level significance 5%, the critical value is 0,396. So that, from those calculation, the score of pre-test (0,698) and post-test (0,740) are higher than r-table (0,396). As a result, the researcher believes that the data in the pre-test and post-test have been reliable.

2. Result of Documentation

The data were obtained from documentation are as follow:

- a. The D class of third semester consist of 24 students name list of English Department IAIN Madura.

Table 4.15

Table of Name list of Respondents

NO	NAME OF STUDENT
1.	RYAN MUGEN B.S
2.	TURMEDI BAHTIAR
3.	ABD GHOFUR
4.	FAHRUR ROSI

5.	MOHAMMAD RAIHAN
6.	SULHAN ALI
7.	SYAMSUL ARIFIN
8.	TRI WAHYUDI A.M
9.	USMAN ALFIANDI
10.	RAYU SRIKANDI
11.	REZA YULIANA PRATIWI
12.	SIFTIA MAULINA
13.	SITI AISYAH
14.	SRI WAHYUNI
15.	ZESILIA MEGA SUSANTI
16.	RINDI SAFITRI
17.	ROMLATUL FADHILA
18.	SA'IDA WINDI YANTI
19.	SALSABILA TAMIMI
20.	SULALA WULANDARI
21.	VEMBY LAMARA VERTIMADANI
22.	SELMA DAMAYANTI
23.	SHAFIATUL AMALIYAH
24.	ROBIATUL ANDAWIYAH

b. Students' scores of pre-test and post-test

Table 4.16

Table of Pre-test and Post-test Score

No.	Correspondents	PRE- TEST	POST-TEST
1.	Ryan Mugen B.S	70	70
2.	Turmedi Bahtiar	55	62
3.	Abd Ghofur	57	55
4.	Fahrur Rosi	50	60
5.	Moh Raihan	65	67
6.	Sulhan Ali	40	68
7.	Syamsul Arifin	45	70
8.	Tri Wahyudi A.M	55	90
9.	Usman Alfiandi	55	75
10.	Rayu Srikandi	55	62
11.	Reza Yuliana P	60	65
12.	Siftia Maulina	40	45
13.	Siti Aisyah	45	50
14.	Sri Wahyuni	78	85
15.	Zesilia Mega S	60	70
16.	Rindi Safitri	57	75
17.	Romlatul Fadhila	50	57
18.	Sa'ida Windi Yanti	55	65
19.	Salsabila Tamimi	70	68
20.	Sulala Wulandari	50	75

21.	Vemby Lamara V.	62	55
22.	Selma Damayanti	40	60
23.	Shafiatul Amaliyah	57	75
24.	Robiatul Andawiyah	65	81

3. Data Analysis

After measuring the instruments, the researcher needs to analyze the scores to statistical form. The researcher used independent t-test which include score of students. Before analyze by using paired sample t-test, there are normality test as follow.

a. Normality Test

Normality test is use to ensure the data for each variable analyzed is normally distributed. Based on the assumption that parametric statistics work based on the normality data which will be analyzed from each variable.

The researcher used One Sample Kolmogrov Smirnov to measure the normality of the data through SPSS 20 by using a significance level 5%. If the significance value is more than 0,05, the residual value is typically distributed. On the contrary, if the significance value is less than 0,05, the value is not typically distributed. The calculation of normality test as follow:

Table 4.17

**Normality Test
One-Sample Kolmogorov-Smirnov Test**

		PRETEST	POSTEST
N		24	24
Normal Parameters ^{a,b}	Mean	55,6667	66,8750
	Std. Deviation	9,84518	10,73520
Most Extreme Differences	Absolute	,140	,100
	Positive	,113	,100
	Negative	-,140	-,067
Kolmogorov-Smirnov Z		,684	,488
Asymp. Sig. (2-tailed)		,737	,971

a. Test distribution is Normal.

b. Calculated from data.

Based on the table above, it is known that the significance value of pre-test and post-test are 0,737 and 0,971. The data have significant value $> 0,05$, so the data is normally distributed.

Researcher needs to analyze the score to get the statistical form because this study are pre-test and post-test. The researchers would then wish to assess the data before testing hypotheses in order to determine the outcome of this study. The data was analyzed using a paired sample t-test, which included two test instrument outcomes, namely pre-test and post-test. Calculation of dependent t-test is formed by considering the table as follow:

Table 4.18

The Calculation of Paired Sample t-test (Pre-test and Posttest)

NO.	NAME	WRITING ESSAY		D =	D ² =
		Pre-test	Post-test	(X-Y)	(X - Y) ²
1.	Ryan Mugen	70	70	0	0

2.	Turmedi Bahtiar	55	62	7	49
3.	Abd Ghofur	57	55	-2	4
4.	Fahrur Rosi	50	60	10	100
5.	Moh Raihan	65	67	2	4
6.	Sulhan Ali	40	68	28	784
7.	Syamsul Arifin	45	70	25	625
8.	Tri Wahyudi	55	90	35	1225
9.	Usman Alfiandi	55	75	20	400
10.	Rayu Srikandi	55	62	7	49
11.	Reza Yuliana P	60	65	5	25
12.	Siftia Maulina	40	45	5	25
13.	Siti Aisyah	45	50	5	25
14.	Sri Wahyuni	78	85	7	49
15.	Zesilia Mega S	60	70	10	100
16.	Rindi Safitri	57	75	18	324
17.	Romlatul F.	50	57	7	49
18.	Sa'ida Windi Y.	55	65	10	100
19.	Salsabila Tamimi	70	68	-2	4
20.	Sulala Wulandari	50	75	25	625
21.	Vemby Lamara V	62	55	7	49
22.	Selma Damayanti	40	60	20	400
23.	Shafiatul Amaliyah	57	75	18	324

24.	Robiatul Andawiyah	65	81	16	256
	N= 24	$\sum X_1 =$ 1336	$\sum X_2 =$ 1605	$\sum D =$ 283	$\sum D^2 =$ 5595

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

$$N = 24$$

$$\sum D = 283$$

$$\sum D^2 = 5595$$

$$\sum X_1 = 1336$$

$$\sum X_2 = 1605$$

The counting steps t-test are as follow:

- a. Looking for D (difference) between score of pre-test and post-test, the calculation is $D = (x_2 - x_1)$. See Table 4.17.
- b. Summing D (Difference) until $\sum D = 283$ it is obtain by adding all of the score D. See Table 4.17.
- c. Looking for the mean from the difference of pre-test and post-test (MD) , by formula:

$$M_D = \frac{\sum D}{N}$$

$$MD = \frac{283}{24}$$

$$= 11,8$$

d. Square all of D score: Then add up so as to be obtained $\sum D^2$

e. Determining Standard Deviation form D by formula:

$$\begin{aligned}
 SD_D &= \sqrt{\frac{\sum D^2}{N} - \left(\frac{\sum D}{N}\right)^2} \\
 &= \sqrt{\frac{5595}{24} - \left(\frac{283}{24}\right)^2} \\
 &= \sqrt{233,1 - (11,8)^2} \\
 &= \sqrt{233,1 - 139,2} \\
 &= \sqrt{93,9} \\
 &= 9,6902
 \end{aligned}$$

f. Determining *Mean of Difference* by formula:

$$\begin{aligned}
 SE m_d &= \frac{SD_D}{\sqrt{N-1}} \\
 &= \frac{9,6902}{\sqrt{24-1}} \\
 &= \frac{9,6902}{\sqrt{23}} \\
 &= \frac{9,6902}{4,7958} \\
 &= 2,0205
 \end{aligned}$$

g. Determining t_0 by formula:

$$\begin{aligned}
 t_0 &= \frac{M_D}{SE M_D} \\
 &= \frac{11,8}{2,0205} \\
 &= 5,840
 \end{aligned}$$

The researcher discovers $t_0 = 5,840$, based on the dependent t-test calculation above. To know if the null hypothesis is rejected or accepted. The hypothesis testing method must be completed by the researcher.

B. Hypotheses Testing

Hypotheses are quantitative research statements where the researcher predicts the result of a relationship between traits or features. Two types of hypotheses exist, null hypotheses, and alternative hypotheses. Hypothesis is important things in quantitative research because hypotheses make the result of the research and determine the hypothesis is null hypothesis or alternative hypothesis easily there is a correlation between dependent variable and independent variable or not.

Upon the basis of the requirements of statistical analysis that the researcher uses paired sample t-test. The result of, which is $t_0 = 5,840$. It must be compared with the t-table in significance level 5% to know whether H_a (alternative hypothesis) is rejected or accepted.

If $t_0 > t_t$, null hypothesis (H_0) is rejected and alternative hypothesis (H_a) is accepted.

If $t_0 < t_t$, null hypothesis (H_0) is accepted and alternative hypothesis (H_a) is rejected.

Before comparing with t-table, the df (degree of freedom) must be determined by formula $df = N - 1$.

$$df = N - 1$$

$$= 24 - 1$$

$$= 23$$

T-table for the level of significance 5% with $df = 23$ is 2.07. Because $t_o > t_t$ ($5,840 > 2.07$), the researcher declares that the null hypothesis (H_o) is rejected and the alternative hypothesis (H_a) is accepted.

As a result of this findings, the researcher concludes that alternative hypotheses (H_a) is accepted. As a result, the conclusion of this study is there is a significant effectiveness of mind mapping technique for the third semester English teaching learning program students at IAIN Madura.

C. Discussion and Finding

1. Discussion

This part was present about the discussion of the research. The research was conducted at the third semester students of English teaching learning program IAIN Madura for three weeks. The research was conducted at D class of the third semester. These class is consist of 24 students. The material that was taught for research was writing an essay exactly short essay. The pre-test was given at the first meeting and the post-test was given at the last meeting. The researcher also gives a treatment in the second week for twice before the pos-test was given. The aims of those, the researcher wants to know the students' progress before and after using mind mapping technique in writing essay and without using mind mapping technique.

In this section, the researcher tried to describe the college students' progress towards mind mapping technique in writing essay at the third semester students of English teaching learning program IAIN Madura. According to the presentation of data and hypotheses testing, there are the positive effectiveness of mind mapping in writing essay. The researcher can see from the students' score between pre-test and post-test. In the pre-test the highest score was 78 and the lowest score was 40. There are 7 students: poor score so the students of D class can be categorized as very weak in writing essay. While in the post-test, the highest score was 90 and the lowest score was 45 obtained only by two students. Before using the mind mapping technique in writing essay, the college students' get the low value in writing text, especially in writing essay. They find it difficult to manage their ideas in the form of essays consisting of several paragraphs. They find it difficult to explain their thesis statement in essay. They have mentioned that writing an essay using mind mapping technique is helpful. It is caused the existence of mind mapping as the helpful technique is able to help students in planning their writing and the development of creativity in writing. The same point of view comes from Freeman which said mind mapping was demonstrated as an excellent and innovative strategy as it enabled the participants students to generate new ideas for essays and assignments writing.⁴

⁴Ali Ayed Al Zyoud, "Mind Mapping and Students Writing Performance",....., 286-287.

In another side, writing essay by using mind mapping technique is served the students to associate the ideas, promote creative thinking, and establish meaningful connection among ideas in essay. According to the presentation of the data, the researcher can see from the students' writing in the pos-test. They be able to explore the information in the brain to makes a text pretty good. Their essay has unity and coherence. In the post-test, the researcher can be see that 24 students at the third semester have an average value of 4-5 in unity and coherence. It is also similar with the statement of Tony Buzan which said that mind mapping technique can help someone to concentrate on the information structure and relationship among ideas.⁵

2. Finding

In this study, after the researcher analyzes the data and know the result of the research, the researcher can answer the problom of study. There are two problems of study, those are:

a. The Effectiveness of Mind Mapping Technique for the Third Semester Students of English Teaching Learning Program IAIN Madura.

The researcher has analyzed by using the formula of t-test (pre-test and post-test) and also present the statistical analysis that t-value is higher than t-table either on the level of significance 5% ($5,840 > 2,07$). The result of t_0 is 5,840 and the result of t_{table} is 2,07. It means

⁵Wandut, 13-14.

that there is the effectiveness of mind mapping technique for the third semester students of English Teaching Learning Program IAIN Madura. Beside that, when the researcher tested the hypothesis by using t-test formula, the alternative hypothesis is accepted. The score of t-test is 5,840. The total of the students who were researched by the researcher are 24 students, therefore $N = 24$. The degree of freedom (df) is 23 ($(df = N-1) = 24-1= 23$) and df for 23 for $N = 2.07$.

b. The Significance of Mind Mapping on Students' Writing Process in Writing Essay at the Third Semester of English Teaching Learning Program IAIN Madura.

To determine the significance of mind mapping technique on writing essay, the researcher determine df (degrees of freedom). The degree of freedom is 23 ($df = N-nr$), ($df = 24-1=23$). As a result, $24-1 = 23$ degrees of freedom are calculated. To consult a t-value on a level of significance of 5%. The t-value that may be retrieved in the t-table for $df = 23$ is obviously 2,07 and the t_0 is 5,840. After that, the t_0 (5,840) compare to t-table (2,07). According to the study, mind mapping technique have strong significance on student's writing process in writing essay.