

## **Chapter Four**

### **Findings and Discussion**

This chapter presents the answer of the three research questions. The first research question is “How is the EED UMY Batch 2015 students’ critical thinking skill?”. the second question is “How is the EED UMY Batch 2015 students’ skill in writing argumentative text?” and the third is “Does critical thinking skill affect EED UMY Batch 2015 students’ skill on improving writing argumentative text in Interpretive Reading and Argumentative Writing?”. The discussion of the findings is also presented in this chapter.

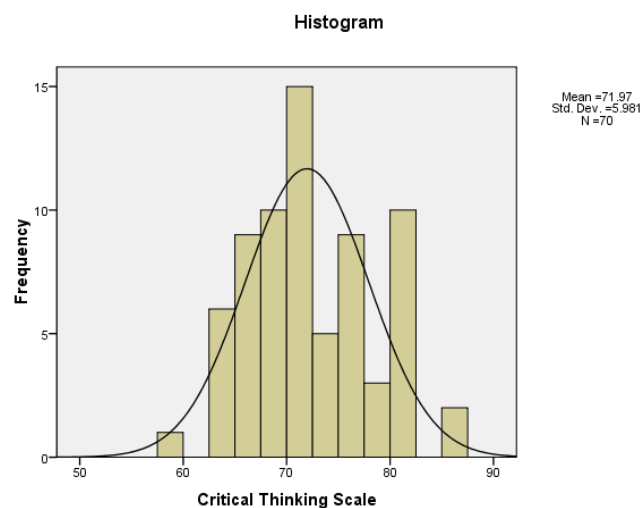
#### **Finding**

#### **Finding 1. The Students’ Critical Thinking of English Education Department Batch 2015**

The questionnaire of critical thinking scale was distributed to seventy students of EED UMY Batch 2015 from class A, B, and C. From the result of the total scores of critical thinking scale, the researcher divided seven categorized levels based on the interval formula.

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 51-60	1	1.4	1.4	1.4
61-70	32	45.7	45.7	47.1
71-80	28	40.0	40.0	87.1
81-90	9	12.9	12.9	100.0
Total	70	100.0	100.0	

Based on this result, there are one student of seventy (1.4%) who have critical thinking score between 51-60. There are thirty-two students (45.7%) who have critical thinking score between 61-70. There are twenty-eight students (40%) who have critical thinking score between 71-80, and there are nine students (12.9%) who have critical thinking score between 81-90. The result can be seen clearer in the histogram below



**Figure 4.1 Histogram critical thinking scale**

Based on the histogram, the result showed that mean of students critical thinking scale were on the 71.97. From the result of interval formula 70-80 considered in high level of critical thinking. It means that most of EED students Batch 2015 have high level of critical thinking.

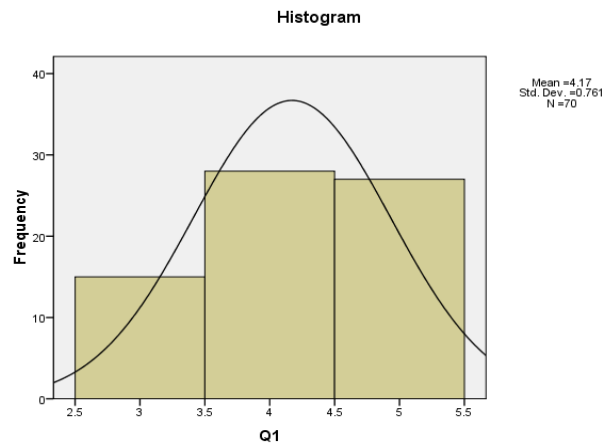
Bloom Taxonomy revised by Anderson and Karthwohl (2001) divided six cognitive domain of critical thinking, namely remembering, understanding, applying, analyzing, evaluating, and creating, the findings show the respondents' critical thinking scale of each indicator.

**Remembering.** The indicator of remember is reflected on two statements of questionnaire. They are number one and two. The respondents' critical thinking scale of indicator remembering were presented in the table below

	Frequency and Percent				
	Never	Rarely	Sometimes	Often	Always
Statement 1	0 (0%)	0 (0%)	15 (21.4%)	28 (40%)	27 (38.6%)
Statement 2	2 (2.9%)	9 (12.9%)	36 (51.4%)	19 (27.1%)	4 (5.7%)

In the statement 1, there were fifteen students (21.4%) who chose sometimes think possible result before take an action and twenty-eight students (40%) who chose often think possible result before take an action. Then, there were twenty-seven students who chose always think possible result before take an action. The result of mean students answer questionnaire are 4.17. It means that

most of students were often think possible result before take an action. The result can be seen clearer in the histogram below.



**Figure 4.2 Histogram statement 1**

In the statement 2, there were four students (5.7%) who always got idea from other people when having task and nine teen students (27.1%) who often got idea from other people when having task to do. Then, there were two students (2.9%) who never got idea from other people when having task to do. There were nine students (12.9%) who rarely got idea from other people when having task to do. There were thirty-six students (51.4%) who chose sometimes got idea from other people when having a task to do. The result of mean students answer questionnaire are 3.2. It means that most of students sometimes got idea from other people when having a task to do.

To be highlighted, the results show that the students indicate high cognitive domain in indicator of remembering. Most of the students were often think possible result before take an action. It means that, the students at EED UMY Batch 2015 were able to recognize well the outcome before to do

something. It is in line with Anderson and Karthwol (2001) who said that remember as indicator of cognitive domain represents the recognizing and recalling memory of past event in mind.

**Understanding.** The indicator of understanding was reflected on six statements. They are number 3, 4, 6, 7, 8, and 12. The six statements were presented below

	Frequency and Percent				
	Never	Rarely	Sometimes	Often	Always
Statement 3	0 (0%)	1 (1.4%)	6 (8.6%)	46 (65.7%)	17 (24.3%)
Statement 4	0 (0%)	1 (1.4%)	7 (10%)	29 (41.4%)	33 (47.1%)
Statement 6	0 (0%)	4 (5.7%)	28 (40%)	23 (32.9%)	15 (21.4%)
Statement 7	0 (0%)	3 (4.3%)	10 (14.3%)	32 (45.7%)	25 (35.7%)
Statement 8	0 (0%)	5 (7.1%)	12 (17.1%)	33 (47.1%)	20 (28.6%)
Statement 12	0 (0%)	2 (2.9%)	12 (17.1%)	33 (47.1%)	23 (32.9%)

In the statement 3, the table above shows that seventeen students (24.3%) who always develop idea by gathering information and forty-six (65.7%) students who often develop idea by gathering information. Then, six students (8.6%) who sometimes develop idea by gathering information. In addition, only one student (1.4%) who chose rarely develop idea by gathering information.

In the statement 4. There were thirty-three students (47.1%) who chose always identify options when facing problem and twenty-nine students (41.4%) who often identify options when facing problem. Seven students (10%) stated that sometimes identify options when facing problem and only one (1.4%) who rarely identify options when facing problem. It means that most of students did inferring when facing problem. The data showed that among all participant EED UMY Batch 2015, there were 88.5% students who indicate high ability in identifying the solutions when facing problem.

Based on data above, the statement of 6. There were fifteen students (21.4%) who always able to give reason for opinions. There were twenty-three (32.9%) who often able to give reason for opinions. There were twenty-eight students (40%) who sometimes able to give reasons for opinions. It means, most of students in EED UMY Batch 2015 were sometimes able to give the reasons for opinion. Only four students (5.7%) were rarely to give reasons for opinions.

Based on the data above, statement 7. There were thirty-two students (45.7%) chose often important to get information to support own opinions. There were twenty-five students (35.7%) chose always important to get information to support own opinions. Then, there were ten students (14.3%) chose sometimes important to get information to support own opinions and three students (4.3%) chose rarely important to get information to support own opinions. It means most of students EED UMY Batch 2015 often got information for support own opinions.

Based on this data, the statement 8. There were thirty-three students (47.1%) chose often have more than one source of information before making decision. There are twenty students (28.6%) chose always have more than one source of information before making decision. Then, there are twelve students (17.1%) chose sometimes and only five students (7.1%) chose rarely have more than one source of information before making decision. It means that, most of students EED UMY Batch 2015 before making decision, they were comparing the information from different source. It was supposed to prove the strong evidence of opinion.

Based on the table above, the statement 12. There were thirty-three students (47.1%) who often took decision based on information they got and twenty-three students (32.9%) who always took decision based on information they got. Then, twelve students (17.1%) who sometimes took decision based on information they got and only two students (2.9 %) who rarely took decision based on information they got.

To be highlighted, the result showed that the students have a good indicator in one of cognitive domain of critical thinking which is understanding. It was because the percentage of students able to understand was on 4. It means that most of students chose often in statement of understand indicator. Based on that statement, the students have good classifying and inferring information to develop idea and support the opinions. The students also able to compare the information before making decision. The highest subcategories in understand is able to

explaining (Anderson & Karthwol, 2001). Most of the students of EED UMY Batch 2015 were sometimes able to explain the reason of opinions.

**Applying.** The indicator of applying was reflected on two number of statements. They are 5 and 11. The two statements were explained below.

Table 4.4 <i>Statement 5, and 11</i>					
	Frequency and Percent				
	Never	Rarely	Sometimes	Often	Always
Statement 5	1 (1.4%)	11 (15.7%)	37 (52.9%)	14 (20%)	7 (10%)
Statement 11	0 (0%)	1 (1.4%)	20 (28.6%)	28 (40%)	21 (30%)

Based on the table above, the statement of number 5. There were thirty-seven students (52.9%) who sometimes easily express thoughts on a problem. There were fourteen students (20%) who often easily express thoughts on a problem. Then, there were eleven students (15.7%) who rarely easily express thoughts on a problem and seven students (10%) who always easily express thoughts on a problem. There was only one student (1.4%) who never easily express thoughts on a problem.

Based on statement 11. There were twenty-eight students (40%) who often put ideas in order by importance. There were twenty-one students (30%) who always put ideas in order by importance. Then, there were twenty students (28.6%) who sometimes and one student (1.4%) who rarely put ideas in order by importance.



In conclusion, the result showed that the students have good ability for indicator critical thinking in apply. The average of students' ability in apply was on 3.6. it means that most of students were often able to apply or implement by expressing thought on a problem. Most of the students of EED UMY Batch 2015 were able to put ideas by importance. It means that, the students could implement and used the ideas by considering the situation. It is in line with Anderson and Karthwol (2001) stated that using ideas by considering the situation is one of indicator of apply in cognitive domain critical thinking.

**Analyzing.** The indicator of analyzing was reflected on two numbers statement. They are 13 and 16. The two statements are explained below.

Table 4.5 <i>Statement 13 and 16</i>					
	Frequency and Percent				
	Never	Rarely	Sometimes	Often	Always
Statement 13	0 (0%)	3 (4.3%)	16 (22.9%)	26 (37.1%)	25 (35.7%)
Statement 16	7 (10%)	10 (14.3%)	23 (32.9%)	20 (28.6%)	10 (14.3%)

Based on the statement 13. There were twenty-six students (37.1%) who often compare idea when thinking about topic. There are twenty-five students (35.7%) who always compare ideas when thinking about topic. Then, there are sixteen students (22.9%) chose sometimes compare ideas when thinking about topic and three students (4.3%) who chose rarely compare ideas when thinking about topic.

Based on the statement 16. There were twenty-three students (32.9%) who chose sometimes developed checklist to help them think about an issue. There were twenty students (28.6%) who often developed checklist to help them think about an issue. Then there were ten students (14.3%) who chose always developed checklist to help them think about an issue and ten students (14.3%) who chose rarely developed checklist to help them think about an issue. There are seven students (10%) who chose never developed checklist to help them think about an issue.

In conclusion, the result showed that the students have good ability for analyzing in critical thinking indicator. Most of the students could differentiate the ideas when thinking about an issue or topic. The mean of statement 13 was 4.04 show high favorable in differentiate ideas when thinking about issue. In other side, the highest percentage 32.9% of students' ability in organizing checklist to help think about an issue showed that EED UMY Batch 2015 unusual to used checklist in organizing the issue. It means that student was able analyze issue or topic. The students' habit for using checklist for organizing the issue were not significant for students' EED UMY Batch 2015. The result showed that the students able to compare between issue or topic. It supported by Anderson and Karthwol (2001), the ability to find the difference between things which are compared including analyze of critical thinking indicator.

**Evaluating.** The indicator of evaluating was reflected on three numbers statement. They are 15, 17 and 19. The three statements were explained below.

Table 4.6 <i>Statement 15, 17 and 19</i>					
	Frequency and Percent				
	Never	Rarely	Sometimes	Often	Always
Statement 15	1 (1.4%)	2 (2.9%)	19 (27.1%)	26 (37.1%)	22 (31.4%)
Statement 17	0 (0%)	10 (14.3%)	22 (31.4%)	22 (31.4%)	16 (22.9%)
Statement 19	0 (0%)	1 (1.4%)	11 (15.7%)	34 (48.6%)	24 (34.3%)

Based on the table above, the statement 15. There were twenty-six students (37.1%) who often aware no right or wrong answers to a questions. There were twenty-two students (31.4%) who always aware no right or wrong answers to a questions. There were nineteen students (27.1%) who sometimes aware no right or wrong answers to a questions. Then, there were two students (2.9%) who rarely aware no right or wrong answers to a questions and only one student (1.4%) who never aware no right or wrong answers to a questions.

Based on data above, the statement of 17. There were balances between students sometimes could easily tell what they did was right or wrong and student often could easily tell what they did was right or wrong. Each item students who chose sometimes and often were twenty-two students (31.4%). There were sixteen students (22.9%) who chose always could easily to tell what they did was right or wrong. Then, ten students (14.3%) who chose rarely could easily to tell what they did was right or wrong.

Based on the statement 19. There were thirty-four students (48%) who chose often make sure the information that they used was correct. There are

twenty-four students (34.3%) who chose always make sure the information that they used was correct. Then, there were eleven students (15.7%) who chose sometimes make sure the information that they used was correct and one student (1.4%) who chose rarely make sure the information that they used was correct.

In conclusion, the result show that the students also have good ability in critical thinking indicator which is evaluating. The result showed that mean of statement 15, 17, and 19 was 3.91. It means the students were able to check that the information used was correct. They also could criticize in right or wrong answers to a question. In addition, the students were able to criticize and evaluate what they do right or wrong. Checking and criticizing are sub indicator of evaluate in cognitive domain critical thinking (Anderson & Karthwohl, 2001).

**Creating.** The indicator of creating was reflected on four numbers statement. They were 9, 10, 14 and 18. The four statements were explained below.

Table 4.7 Statement 9, 10, 14, and 18					
	Frequency and Percent				
	Never	Rarely	Sometimes	Often	Always
Statement 9	0 (0%)	2 (2.9%)	16 (22.9%)	34 (48.6%)	18 (25.7%)
Statement 10	0 (0%)	3 (4.3%)	12 (17.1%)	36 (51.4%)	19 (27.1%)
Statement 14	1 (1.4%)	3 (4.3%)	14 (20%)	29 (41.4%)	23 (32.9%)
Statement 18	0 (0%)	5 (7.1%)	34 (48.6%)	20 (28.6%)	11 (15.7%)

Based on data, the statement 9. There were thirty-four students (48.6%) who chose often plan where to get information on a topic. There were eighteen students (25.7%) who chose always plan where to get information on a topic. Then, there were sixteen students (22.9%) who chose sometimes plan where to get information on a topic. There were two students (2.9%) who rarely plan where to get information on a topic.

Based on the statement of 10. There were thirty-six students (51.4%) who often plan how to get information on a topic. There were nineteen students (27.1%) who always plan how to get information on a topic. Then, there were twelve students (17.1%) who sometimes plan how to get information on a topic. There were three students (4.3%) who rarely plan how to get information on a topic.

Based on statement of 14. There were twenty-nine students (41.4%) who chose often kept their mind open to different ideas when planning to make decision. There were twenty-three students (32.9%) who chose always kept their mind open to different ideas when planning to make decision. There were fourteen students (20%) who chose sometimes kept their mind open to different ideas when planning to make decision. Then, there were three students (4.3%) who chose rarely and one student (1.4%) who chose never kept their mind open to different ideas when planning to make decision.

Based on the statement of 18. There were thirty-four students (48.6%) who sometimes able tell the best way of handling problem. There were twenty students (28.6%) who often able to tell the best way of handling problem. Then, there were

eleven students (15.7%) who always able to tell the best way of handling problem and five students (7.1%) who rarely able to tell the best way of handling problem.

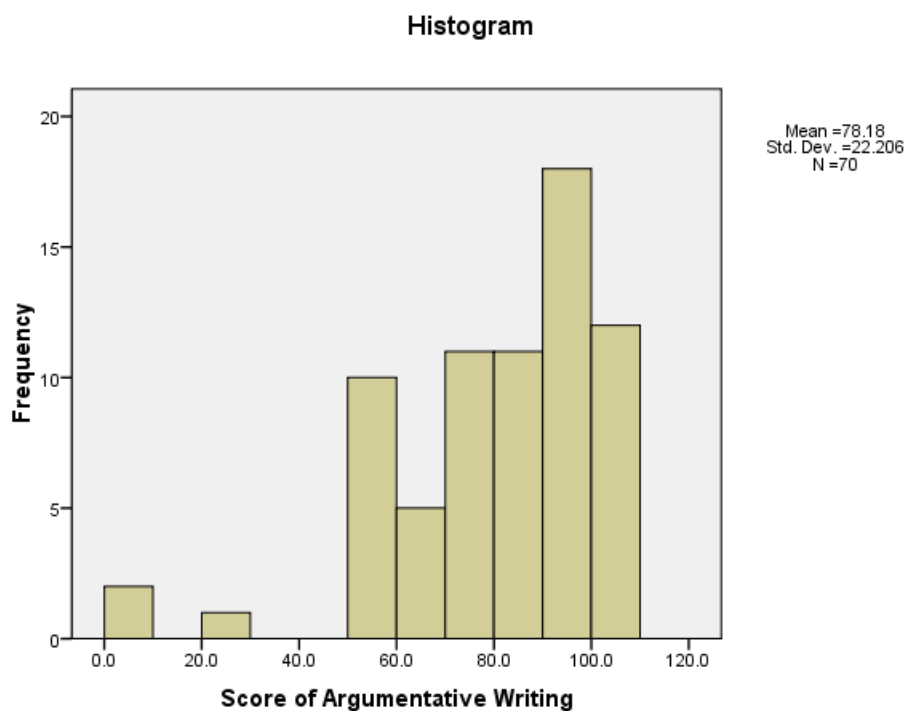
In conclusion, the result show that, the students also have good ability in indicator create of critical thinking. It is because mean of statement 9, 10, 14, and 18 was on 3.87. Based on that result, the students able to make a plan by act. The students also able to open mind to different ideas when plan to make decision. The students also able to create plan where and how got information on a topic. Based on that result, the students were indicating high ability in critical thinking.

### **Finding 2. The Students' Skill in Writing Argumentative Text of EED UMY Batch 2015**

The second research question of this research is "How is the EED UMY Batch 2015 students' skill in writing argumentative text?" The finding showed there were four levels of students' score in writing argumentative text. Based on score leveling in Academic guide, there were excellent, good, satisfying, and fair.

Category of students' score of writing argumentative	Frequency	Percentage
Excellent : 86-100 (A)	30	43
Good : 61-85 (B)	25	36
Satisfying : 50-60 (C)	12	17
Fair : <50 (D)	3	4
Total	70	100

The result showed that there were three students (4%) who have fair score in writing argumentative texts which is score less than 50. There were twelve students (17%) who have satisfying score in writing argumentative of 50-60. There were twenty-five students (36%) who have a good score in writing argumentative of 61-85. There were thirty students (43%) who have an excellent score in writing argumentative of 86-100.



**Figure 4.3 Histogram score argumentative writing**

The result showed that most of students were on the good score of writing argumentative texts. It is because the value of mean was on 78.18. based on academic guide score 61-85 are on the good category of students score of writing argumentative.

**Finding 3. The Effect of EED UMY Batch 2015 Students' Critical Thinking on Improving Writing Argumentative Text in Interpretive Reading and Argumentative Writing.**

The third research question of this research is “How does critical thinking argumentative text in interpretive reading and writing course?”. The testing of effect students' critical thinking skill variable toward students' score of writing argumentative using SPSS 16 refers to the probability value.  $H_a$  (alternative hypothesis) is accepted when probability value  $< 0.05$ . The result showed that probability value was 0.869. It means that  $H_a$  (alternative hypothesis) is not accepted. Therefore, it could be said that there was no significant effect of EED UMY Batch 2015 students' critical thinking skill toward students' skill in writing argumentative text in Interpretive and Argumentative Writing Class in second semester. It could be seen on the table below.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.994	1	.994	.027	.869 <sup>a</sup>
	Residual	2466.949	68	36.279		
	Total	2467.943	69			
a. Predictors: (Constant), Score of Argumentative Writing						
b. Dependent Variable: Critical Thinking Scale						

In addition, the strength and weakness of correlation can be seen through the value of significance correlation. The result showed that the significance correlation was 0.020. Based on correlation criteria develop by Arikunto (2002),



the significance between 0,00 – 0,20 is considered very low level. The correlation of the result showed very low level. It could be seen in the table below

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.020 <sup>a</sup>	.000	-.014	6.023
a. Predictors: (Constant), Score of Argumentative Writing				
b. Dependent Variable: Critical Thinking Scale				

## Discussion

### The Students' Critical Thinking of English Education Department Batch 2015

This research found out that the EED students' critical thinking was 28 students (40%) were in the high level, 45.7% were in upper middle level, 1.4% were in middle level and 12.9% were in the excellent level. Total of mean of students critical thinking scale was on 71.97. This means that the average of students has high ability in critical thinking. It could be identified that some of students have various level of critical thinking ability in EED UMY Batch 2015 such as high, upper middle, middle, and excellent level in critical thinking.

Based on the findings, there was on 3.87 students average on the indicator of creating and there was on 3.7 students average on ability to give reason for opinion. It could be identified that the students were able to prove the evidence of opinions. They also able to creating solution of the problem. it is in line with Anderson and Karthwohl (2001) who said the highest level of high order thinking is able to create something into existence. Students were on the high level of

critical thinking skill could be identified there are some possible indicators that affected critical thinking skill. With the expectation of Lai (2011), there are some characteristic of high order thinking students. There are students able to recognize that their assertions, beliefs, and statements have implications, and thus require evidence to support their opinions. It means that critical thinking skill of EED UMY students Batch 2015 could be identified that they tend to able recognize their strong evidence to prove their evidence.

Additionally, there were some categories that affected critical thinking ability. Critical thinking ability could be seen from the factors that supported people during their thinking process. Some researcher like Facione (2011), Ruggiero (2004), and Snyder and Snyder (2008) claimed that there are some processes to achieve critical thinking such as investigation, interpretation (decision making), evaluation, and judgment. It is clear that to have critical thinking need some processes. All factors might have the different effect on each student, so it also would produce the different level of critical thinking.

### **The Students' Skill in Writing Argumentative Text.**

Considering the findings of students score of writing argumentative Batch 2015 the value of mean was on 78.18. based on academic guide score 61-85 are on the good category of students score of writing argumentative. It indicates that the students were capable to produce argumentative writing, through their effort in writing process. From the result, there were 65% students who develop idea by gathering information. It means that when they were capable to develop idea from gathering information, they would relate it into their argument in writing.

Their good score in argumentative writing might be influenced by their good critical thinking. It is in line with Cottrel (2011), writing skill need critical thinking. In writing involving process of providing reason, using evidence, comparing, and evaluating arguments, weighing up conflicting evidence, and forming judgments on the basic evidence. This is also in line with Deane et al (2008) who mentioned that writing is one way to influence critical thinking.

**The Effect of EED UMY Batch 2015 Students' Critical Thinking on Improving Skill in Writing Argumentative Text in Interpretive Reading and Argumentative Writing.**

The result showed that there was no significant effect of EED UMY Batch 2015 students' critical thinking skill toward students' skill in writing argumentative text in Interpretive and Argumentative Writing. It was because the number of significances was  $0.869 > 0.05$  which means  $H_0$  is accepted and  $H_a$  is rejected. Thus the regression model based on research data were not significant because the linear regression model did not meet the criteria of linearity.

Critical thinking ability has no significant effect to the students score in writing argumentative texts because, the students critical thinking scale of EED UMY Batch 2015 were on the high level, and the students writing score were on the good level. Based on hypothesis, the result will give effect if the score of students' critical thinking scale and score of writing argumentative text are on the same level. Here, the hypothesis is rejected. In writing argumentative text for second semester, students are interpreting the text and then write argument.

The instrument of students' critical thinking skill has inclined in understand indicator of critical thinking. So, the result students were on high level critical thinking on understand level. Based on finding of this research, the researcher concludes that the number statement each indicator critical thinking skill should balance to each indicator and not inclined in one indicator.

To be highlighted, the result of critical thinking skill cannot affect the students in producing writing argumentative text with strong evidence. The result of this research is consistent with findings of Fahim and Hashtroodi (2012) who found critical thinking skill cannot help the students to write argumentative essay, for the fact that the improvement was not significant.