

STUDENTS' WRITING STRATEGIES TO IMPLEMENT CRITICAL THINKING IN AN ARGUMENTATIVE ESSAY

Aderina Febriana, SS. M.Pd
Prasetya Mulya Business School BSD
afebrianas@gmail.com

Abstract

The research was conducted to identify the students' strategies in implementing critical thinking when writing an argumentative essay. The methods used is qualitative approach which involved the case study method, the researcher collected the data using retrospect, interview, and questionnaire. The participants whom were involved in this research was done in a University in Serpong. The researcher chose 5 students who were asked to do the retrospect and interview about their strategies in implementing critical thinking when writing an argumentative essay.

The result of this study shows that, first, in implementing critical thinking when writing an argumentative essay, the students used Meta-cognitive, Cognitive, Social/Effective, Communicative and Rhetorical strategies. Meta-cognitive strategies are strategies that involved planning, monitoring and evaluation. Meanwhile, Cognitive Strategies are strategies that involved organization, summarizing, retrieval, elaborating and revising. Social/Effective Strategies are strategies that involved Cooperation. Communicative strategies are strategies that involved Sense of Readers. Rhetorical Strategies are strategies that involved genre Consideration. Second, the study also showed that in implementing critical thinking when writing an argumentative essay, the researcher found that the students mostly used cognitive strategies in writing their argumentative essay. The researcher suggests that teacher introduces critical thinking as an effective way to boost their cognitive strategies in writing. Moreover, the students might find that critical thinking improve their ability in writing an argumentative essay. It is also recommended that there should be more research about the use of critical thinking strategies to improve students' skill in writing, and other language learning skills.

Key words: writing strategy, argumentative essay, critical thinking

1. IMPLEMENTING CRITICAL THINKING AN INTRODUCTION

Writing for students of English as a second language (L2) and foreign language (EFL) is one of the most difficult production skills. Students need to possess adequate proficiency in grammar, lexical, and other skills that influenced the coherent and cohesion of the writing. Besides that, they have to be able to organize, plan, write and edit their essay. Additionally, the skills in writing also involved the knowledge to present clear ideas, and to persuade readers with the ideas. Therefore, because of the skill combinations involve during the process of writing, there are a lot of difficulty that students have to face.

To begin with, even though students have sufficient knowledge of grammar and lexical resource, they still have difficulties conveying their ideas into paragraphs. They start having difficulty when they generate their ideas during the outlining stage. It continues at the time they have to construct a thesis statement and support them with arguments. The arguments are meant to strengthen their ideas in the thesis statement and to persuade the readers about the ideas they are writing. However, they sometimes do not find the correct arguments for their thesis statement and cause confusion to the reader of their argumentative essay. The problem continues when they have to write supporting details. For example, when they have to write an explanation of an argument or give examples, they do not come up with strong supporting details that are connected to the argument. So, the difficulties happen through the process of writing an essay, from the way they generate ideas and choose an argument to how they support and conclude the ideas.

Moreover, they also struggled to organize a coherent paragraph. They do not use the correct cohesive devices when connecting sentences and paragraphs; they mix up the ideas between an argument, a counter argument, or support in the form of examples or explanation. This makes the writing becomes confusing and difficult to follow. We know that an essay should not only be grammatically correct, but the ideas must flow so it is easy to understand. Students make mistakes in the usage of cohesive devices they are confused placing them between sentences and paragraphs. It is difficult for them to know the difference what to write, for example, they have difficulty to know the difference between an argument and a counter-argument, and this cause them to make the wrong choice of cohesive devices. Instead of using “in contrast”, they will say “furthermore”.

We can look further into the problems in writing an argumentative essay as one of the writing products for undergraduate students. It is important to have a strong argument for the ideas that they try to convey. They have to think critically towards the ideas and give reasons about the arguments they write in their essay. The reasons should be supported by evidence that can strengthen the ideas the writer has. Furthermore, the conclusion should be built according to the arguments that are presented in the paragraphs before. Overall, each parts of the essay should be connected and there should not be any inconsistency.

The paper attempts to see how Critical thinking helps undergraduate students to create strategies in writing a good argumentative essay when they are implemented Critical Thinking. It also tried to find out the use of critical thinking when writing an argumentative essay.

Students as autonomous learners have ways to reach a goal for a certain task at the time they learn. They have the ability to create their own learning strategies, and it is one way a student acquires a certain skill in language. Harmer (2007, p.394) said the time students spend in the classroom is limited, so if students want to increase their success in language learning and acquisition, they should be encouraged to find their own strategies. Therefore, critical thinking is essential to be given to the students, so that they can develop their own strategy in writing an argumentative essay. Through this study the researcher will find out that critical thinking skill can help students with their strategy to write a better argumentative essay and improve their skill in writing as a foreign language student.

The study tried to identify the result after using critical thinking tools in writing an argumentative essay. It aims to answer the following questions:

1. What are the strategies students have when critical thinking is implemented to write an argumentative essay?
2. How does critical thinking use in students' writing strategies when writing an argumentative essay?

2. METHODOLOGY

The study aimed to find out undergraduates' students strategies when implementing critical thinking in writing an argumentative essay. It also investigated the use of implementing critical thinking in writing strategies when undergraduate students write an argumentative essay.

The research was conducted in a writing class with second-semester undergraduate students majoring in Business as participants. The researcher chose five students in a class and investigated them. They have been exposed to English since primary school, as a result they have sufficient ability in the language. Their English level was varied, Student 1 and 2 were considered above average, student 3 and 4 were considered average and 1 student was considered below average from all of the students in the class. They also possessed the knowledge of writing process in high school, additionally they did some essay writing in English for other subjects in the university. They were from a class where the researcher teaches Business Communication and Academic English, and one of the subjects is writing an argumentative essay. All of the above features made it easier for the researcher to gather the data needed for the study. The participant was selected using purposeful sampling. According to Creswell (2012, p.206-7) the participants that were chosen using purposeful sampling were the people who understood the case. They understood about the case because they were the

ones who experienced it. So, the experience they had was the reason they were chosen for this study.

The research itself began with the review about critical thinking before the process of writing occurred. The students were considered to have previous knowledge of the writing process. The process of writing consists of three steps of writing process: drafting, editing, and revising before they wrote their final draft that the researcher looked at. The research took 6 meetings that span up to 1,5 months. Creswell (2010) mentioned that a qualitative method is best suited for a research question that has an unknown variable and there is a need to explore the data. The key concept of the method is the central phenomenon which is the strategy the students make in implementing critical thinking in writing an argumentative essay for undergraduate students. The data was crucial for the final report of this study. Ensuring the validity, the data was collected with different method. The data was analyzed to get the finding of the research, and answer the research question.

Finding out about writing strategies students did, the researcher used three data gathering method. A set of questionnaire was given to know the general strategies that they used in their writing process. The questionnaire was adapted from Torrance, Thomas and Robinson (2000). This questionnaire was given to acquire initial data about general writing strategies that students have when they carry out the writing task. The data from the questionnaire to know the strategy of writing that students generally have. Furthermore, the researcher conducted the retrospect using a set of questions. They were given after the students' finish writing their essays. After that, an interview was done with questions guidelines to get a more in depth explanation. The aim in using these instruments was to know the students' strategies in implementing critical thinking in the process of writing, and the use of critical thinking itself in writing an argumentative essay. The study relies on analytical generalization; triangulation method was used to assure the validity of a data. Triangulation in this study was applied to answer the research questions that were mentioned in this study. Three data collecting methods were used to answer a single research question. First, questionnaire to help the researcher to know the strategies they have used in general. Then, retrospect as one of alternative assessments. After that, interview to get the data from the students with the help of a set of questions that is used to strengthen the data from the retrospect. Overall, all data from three methods were used to raise the validity of the findings.

In order to answer the second question of the research a text analysis was done to the essays the students gave at the end of the writing process. There are three texts the students submitted: first draft, second draft after revise and final draft. The final texts were scored with a rubric assessment that is taken from McLaughlin and Moore (2012). The text was rated by two raters to ensure the objectivity of the score.

After that, the texts were compared with the interview answers that were given by the students. The students' answers from the interview gave information about the strategies students made when they implemented critical thinking. The text analysis then strengthens the result of the interview about the use critical thinking in the writing process.

There were some steps that were done to analyze the essays the students wrote. First, the students' argumentative essays were collected and scored with the rubric. After that, the data was analyzed for its critical thinking characteristics, then it was compared with the interview data. So, to reach a conclusion the data from the text analysis was supported by the data from the students' interview.

3. DATA ANALYSIS

The data analysis framework was adapted from Creswell's (2012, p.237) qualitative process of data analysis. The researcher started by collecting data, preparing data for analysis, reading through the data, and coding data for the description to be used in the research report (Figure 1).

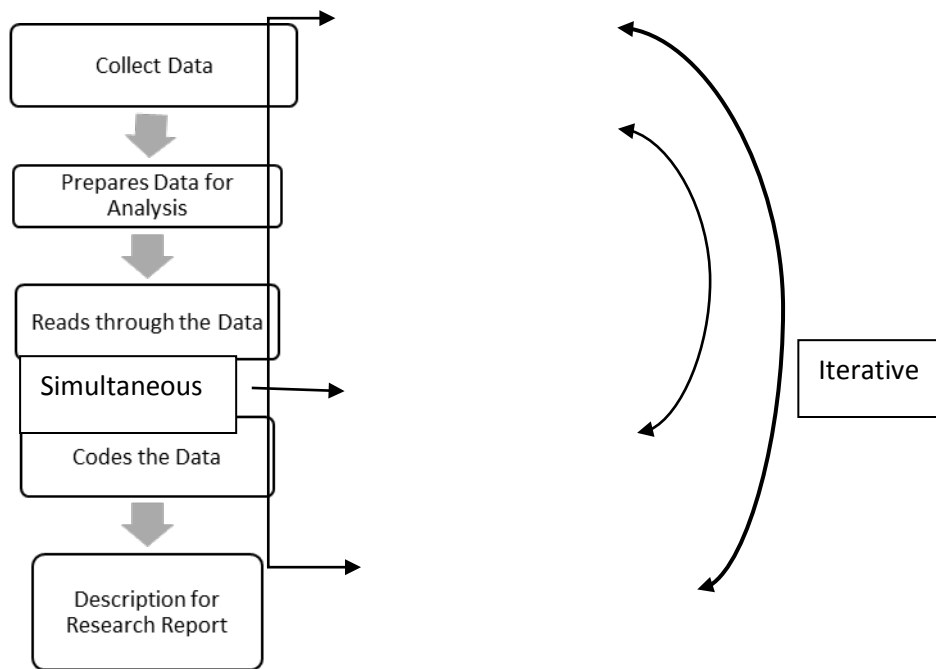


Figure 1 Data Analysis adopted from Creswell (2012)

The researcher analyzed the data that has been gathered. First of all, the researcher analyzed the strategy used by the students in implementing critical thinking when they wrote an argumentative essay. O'Malley and Chamot (1990) suggested that the methods in the research of learning strategies begins with the assertion that strategies begins with declarative knowledge. This will be done through triangulation of data: retrospect, interview and questionnaire.

Questionnaire data used to discover the students' general strategies in writing. Retrospect was given after the students finished their writing process. As it is a data about cognitive activity we can expect some distortion in the memory during the gathering of data from the students. The in-depth interview to strengthen the data from the retrospect which filled in the gaps of the data that was forgotten by the students. All of these data was analyzed were put into categorized according to O'Malley and Chamot (2000) and Mu (2005) about strategies. The data was connected with both of the theories and the outcome was the strategies used in writing an argumentative essay when implementing critical thinking (Figure 2).

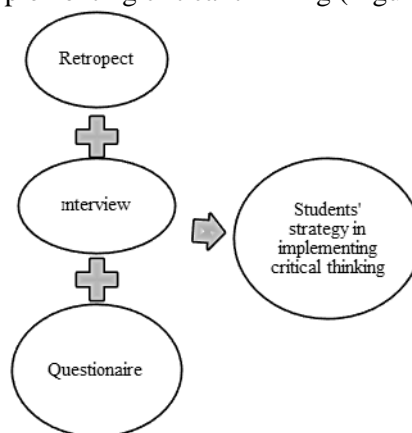


Figure 2: Data Analyzing Framework for Students' Strategy

After that, the researcher analyzed the students writing with the help of the interview data to know the use of critical thinking in students' argumentative essay. Through these references the researcher will determined the result of implementing critical thinking in students' writing strategies made by the students (Figure 3).

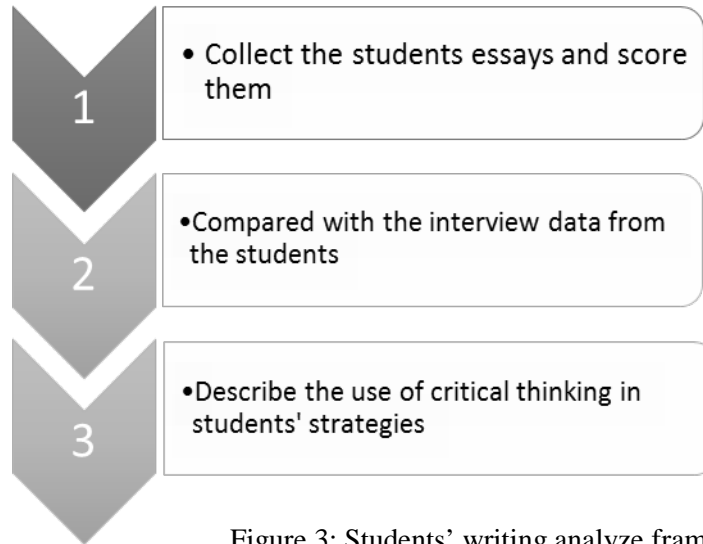


Figure 3: Students' writing analyze framework

4. RESULT OF STUDENTS' STRATEGIES WHEN CRITICAL THINKING IS IMPLEMENTED TO WRITE AN ARGUMENTATIVE ESSAY

The answers from the questionnaire, retrospect and interview that were given to the students were combine and analyzed. The researcher generalized the strategies that most of students do when they wrote the argumentative essay. The result was written as a series of Strategies and then combined as one (Figure 4).

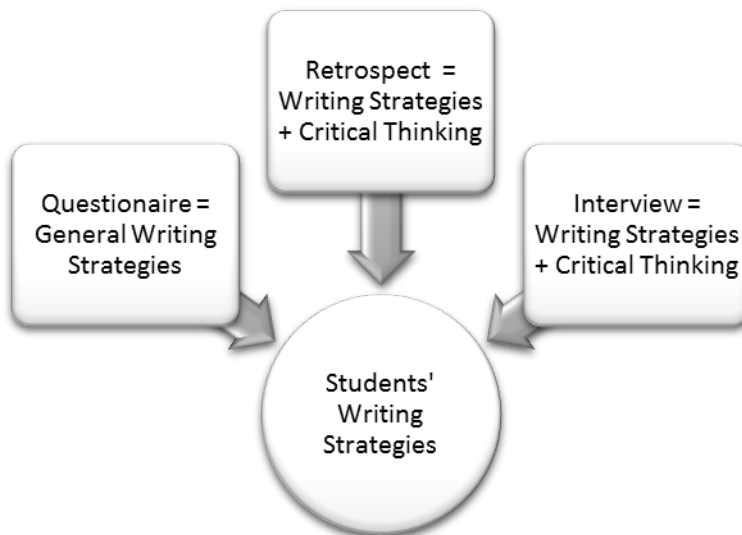


Figure 4: Analyzing Students' writing strategies

The data from the questionnaire result has shown the students' strategies in the process of writing an argumentative essay. Most of the strategies are the strategies that are commonly used in writing activities. A retrospect was conducted to see their strategies after they had

finished writing an essay. The interview served as a more in-depth information about the students' strategies when they write an argumentative essay. The researcher tried to find the similarity from 3 methods of collecting data and classified them into strategies that were done by the students.

The strategies used by students were classified into: Meta-Cognitive Strategies, Cognitive Strategies, Social or Effective Strategies, Rhetorical Strategies, and Communicative strategies. These strategies are both mentioned in the strategies from Preliminary Classification of learning Strategies adapted from O'Malley and Chamot (2000). The data also combined with the Taxonomy of ESL Writing Strategies which was adapted from Mu (2005). From both sources the researcher could conclude the students' writing strategies when they implemented critical thinking.

After classifying the strategies through the theory then the researcher would connect the students answer and described each strategy that were used in the writing activity.

a. Meta Cognitive Strategies

Meta cognitive strategies are mostly the way we learn to be able to effectively master a certain skill (Hedge, 2000, p.78-9). Meta Cognitive Strategies that the researcher could see in the students' strategies were in Planning, Monitoring and Evaluating. First of all, planning one of the strategies in meta-cognitive strategies. We could see that students plan their essay through organizing their ideas. The answer that they gave in the questionnaire for the items of organizing was more than 4 out of 5 in the Likert scale. The answer made the researcher believes that they used this strategy in the beginning of the process. It was shown in the answer of the retrospect and interview that they brainstorm their ideas or make a list. This is shown by the answer from two of five students "*Brainstorm the ideas and find one that is interesting to write*" and "*Make a list of ideas*". They also mentioned some research that they would do at the beginning of writing an essay.

Secondly, the strategy that the students do in their writing activity is monitoring. In this strategy students reviewed their work when the activity occurred. Even though through the questionnaire result showed that the students often only made one draft and corrected minor mistakes. It is shown that they do monitor what they are writing. The interview showed that they also make correction along the way with conjunction. They often tried to find which one was better during the time they were writing. Two from five students mentioned this, "*I tried to use different conjunction and see which one sounds better*", and "*I read and check again. I used my experience from reading many texts. If I feel this is the correct word, I will use it*".

Others also said "*I would see the flow first. I read through and see whether it is correct or not. If not. I would change it*", and "*I would see again from the beginning of the paragraph until the end. I check. If it does not correlate, I would change the conjunction*".

Thirdly, the next strategy in the Meta cognitive strategy is evaluation. It is a way that they evaluate their work after they finished. Additionally, through the interview students claimed that they read the essay through again and check for mistakes to make sure the flow of the essay was maintained. The answers they gave showed that they did some monitoring of their work. There are three students' answers that confirm this strategy. "*Read them through for several time. See the connection between sentences and paragraphs*", "*Read and check them again*", and "*Read the sentences and see the connection between sentences and paragraphs*". All of the answers contain the word re-read and check to evaluate their work. One answer contains the phrase proof read and it can also mean re-read after they have finished writing, "*Proof read, find others and see how to write and argumentative essay*".

To conclude, there were three strategies that classified in Meta cognitive strategies that were used by the students. The researcher could see it from the students' answers.

b. Cognitive Strategies

Cognitive strategies are the way students mind work when they do the task (Hedge, 2000, p.78-9). Cognitive Strategies that were reflected in the students' strategies in this case study was in Organization, Summarizing, Retrieval, Elaborating, and Revising.

First of all, students' strategy is organization. This is shown when they try to find the correct data for each argument for their thesis by grouping or classifying the data that they got from their research. The answer of two students that reflected this strategy "*Do research, read and find data. After that analyze which ones are suitable for my thesis. The used them by citing or quoting*", and "*Find what we are going to argue. Then find which ones are the correct arguments*". It also could be seen in the way they find facts and examples that every argument need. They tried to find the correct facts or examples to strengthen their arguments.

Furthermore, summarizing was another cognitive strategy that they did while doing the writing task. They combined or synthesized the information that they got from reading various sources and put them into their essay. This can be shown from their interview that they tried to find sources and summarize, after that they tried to find which ones are suitable, "*After I know what my thesis is. I try to find what reason support the thesis*", "*Do research, read and find data. After that analyze which ones are suitable for my thesis. The used them by citing or quoting*", "*Find out what the arguments for our thesis, and find the facts*", "*Find what we are going to argue. Then find which ones are the correct argument*", and "*Find arguments from the knowledge that we have*". This is supported by their retrospect about how they summarize the examples and facts that they were using, "*Find the proof facts from books and journals, and write it as a citation*", "*Find example and reason that can strengthen the arguments*", "*Give evidence/facts to support the arguments from various sources*" and "*Find facts that is relevant and can be trusted*".

They also did some summarizing when they made their conclusion "*Read through the ideas and write them again (the main points). Don't write a new idea when I am writing my conclusion*". Summarize the data from by reading the paragraphs that they had written to conclude the essay is one of the strategy in writing a conclusion. This was the same for the other four students, they read through and found the main points to write in the conclusion, "*I reviewed the main point of my thesis statements and the arguments*", and "*I read again my thesis statement and my arguments. I write my conclusion by reviewing them.*", "*Restated what I had talked about in the previous paragraphs*" and "*Restated the main ideas and think what the reader remembers*".

The data are also supported by the retrospect which mentioned about summarizing that they read through their essay to conclude. They read and made a summary "*Conclude by relating all the arguments with the contra arguments. And see it from our point of view.*", "*Conclude from all the arguments and facts*", and "*Make comparison with counter argument but still support the argument.*"

Next, the strategy that was used was retrieval. They tapped their previous knowledge about writing sentences to create a good flow of ideas. They did it by finding the correct connecting words when they want to write complex or compound sentences. We could look at their answer for the interview where two students said, "*Read the sentence first. If it is wrong, find the correct one*", and "*From my experience reading sentences, I used my feeling. I know if the answer feels right*". In this case they tried to find the correct ones by tapping their previous memory about connecting words. Two other students confirmed from in their interview about this "*I tried to use different conjunction and see which one sounds better*", and "*I read and check again. I used my experience from reading many texts. If I feel this is the correct word, I will use it*".

They also used Elaborating as one of the cognitive strategies. They elaborate the information in their essay by adding data from the research they have done. They mentioned several times about doing research so they could write more in their essay. For example, they tried to find more data when they wrote their supporting details, "*Find*

references and study them to find out how it can support the arguments”, *“Read from various sources”*, and *“Find sources.”*

Finally, they also do revising in their essay. They made changes in their essay throughout the writing process. This can be seen in the Questionnaire answer, the ideas would develop as the writing process continuous and they organize the paragraph also as the process went by. Both item 3 and 4 got the 4 out of 5 in the Likert scale. It showed that they made some changes during the process of writing. Furthermore, the interview also confirmed that they check their essay to have a good flow of ideas, *“Read and check them again”* was one of the answers students gave for several times in the interview and it was the key words to convinced the researcher that they did the revising of their essay.

c. Social/Effective Strategies

Social-affective strategies appeared when students practice their ability in learning a language (Hedge, 2000, p.78-9). One of the strategies that they did was Cooperation. In this strategy they tried to get the help from peer or lecturer to check and give feedback about their writing. They mentioned that this strategy was helpful in making their writing better. One student mentioned in the interview that one of part in the process writing was to proof read, she mentioned *“I revise only once. I asked someone else to proof read, they could see my mistakes better than me”*. Another student mentioned in the part to avoid biases *“I read by myself and yesterday I asked one of my friends to read. I asked which part was not right”*.

d. Communicative strategies

Communicative strategies are the way we communicate effectively even though we have limited knowledge of a foreign language (Hedge, 2000, p.78-9). When you are writing an essay you communicate through your writing. Students found that one strategy to write an argumentative essay was Sense of Readers. They felt that the readers were the target audience and the ideas should be made for them to understand. In the interview was mentioned by some students, *“Find an argument that others can understand”*. In was clear that they also thought that the writing communicates their ideas especially the arguments had to be well-define so that the reader could understand.

One remarked that was given by a student when writing a conclusion, *“Restated the main ideas and think what the reader remembers”*. The writer wanted the reader to remember what they had written and this is one communicative strategy.

e. Rhetorical Strategies

Mu (2005) said that rhetorical strategy includes classify organizing, use of L1, rationalizing format, modelling and comparing. Modelling was one of the way students di to write an argumentative essay. They learned about the way an argumentative essay was written, and took the time to look again at example. This was shown in their retrospect and interview, they mentioned parts of the essay and knew what they were. For example, argument, counter argument, rebuttal, conclusion and many more. One student even mentioned; *“Looked at the pattern that has been given about an argumentative essay. After that, followed the pattern on how to write an argumentative essay”*.

The findings that came out from the three methods of gathering data were the strategies students did when they implemented critical thinking with their writing strategies. As we can see that writing strategies are divided into several categories that were taken from O'Malley and Chamot (200) and Mu (2005): Rhetorical Strategies, Meta-Cognitive Strategies, Cognitive Strategies, Communicative Strategies and Social/effective Strategies. The categories were broken down into sub categories that might be differ from one theory to another. In this case the researcher found some sub categories that were used by the students (Table 1).

Table 1 Students’ Strategies in writing an argumentative essay

Students’ Strategies	Generic Strategy Classification	Representative Strategy
Students plan their essay through organizing their ideas	Meta-Cognitive Strategies	Planning
Reviewing their work while the activity occurred	Meta-Cognitive Strategies	Monitoring
Evaluate their work after it has finished	Meta-Cognitive Strategies	Evaluation
Grouping and classifying the data that they got from their research	Cognitive strategies	Organization
Synthesizing what they had read and put them into their essay	Cognitive strategies	Summarizing
Getting information from their memory to write their essay	Cognitive strategies	Retrieval
Extend the content of writing by adding data from their research	Cognitive strategies	Elaborating
The plan of writing changes throughout the writing process	Cognitive strategies	Revising
Try to get the help from peer or lecturer to check and give feedback about their writing	Social/Effective Strategies	Cooperation
They consider the reader thoughts when they wrote the essay	Communicative strategies	Sense of Readers
They know it was an argumentative essay so they tried to use the pattern of argumentative essay	Rhetorical Strategies	Genre Consideration

5. RESULT OF CRITICAL THINKING USED IN STUDENTS WRITING STRATEGIES WHEN WRITING AN ARGUMENTATIVE ESSAY

The researcher also tried to find out in depth about how critical thinking was used in the students’ strategies in writing an argumentative essay. The data came from two different data gathering methods were aligned and would heighten the accuracy of findings (Figure 5).

First of all, the researcher found from the retrospect that critical thinking influenced the way they see an issue, information and data. According to their answer in the retrospect critical thinking made them develop their thought and analysis. This is shown by the answers of three students, *“Think critically to analyze everything and make it as a point to make a decision”*, *“Think critical means think deeper about something”*, and *“Think critically means digging the things that is not shown in the article”*.

Additionally, students answer about what critical thinking consisted of was varied. Mostly they thought that it was about opinion and fact that led to thesis statement, arguments, counter argument, rebuttal and conclusion. We can see the answers, *“Argument, fact, alternative point of view”*, *“Issue, thesis, arguments, counter arguments, rebuttal, conclusions”*, and *“Identify author stance, knowing the meaning behind the words”*.

Next, students thought that critical thinking helped them in some parts of the essay. The parts that were said to gained a lot of advantage when implementing critical thinking were arguments and counter arguments. They thought that critical thinking helped them to think deeper about the topic they were talking about. They stopped and thought about the argument and related them to the topic and thesis statement. They also made a link between the

arguments and the point of views that they had. The strategies taken from O'Malley and Chamot (2000) and Mu (2005) that seemed to be helped by the use of critical thinking mostly was cognitive strategies: organization, summarizing, retrieval and elaborating. The way they grouped and classified the data they had got from the research was helped by critical thinking. And then, they also elaborated their writing by adding data from their research. They also, extend the content of writing by adding data from their research. They said that *"If we don't use critical thinking, we just get the data without considering anything. It helped me to know the source of the data"* and *"Yes, we need critical thinking in this part. We need to organize our arguments and critical thinking helped me do this"*.

Summarizing is one of the strategies that were helped with the use of critical thinking. The synthesized what they had read and put them into their essay. Critical thinking helped this part also; *"It helped. It made me focus more in what I read and found the essential of it"*, and *"Yes. It made my answers or reasons stronger by writing the arguments using critical thinking"*.

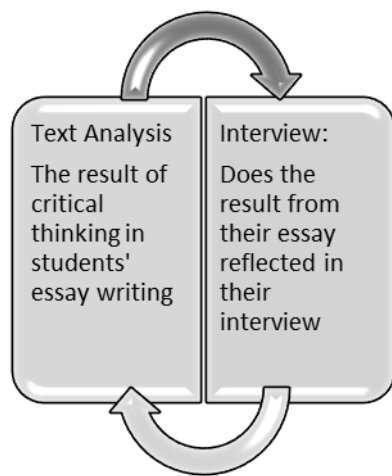


Figure 5 Text analysis and Interview Correlation

Furthermore, the analysis of the text through the rubric made it clear that from the critical thinking point of view three parts that had the highest result for overall students were logic, content and research. In Logic according to McLaughlin, F and Moore, M. (2012) sees the consistency and accuracy in interpreting evidence, draws conclusion and analyzes alternative perspective and evaluate them. This could be seen in their writing of support of their arguments. They used the result of a study or facts to support their arguments.

Content is about the development of ideas through details, reason and example. They developed their arguments in their essay with details, reasons, and examples. The organization was done clearly so people could see the connection between arguments and reasons they had given. Research gave them appropriate material sources from other sources. The material from other sources they gave also had been selected. They tried to provide the sources that were link closely to their arguments.

The rubric showed that from their essay they had scored good in logic. The element of critical thinking was given clearly in their arguments. This was seen by the way they analyzed and evaluated the arguments and supports they wrote. Meanwhile, content and research were more to the writing elements. Those parts were the ones that was highly effected by implementing critical thinking in writing an argumentative essay. It could be seen from their organization and flow of ideas when they tried to present their arguments. They started with an argument and tried to support them with reasons an examples.

The result of their interview reflected the answer from text analysis using the rubric. According to the three points in the rubric that reflected critical thinking (logic, content and research) correlate with their answer that mentioned critical thinking helped them in the part of arguments, supporting details, and counter arguments. It helped them through finding and

choosing the right arguments and supporting details by thinking more deeply. The strategies that they have done was boosted through the use of critical thinking was cognitive strategies. It was in line with Halpern (1997) who said “Critical thinking is the use of cognitive skills or strategies that increase the probability of a desirable outcome”.

6. CONCLUSION

This research answered two research questions that was given at the beginning of the thesis. The summary of both answers for the research is as follow. The first research question indicated that there are more cognitive strategies that can be identified when writing an argumentative essay after critical thinking was implemented. The strategy was used when they tried to group and classify the data that they had from their research to be their supporting detail. Moreover, they also tried to synthesize their ideas and extend the content of writing by adding data from their research. They also began to analyze their arguments deeper. All in all, they selected suitable supports for their arguments and tried to see their arguments from other point of views.

The second research question the students agreed that critical thinking was useful in writing an argumentative essay. Critical thinking was used to elaborate data in three parts of the essay; argument, counter argument and supporting detail. In this part they chose the data carefully, group them to relevancy and used the data to extend their essay. This is relevant to the strategies of organization, summarizing, and elaborating that are also related to cognitive strategies.

To conclude, the answers for both research questions revealed that critical thinking has an impact to the students’ cognitive strategies when writing an argumentative essay.

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