

THE CORRELATION BETWEEN CRITICAL THINKING SKILL AND WRITING ARGUMENTATIVE ESSAY ACHIEVEMENT

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Abstract: *The purpose of this study were (1) to know critical thinking skill of the fifth semester English Department students of Mulawarman University, (2) To know writing argumentative essay achievement of the fifth semester English Department students of Mulawarman University, (3) To find whether there is significant correlation between critical thinking skill and writing argumentative essay achievement of the fifth semester English Department students of Mulawarman University. The design of this study was correlation design. By using random sampling, we took 30 students as our research participants. In getting the data, we used critical thinking test and writing argumentative essay test. Furthermore, the data were analyzed by using IBM SPSS Statistics 21. The findings of this study showed that: (1) The critical thinking skill achievement of the fifth semester English department students of Mulawarman University was poor with the mean score of 51.51; (2) The writing argumentative essay achievement of the fifth semester English department students of Mulawarman University was good with the mean score of 74.42; (3) there is a significant correlation between critical thinking skill and writing argumentative essay achievement of the fifth semester English Department students of Mulawarman University.*

Keywords: *critical thinking skill, argumentative essay, writing achievement*

Abstrak: *Tujuan penelitian ini adalah (1) untuk mengetahui keterampilan berfikir kritis mahasiswa semester lima pendidikan bahasa Inggris Universitas Mulawarman, (2) untuk mengetahui prestasi menulis esai argumentative mahasiswa semester lima pendidikan bahasa Inggris Universitas Mulawarman, (3) untuk mengetahui apakah ada korelasi yang signifikan antara keterampilan berfikir kritis dengan prestasi menulis esai argumentatif mahasiswa semester lima pendidikan bahasa Inggris Universitas Mulawarman. Penelitian ini menggunakan rancangan penelitian korelasi. Dengan menggunakan teknik pengambilan sampel acak, kami menambil 30 orang mahasiswa sebagai partisipan penelitian ini. Dalam pengambilan data, kami menggunakan tes keterampilan berfikir kritis dan tes menulis esai argumentative. Selanjutnya data dianalisis dengan menggunakan IBM SPSS statistic 21. Temuan penelitian ini menunjukkan bahwa (1) keterampilan berfikir kritis mahasiswa rendah dengan skor mean 51,51; (2) prestasi menulis esai argumentative mahasiswa baik dengan skor mean 74,42; (3) terdapat korelasi yang signifikan antara keterampilan berfikir kritis dengan prestasi menulis esai argumentatif mahasiswa semester lima pendidikan bahasa Inggris Universitas Mulawarman.*

Kata kunci: *keterampilan berfikir kritis, esai argumentatif, prestasi menulis*

INTRODUCTION

Nowadays, critical thinking is one of the major concepts under consideration in education. According to Elder and Paul said that critical thinking is claimed to be important in the acquisition of language skills particularly writing and reading; two indispensable language skills that can help undergraduates secure their academic success. Critical thinking is needed to build a logical argument for writing process.

Writing is the result of the thinking process. In writing, critical thinking is a needed for writing in argumentative essay. An argumentative essay is one of the types of essay that focus on the different purposes, to convince or persuade the reader. An argument ensues when two parties agree and disagree about something. One party gives an opinion and offers reason in support of it and the other party gives a different opinion and offers reason in support of his or her stand. That is why think critically is needed so much to develop good reason in writing argumentative essay.

As Elder said, critical thinking gives influence to the parts of our writing. People who think critically should be able to make interesting writing not only clear writing, it means that they should have more skillful in their English argumentative essay writing. They will be able to construct logical assumptions and accurate conclusions.

But, in fact, there is still a mismatch between critical thinking skill and writing argumentative essay achievement among the students. It becomes trouble for Indonesian students to achieve writing argumentative essay achievement as well as they achieve their capability in thinking. Even though they

have gotten enough critical thinking education and skills, they still cannot explore their thinking well into written text.

Critical Thinking and Argumentative Essay

Before going to define critical thinking, it is better to understand the definition of thinking and critical itself. Thinking has different meaning with critical. Costa (1985) in Yuliana (2009) defines thinking as the process of achieving stimulus by the brain through neurons and then processed and used. While, Chaffe (1988) in Yuliana states that the mental process is arranged and involves one examine one's own thinking and another person's thinking. Virtually, most of psychological definition states that thinking has purpose to solve the problem (Philip, 1997). Simon (1962) also states that all cognitive activities or thinking referring to problem solving.

Richard Paul and Linda Elder also stated some guidelines to develop the reasoning ability depends on how well the elements (or parts) of thinking which is applied by the thinker: (1) All reasoning has a purposes, (2) All reasoning is an attempt to figure something out, to settle some question, to solve some problem, (3) All reasoning is based on assumptions, (4) All reasoning is done from some point of view, (5) All reasoning is based on data, information, and evidence, (6) All reasoning is expressed through, and shaped by, concepts and ideas, (7) All reasoning contains inferences or interpretations by which we draw conclusion and give meaning to data, (8) All reasoning leads somewhere or has implications and consequences.

Based on the definition above, it can be concluded that thinking in this study is one of mental process which needs information for the purpose to solve problem which produces some actions.

After knowing the concept of thinking, furthermore it is important to understand the concept of critical itself. Usually, when people hear word "critical" or "looking critically", what come up in their mind is negative, that is looking for one's fault, as the third meaning of thinking found in Oxford Dictionary. But, critical or looking critically in critical thinking has totally different meaning with the meaning stated above. According to eLook.org, critical is characterized by careful evaluation and judgment. Critical is marked by a tendency find and call attention to errors and flaws.

According to Atkinson (1997), nowadays critical thinking is one of the major concepts under consideration in education and it has also received a significant position in second and foreign language learning. While according to Scriven (1996), critical thinking is the intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and/or evaluating information gathered from, or generated by, observation, experience, reflection, reasoning, or communication, as a guide to belief and action. Angelo (1995, p.6) stated that most formal definitions characterize critical thinking as the intentional application of rational, higher order thinking skills, such as analysis, synthesis, problem recognition and problem solving, inference and evaluation.

Efforts to define and measure critical thinking intensified through the last quarter of the twentieth century

(Kurfiss, 1988; Norris & Ennis, 1989; Jones, 1993). Related to the concept of thinking and critical, the definition of critical thinking varies in breadth and inclusiveness. The originally in the nature of critical thinking is stated by Patrick in Yuliana: "*Critical thinking... implies curiosity, skeptics, reflection, and rationally. Critical thinker have a propensity to raise and explore questions about beliefs, claims, evidence, definitions, conclusions, and actions*", (Patrick, 1986 p 3).

Furthermore, critical thinking is claimed to be important in the acquisition of language skills particularly writing and reading; two indispensable language skills that can help undergraduates secure their academic success (Elder & Paul, 2006; Shaharom Abdullah, 2004; Seung-Ryul Shin, 2002; Stapleton, 2001; Moore, 1995).

Based on the definition above, the researcher can conclude that critical thinking is the process of complex thinking or extra ordinary thinking. In other words, Critical thinking is the process of objectively analyzing, understanding the problem, comprehending the facts and information, and making judgment. In this study, critical thinking skill is the ability to think extraordinary.

Correlated between Critical thinking, the experts define writing differently but the definitions are relatively the same in meaning. According Brown and Harmer (2001), writing is a process and product activity. While based on Murcia and Olhstain in Asri (2000:142) who pointed out that writing is a production of the writer's word that results in a text and comprehended in order of communication to take place. Another definitions defined by White (1986:iv) in

Asri, writing is “the art of verbalizing thoughts, visions, urgent message” and Bryne (1984:1) writing is “the act of forming graphic symbols and arranging them”. So, we conclude that the suitable definition of writing in this study is the product of writer’s idea in the text form content of the writer point of view about something for purpose to communication or deliver message. Writing ability is the capability to compose the idea into text form to communication or deliver message, while writing achievement is the result of student from the writing test.

Oshima and Hogue (1983) in Sinaga state that an essay is a piece of writing several paragraphs long instead of just one or two paragraphs. It is written about one topic, just as a paragraph is. However, the topic of an essay is too long and too complex to discuss in one paragraph. Therefore, the topic must be dividing into several paragraphs, one for each major point. Then, all of the separate paragraphs must be tied together by adding an introduction and a conclusion.

Another definition based on Birkbeck University of London states that an essay is a short piece of writing that discusses, describes or analyses a topic. It can discuss a subject directly or indirectly, seriously or humorously. It can describe personal opinions, or just report information. An essay can be written from any perspective, but are most commonly written in the first person (*I*), or third person (subjects that can be substituted with the *he*, *she*, *it*, or *they* pronouns). In short, essay is a short piece of writing used to discuss, analyze and interpret one topic through several paragraphs in it. The essay consists of an introductory paragraph, body and a conclusion paragraph.

Argumentative essay is a type of essay that has a purpose to convince or persuade the readers. An argument ensues when two parties disagree about something. One party gives an opinion and offers reasons in support of it, and the other party gives a different opinion and offers reason in support of its stand. Furthermore, when planning an argumentative essay, there are many things should be considered. First, the argumentative essay should introduce and explain the issue or case. Then, it should offer reasons and support for those reasons. And it should refute opposing arguments and the conclusion should logically follow from the argument. Additionally, a good writing must have five aspects of writing, they are content, organization, vocabulary, language use and mechanic.

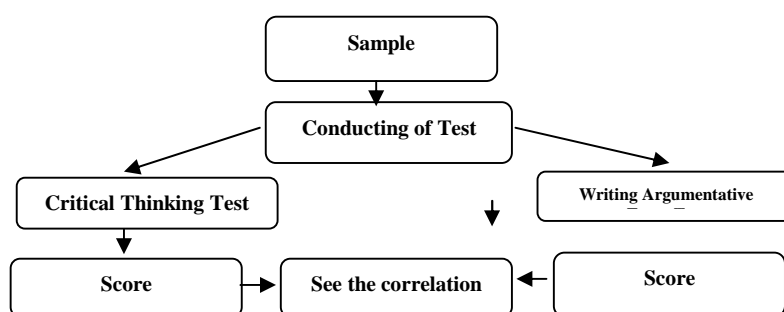
In this part, there are six dimensions of Critical Thinking related with writing an essay especially writing argumentative essay. The following six parts may be viewed as a rough outline for a research paper. They also constitute the six dimensions that must find expression in any substantial, critical development of analysis and opinion. The six dimensions are: (1) Identify the basic of the topic
This is the introduction to your essay. Present the importance of the issue, outline context and potential ramification. End your intro with a paragraph providing an overview of the following paper. (2) Analyze the material
Analysis may be employed in different ways using different methods. Define your concepts and discuss your method. Analysis is about examination and synthesis, investigating component, identifying their qualities, strengths, and weakness, and connecting those in a coherent manner, demonstrating their relevance and importance for the whole.

Attention to the content and relevance. (3) Address different perspectives. Consider different viewpoints on the material. Never assume a certain perspective to be self-evident and obvious. Different analytical perspective may reveal different ideas and understanding of the same event or idea. This analytical dimension requires examination and critique of scholarly opinions on your material. (4) Examine contexts. Identify and assess assumptions and ideological perspective to be found in historical and social contexts. Interpretation is also conditioned by your own assumptions, cultural, and ideology bias. Analysis and interpretation is ultimately about disclosing and examining such contextually determined points of view. (5) Identify own position. Your own opinion on the material in opposition to those of other sources, may be presented in a particular section, for instance after your objective

analysis of the material and your discussion of different perspectives. You may also choose to inject your voice as a discussant throughout your paper. This is most effectively done in an objectifying manner without continuous use of the pronouns "I" and "my". (6) Conclusion. Consider the importance of your findings and their implications. Tie all strings together in an overview. Emphasize the qualities and importance of your investigation, and briefly outline directions of further study.

Research Methodology

To conduct this research, we have established correlation design as the design of this study to find out the degree of relationship between two variables with one group sample. The variables of this study are critical thinking skill and writing argumentative essay achievement. we use the following figures to demonstrate the design:



Based on the figure above, after determining the subject in this research, we conducted the test. There are two tests, they were critical thinking test and writing argumentative test. After conducting these tests, we calculated the scores and see the relationship of the score. Data obtained are quantitative data. Furthermore, design of this study is simple regression. Simple regression is

used because in this study has only one single independent variable.

The population of this study is the fifth semester English Department students of Mulawarman University in academic years 2013/2014. There were about 200 students of the fifth semester students of English Department which is divided into some classes. In taking the sample, the researcher used of Arikunto's theory (2009) who stated that 10%-15%

and 20%-25% is taken as sample if the number of population is more than 200 students. In this case, the researcher took 15% of 100%. It means that the sample was 15% of 200 students was 30 students. This study was implemented in 2013/ 2014 academic years in Muawarman University.

To know the students' critical thinking skill, the source of data was the critical thinking test. The data in this part was the result of the critical thinking test. Critical thinking test was used to test the students' ability to analyze, think logically and systematically, and assess it like deciding the inference, recognition of assumption, making deduction, making interpretation, and deciding evaluation of arguments (Goodwin Watson – Edwin Glaser Critical Thinking Appraisal – UK Edition, 2002). Types of critical thinking skill test in this study was likert scale test. The form of this Critical Thinking test was close response items questionnaire.

According to Brown cited in Heigham and Croker (2009), open-response questionnaire items can be divided into two items; they are closed-response items and open-response items. In this case, we used the form of closed-response items of questionnaire in the Critical Thinking test. The purpose of closed-response items is to collect numerical data to determine the differences and similarities among items and categories of items, using statistical analysis. Here the researcher adopted the critical thinking test written by *Goodwin Watson – Edwin Glaser Critical Thinking Appraisal – UK Edition (2002)*.

The items of Critical Thinking test were 33 items. It took 16 items from the examples of Watson-Glaser Critical Thinking Appraisal UK-Edition and 17 items from the real test of Watson-Glaser Critical Thinking Appraisal UK-Edition.

It was divided into 5 categories; they were (Test 1) Inference, (Test 2) Recognition of Assumptions, (Test 3) Deduction, (Test 4) Interpretation, (Test 5) Evaluation of Arguments. Test 1 consists of 9 items, test 2 consists of 7 items, test 3 consists of 6 items, test 4 consists of 5 items and test 5 consists of 6 items.

In scoring the critical thinking test, we used the format of correct or incorrect answer. It means that if the student answers a question correctly, he/she will get 1 point. In contrary, if the student answers a question incorrectly, he/she will get 0 point. Then, we used the formula as formulated by Arikunto (2009) to score the students' critical thinking skill as follows:

$$\left[\text{Score} = \frac{\sum \text{RightAnswer}}{\sum \text{max itemscore}} \times 100 \right]$$

For the writing argumentative essay test, the students would be asked to write argumentative essay writing in some paragraphs. They were allowed to choose one of the topics given: (1) The students should follow a national high school exam (2) Video gaming good for the student intelligence (3) Gay couples should be able to marry legally (4) The primary mission of colleges and universities should be preparing students for the workforce (5) Corruption is worse than murder.

We asked to the students to write argumentative essay based on the topic above after they passed the critical thinking test. The students should write at least 300 words into at least 5 paragraphs that consist of the basic structure of argumentative essay. Those paragraphs should consist of introductory paragraph, content or body of the topic and conclusion.

In scoring the students' writing achievement, we used rating scale made by Hartfield to score the content, organization, vocabulary, language use and mechanics. The data of this study were collected using two kinds of instruments: critical thinking test and argumentative essay writing test. In collecting the data researcher conducted the procedure as follows: Firstly, we determined the subject of this study. They were the fifth students of English Department of Mulawarman University in academic year 2013-2014. We took the random sampling from the whole students. We conducted the critical thinking skill test first in 60 minutes. Then We collected the result of critical thinking skill test. After that the researcher conducted writing ability in argumentative essay test in 90 minutes and then we collected the result of the writing ability in argumentative essay test next. After that the researcher scored the data of critical thinking skill test based on the Watson-Glaser Assessment Answer and we analyzed the data of writing ability in argumentative essay according to the five important aspect of writing. They were content, organization, vocabulary, language use and mechanics. After all of those processes, the researcher analyzed and correlated those scores (t-test). We analyzed the result of the critical thinking skill test based on the Watson-Glaser Assessment Answer using correct and incorrect format answer as formulated by Arikunto. It means that if the student answers a question correctly, he/ she will get 1 point and if the student answers a question incorrectly, he/ she will get 0 point. The formula is:

$$\left[\text{Score} = \frac{\sum \text{Right Answer}}{\sum \text{maximum score}} \times 100 \right]$$

In order to score the students writing argumentative essay work, we employed two other raters to get more objective result. However, we made some criteria for those two raters. The first criterion was they graduated from of English Department. It was because they were expected to master argumentative essay writing which had been taught in writing class. Then, their TOEFL score must be 500 above. It showed that their ability must be high intermediate level above which certainly presents their good ability in all aspects of English included writing. Further, they must understand how to score the essay writing using ESL composition score well. Therefore, they would not get difficult in scoring the students' essay writing then. Furthermore, we had found the two raters who were appropriate in those criteria. Then, they score the students' work based on the rating scale made by Hartfield by score the content, organization, vocabulary, language use and mechanic. After that we analyzed the variable of critical thinking skill and writing ability used IBM SPSS Statistics 21.

Result of The Study

The result of correlation between critical thinking skill achievement test (variable x) and the writing achievement test (variable y) was analyzed by using IBM SPSS Statistics 21. It was done by counting the correlate and bivariate of those test score to determine a coefficient correlation between critical thinking skill achievement and writing argumentative essay achievement. The following table below is the result of the analysis as follows:

Descriptive Statistics between critical thinking skill and writing argumentative essay achievement.

	N	Min	Max	Sum	Mean	Std. Deviation	Sig. (2-tailed)
Critical Thinking Skill Score	30	36.36	75.75	1545.3	51.51	8.34555	
Writing Argumentative Essay Score	30	56.33	86	2232.67	74.4223	8.00498	
Valid N (Listwise)	30						
							0.048

*. Sig. = 0.05

Correlations			
		Critical Thinking Skill Score	Writing Argumentative Essay Score
Critical Thinking Skill Score	Pearson Correlation	1	.364*
	Sig. (2-tailed)		.048
	N	30	30
Writing Argumentative Essay Score	Pearson Correlation	.364*	1
	Sig. (2-tailed)	.048	
	N	30	30

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

As shown in the table above, it was found that the total of critical thinking skill achievement was 1545.30 with the mean score 51.51. While in the writing argumentative essay achievement was 2232.76 with the mean score were 74.42. The mean of critical thinking score is lower than the mean of writing argumentative essay score with difference 22.91. In addition, standard deviation of variable x was 8.34555 and variable y was 8.00498.

From the analysis of simple correlation in the table above, it was found that significant of correlation (2-tailed) was 0.048. It shown $0.048 < 0.05$ means that the correlation is significant at the 0.05 level. From the table above, it was found that sig. (2-tailed) was 0.048. It showed $0.048 < 0.05$ means H_0 rejected and H_a accepted.

Additionally, concerning the result of hypotheses testing that showed the

Alternative Hypothesis (H_a) was accepted that can be known from the value of r-calculation was higher than the value of t-table ($0.364 > 0.361$), it can be stated that the students' critical thinking skill achievement and writing argumentative essay achievement seem to have significant correlation.

The acceptance of H_a implies that the critical thinking skill achievement is significantly related to the writing argumentative essay achievement of the fifth semester English Department students of Mulawarman University in Academic Years 2013-2014 with level of sig. was 0.048 and $r = 0.364$.

In Addition, based on the findings and the data analysis, it can be known that the mean score of the students' critical thinking skill achievement of the fifth semester English Department students of Mulawarman University was 51.51 that categorized poor achievement

(D). Furthermore, it can be shown that the means score of the students' writing argumentative essay achievement was 74.42 that identified good ability (B). Based on the researchers' analysis when conducting the test to the students, the students were shy and not confidence in writing and having problems in using grammar and determining the point of the topic.

CONCLUSIONS

Based on the analysis and interpretation of the findings of this study, we would like to conclude this study as follows:

1. The critical thinking skill achievement of the fifth semester English Department students of Mulawarman University in academic years 2013/2014 seemed to be poor with the mean score of 51.51. It can be inferred that the students have language troubles like limited vocabulary, so they had troubles in comprehending the task.
2. The writing argumentative essay achievement ability of the fifth semester English Department students of Mulawarman University in academic year 2013/2014 seemed to be good with the mean score of 74.42.
3. The correlation between critical thinking skill achievement and writing argumentative essay achievement of the fifth semester English Department students of Mulawarman University in academic years 2013/2014 was significant.

REFERENCES

Arikunto, Suharsismi. 2009. *Dasar – DasarEvaluasiPendidikan*. EdisiRevisi. Jakarta: BumiAksara.

Brown, H.D. 2001. *Principle of Language Learning and Teaching-The Fifth Edition*. USA: Pearson Longman.

Cohen, Louis. Manion, Laurence. & Morrison, Keith. 2005. *Research Method in Education-Fifth Edition*. London and New York: Routledge Falmer.

Gay, R.L. Mills, E. Geoffrey. Airasian, W. Petter. 1996. *Educational Research: Competencies for analysis and applications 8th Edition*. New Jersey: Pearson Prentice Hall.

Grosser, M.M & Lombard, B.J.J. 2008. *Teaching and Teacher Education*. South Africa: ELSEVIER

Hadley, G & Mort, J. 1999. *An Investigation of Inter rater Reliability in Oral Testing*. Nagaoka: Nagaoka National College of Technology. Available online ([Http://www.Nuis.ac.ip/hadley/publication/inter_rater_reliability.htm](http://www.Nuis.ac.ip/hadley/publication/inter_rater_reliability.htm)) (Accessed on November, 29th 2012).

Heigham, Juanita & Croker, Robert.A. 2009. *Qualitative Research in Applied Linguistics*. Palgrave McMillan.

Marguerite, G.L. 2010. *Methods in Educational Research 2nd Edition*. California: Jossey-Bass.

Mohammadi, EsmaeelNour. Heidari, Farokhlagha. Dehghan, Nasrin. 2012. *The Relationship between Critical Thinking Ability and*

- Reading Strategies used by Iranian EFL Learners.* Zahedan, Iran: Canadian Centre of Science and Education.
www.dx.doi.org/10.5539/elt.v5n10.p192
- Oxford. 2003. *Oxford Learners's Pocket Dictionary.* Oxford University Press.
- Paul, Richard. & Elder, Linda. 2012. *Foundation for Critical Thinking* at www.criticalthinking.org
- Rasyid, Rosyati Abdul. & Hasyim, RosnaAwang. 2008. *The Relationship between Critical Thinking and Language Proficiency of Malaysian Undergraduate.* The EDU-COM International Conference.
www.ro.ecu.edu.au/ceducom/36
- Scriven, M. & Paul, R. 1996. *Defining Critical Thinking: A draft statement for the National Council for Excellent in Critical Thinking.*
www.criticalthinking.org
- Sommer, Barbara and Sommer Robert. 1991. *A Practical Guide to Behavioural Research.* Oxford: Oxford University Press.
- Sugiyono. 2009. *Metode Penelitian Pendidikan: Pendekatan Kuantitatif, Kualitatif, dan R & D.* Bandung: Penerbit Alfabeta.
- Sugiyono. 2010. *Metode Penelitian Administrasi dan R & D.* Bandung: Penerbit Alfabeta
- Watson, Goodwin & Glaser, Edwin. 2002. *Critical Thinking Appraisal-UK Edition.* England: Pearson Assessment.