THE CORRELATION BETWEEN METACOGNITVE SKILLS AND CRITICAL THINKING SKILLS IN EFL STUDENTS' ARGUMENTATIVE WRITING SKILLS

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ABSTRACT

This study aims to determine the correlation between metacognitive skills and critical thinking skills on argumentative writing skills of EFL students. This type of research is quantitative research that uses correlational methods. The total of samples in this study were 24 students in TBI 4B class UINFAS Bengkulu. Data collection techniques were carried out by questionnaire, argumentative writing tests, and documentation. The data analysis technique used to test the hypothesis is the product moment correlation and multiple regression analysis. The results of this study indicate that (1) there is a significant correlation between metacognitive skills (X1) and argumentative writing skills (Y), where the value of Rcount is greater than Rtable (0.611 > 0.404). (2) there is a significant correlation between critical thinking skills and argumentative writing skills, where the value Rcount is greater than Rtable (0.613 < 0.404). (3) there is a significant correlation between metacognitive skills, where the value of Fcount is greater than Rtable (8.814 < 2.064).

Keywords: Metacognitive Skills, Critical Thinking Skills, Argumentative Writing Skills.

INTRODUCTION

Writing is a technique to reach information through messages conveyed by the author. The author must convey his thoughts into the correct sentence, so that the reader can more easily understand it. Writing ability is a complex ability, it demands all knowledge and skills. In this case, it is closely related to the fulfillment of the criteria for good writing, including aspects of language, content, and writing techniques , Ak Kado (1999) Writing is more beneficial for students, and what is important is argumentative writing¹.

Academically, argumentative writing helps students gain knowledge, promotes scientific inquiry, and increases understanding of history and social studies. Argumentative writing can increase students' intrinsic motivation and difficulty improving overall educational performance management.

¹ Fitriani, A. L.: *Peningkatan Keterampilan Menulis Argumentasi Menggunakan Strategi RAFT (Role Audience Format Topic) Pada siswa Kelas XI Teknik Gambar Bangunan (TGB) 1 SMK Negeri 2 Yogyakarta.* Yogyakarta: Universitas Negeri Yogyakarta 2014.

This requires students to embrace certain points of view and try to convince readers to adopt the same perspective or take certain actions².

Metacognitive and critical thinking are skills that must be developed, especially in learning to write argumentatively³. Metacognitive skills and critical thinking skills will affect students' argumentative writing skills. In argumentative writing skills, students need to investigate, compare, and provide arguments (Nejmaoui, 2019). Students get high marks in argumentative writing who have good critical and metacognitive thinking skills, this can be seen from their writing. In addition, students are able to improve their ideas, increase vocabulary, and help readers to adhere to the author's ideas⁴.

The process of metacognitive skills is very important for adequate text knowledge. Not only in understanding textual content, but also in procedural learning tasks and verbal learning responsibilities, the metacognition process carries out its function, Bruin & Van Gog (2012) in (Kisac, 2014). Many studies report a significant increase in temporary mastery of skill-setting knowledge of how to use those skills as part of classroom guidance. therefore, metacognition is very important for achievement learning because it allows individuals to better control their cognitive skills.

In writing, critical thinking is also needed to write argumentatively. Critical thinking is needed to build logical arguments in writing techniques. Writing is the result of a concept process. Because of the important role of metacognitive skills and critical thinking skills in argumentative writing, students need to master both skills⁵.

Argumentative writing skill is also considered as the most difficult skill compared to other writing skills. This means that argumentative writing requires students to have critical thinking, metacognitive, scientific ideas, and argumentative expression. Argumentative writing skills are important to learn⁶.

This phenomenon is accompanied by various problems that arise and are faced by students. This condition certainly greatly affected the 4th semester students of UIN Fatmawati Sukarno Bengkulu in learning to write. In previous research, the researcher found several problems in English

² Panahande, E. & A. *The Effect of Planning and Monitoring as Metacognitive Strategies on Iranian EFL Learners' Argumentative Writing Accuracy.* Procedia - Social and Behavioral Science 98 (2014) 1409 - 1416.

³ Ferreti, R. P. Argumentative writing : theory, assessment, and instruction. Springer Nature B. V. 2019

⁴ Murthado, F. *Metacognitive and critical thinking practices in developing EFL students' argumentative writing skills*. Indonesian Journal Of Applied Linguistic. Vol.10 No. 3, January 2021, 656 - 666.

⁵ Sundari, H. F. *The Analysis of Indonesian EFL Argumentative Writing Using Toulmin's Model:* The Structure and Struggles from the Learners (2021).

⁶ Nejmaoui, N. Improving EFL Learners' Critical Thinking Skills in Argumentative Writing. English Language Teaching; 2019, Vol. 12, No. 1.

argumentative writing. The description of the mastery of metacognitive skills and critical thinking skills of students can be seen from the learning achievements obtained in the argumentation essay course.

Based on the phenomenon above, the researcher found several problems that students have in argumentative writing skills. Some of these problems students have difficulty in starting and developing their ideas into writing paragraphs, especially making main ideas and providing supporting details related to the topic. Students have limited vocabulary in English and have difficulty in using and choosing the right words, this will affect students' thinking skills in writing paragraphs. Students find it difficult to write down their opinions, and it takes a long time to write them down. Some students have difficulty understanding the problem on the topic they want to write about. This may affect the troubleshooting process.

Students have not been able to grow the motivation to write in themselves. As a result, students' abilities stop when the writing learning process is complete. The various phenomena and problems above are in line with the statement of one of the 4th semester students of UIN Fatmawati Sukarno Bengkulu. Based on an interview via whatsapp on March 1, 2022. She said that learning to write was a fairly difficult skill for them. This can be seen from the comparison of the other three language skills which shows that students master speaking, reading, and listening skills more than writing skills⁷.

Writing is one of the most important skills to master when entering university level. Good writing refines and focuses the author's ideas, then states and supports those ideas with effective arguments accompanied by adequate evidence⁸. Writing skills can make writing essays and assignments easier, as well as practical guidance on how to organize ideas and improve written work. Argumentation writing is an opinion that is written and supported by facts. The author calls opinions as claims and facts as evidence. The claim clearly states an attitude about a topic or issue. The facts presented to substantiate these claims may include reasons, statistics, confirmed facts, expert research and, in some cases, may be drawn from personal experience⁹.

The term Metacognitive was first introduced by John Flavell in 1976, a psychologist from Stanford University. According to him Metacognitive is thinking about thinking (thinking about thinking) or a person's knowledge about his cognitive processes (One's knowledge concerning one's own cognitive processes). Metacognitive skill is a technique of thinking about thinking, meaning that we can think to reflect, analyze, and understand ways of thinking so that we can make the right

⁷ Initial Observation at UINFAS IN 4th semester students on March 1, 2022

⁸ Ibid 1

⁹ Ibid 2

decisions and solve problems more effectively¹⁰. Another meaning of metacognitive can also mean the ability of a human being to control and pay attention to his thoughts (thinking what is being thought). Why does metacognitive need to be studied. Because by studying metacognitive we can know from what we think, what we don't know and what to do to make decisions. In addition, students can think about what learning is and also how to learn¹¹.

According to Atkinson (1997), currently critical thinking is one of the main concepts considered in education and has also received an important position in the learning of second and foreign languages. Critical thinking is the ability to think clearly and rationally about what to do or what to believe. Critical thinking includes the ability to engage in reflective and independent thinking. Critical thinking is not a matter of gathering information. A person with a good memory and knows a lot of facts, does not necessarily have critical thinking¹². Furthermore, people who think critically are able to conclude a consequence from what they know. He also knows how to use the information obtained to solve problems, looking for relevant sources of information to convey to himself¹³.

From the explanation above, it can be concluded that there is a relationship between metacognitive skills and critical thinking skills in the argumentative writing skills of EFL students. Metacognitive skills and critical thinking are important factors that in the process affect writing skills. The relationship between metacognitive skills and critical thinking in making argumentative texts aims to explore the effect, if any of integrating critical thinking on students' use of critical thinking skills in argumentative writing. Metacognitive has attracted more researchers' attention and provided new perspectives for EFL writing, especially the argumentative writing model. Although skills have a significant influence on activities, it has been proposed that an appropriate educational environment be developed to enhance skills in the educational process. The purpose of this research is to see how the relationship between metacognitive skills and critical thinking of candidates can affect argumentative writing skills.

METHOD

This research is quantitative research that focuses on the quantification of data collection and analysis. This research includes correlational research is a useful study to find out whether the

¹⁰ Ellis, A. K. An analysis of research on metacogntive teaching strategies. Procedia - Social and Behavioral Sciences 116 (2014) 4015 - 4024.

¹¹ Riadi, M. *Metakogisi, pengertian, komponen, indikator, dan langkah pembelajaran*. Kajian Pustaka, 02 januari, 2020 pp. 1-3.

¹² Saputra, H. Kemampuan Berfikir Kritis Matematis. Perpustakaan IAI: Agus Salim (2020).

relationship between metacognitive skills and critical thinking skills in EFL students' argumentative writing skills.

The sampling used was purposive sampling. purposive sampling is a sampling technique with certain considerations¹⁴. Sampling is limited only to certain types of people who can provide the desired information, either because they are the only parties who have it or fulfill several criteria determined by the researcher . In this study, the criteria used as a requirement to become respondents were students of TBI 4B class of UIN Fatmawati Sukarno Bengkulu who were carrying out Argumentative writing learning activities.

In data collection and research instruments using Questionnaires, Argumentative Writing Tests, and Documentation. In the study the researcher used a google form questionnaire which was distributed to the respondents via whatsapp on June 15, 2022. And then, the researcher asked the respondents to make an argumentative text of 5 paragraphs and was given 5 days to find out the students' metacognitive skills. In the collection of documentation in the form of questionnaire data that has been filled in by the respondents and the argumentative texts they have written. In data analysis techniques, this study there are three, first is questionnaire analysis, written test analysis, and correlation hypothesis analysis¹⁵.

The researcher analyzed the relationship between metacognitive skills and critical thinking skills in EFL argumentative writing skills using the product moment available in the Windows SPSS 16.0 program. Then tested for normality, linearity, and multicollinearity, the last hypothesis was tested using product moment correlation and multiple regression using SPSS 16 windows program.

RESULT AND DISCUSSION

Result

a. Metacognitive Skills

Resp.	STS	TS	S	SS	Total	Mean

¹⁴ Sugiyono. *Metode Penelitian Kuantitatif, Kualitatif, R&D.* Jawa Barat, Jawa Barat, Indonesia: Cv Alfabeta 2016. E-book

¹⁵ Research at UINFAS Bengkulu on June 15, 2022

	F	%	F	%	F	%	F	%	F	%	
M1	0	0,00	0	0,00	19	79,17	5	20,83	24	100,00	3,21
M2	0	0,00	0	0,00	19	79,17	5	20,83	24	100,00	3,21
M3	0	0,00	0	0,00	19	79,17	5	20,83	24	100,00	3,21
M4	0	0,00	1	4,17	19	79,17	4	16,67	24	100,00	3,13
M5	0	0,00	1	4,17	21	87,50	2	8,33	24	100,00	3,04
M6	0	0,00	2	8,33	20	83,33	2	8,33	24	100,00	3,00
M7	1	4,17	1	4,17	19	79,17	3	12,50	24	100,00	3,00
M8	0	0,00	2	8,33	20	83,33	2	8,33	24	100,00	3,00
M9	0	0,00	2	8,33	20	83,33	2	8,33	24	100,00	3,00
M10	0	0,00	0	0,00	18	75,00	6	25,00	24	100,00	3,25

Based on the questionnaire distributed to 24 respondents, the highest score was 35 and the lowest score was 28 with a mean of 31,042, and a standard deviation of 2,236.

b. Critical Thinking Skills

	STS	5	TS		S	S SS		Total			
Resp.	F	%	F	%	F	%	F	%	F	%	Mean
CT1	0	0,00	1	4,17	18	75,00	5	20,83	24	100,00	3,17
CT2	0	0,00	1	4,17	20	83,33	3	12,50	24	100,00	3,08
СТЗ	0	0,00	0	0,00	18	75,00	6	25,00	24	100,00	3,25
CT4	0	0,00	0	0,00	18	75,00	6	25,00	24	100,00	3,25
СТ5	0	0,00	2	8,33	16	66,67	6	25,00	24	100,00	3,17

СТ6	0	0,00	1	4,17	23	95,83	0	0,00	24	100,00	2,96
СТ7	0	0,00	1	4,17	20	83,33	3	12,50	24	100,00	3,08
СТ8	0	0,00	1	4,17	22	91,67	1	4,17	24	100,00	3,00
СТ9	1	4,17	1	4,17	19	79,17	3	12,50	24	100,00	3,00
СТ10	0	0,00	2	8,33	22	91,67	0	0,00	24	100,00	2,92
CT11	0	0,00	0	0,00	21	87,50	3	12,50	24	100,00	3,13
CT12	0	0,00	0	0,00	21	87,50	3	12,50	24	100,00	3,13

Based on data obtained from questionnaires distributed to 24 respondents, the highest score was 42 and the lowest score was 35 with a mean of 37,125 and a standard deviation of 2,346.

c. Argumentative Writing Skills

Interval Data	Frequency (f)	Precentage (%)
64 -68	3	12,50
69 -73	8	33,33
74 – 78	0	0,00
79 -83	3	12,50
84 - 88	4	16,67
89 – 93	6	25,00
TOTAL	24	100,00

This variable was measured using students' test scores on the ability to write argumentatively. From the test, the highest score was 91 and the lowest score was 64. The mean value was 79.375 and the standard deviation was 9.025. To determine the amount class used formula = 1 + 3.3 Log N. The value of N is the respondents were 24 students so that the number of classes obtained was 6 interval classes, the length of class 5.

d. Analysis Prerequisite Test

1. Normality Test

Tests of Normality

	Kolmogoro	ov-Smirnov	/ ^a	Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Unstandardized Residual	.190	24	.025	.926	24	<mark>.079</mark>

a. Lilliefors Significance Correction

The results of the analysis on the Shapiro-Wilk test show that the significance value of the three variables is 0.079, which means the value is > 0.05 so it can be concluded that the data from the three research variables are normally distributed.

2. Linearity Test

ANOVA Table

	-		Sum of Squares	df	Mean Square	F	Sig.
Unstandardized	Between	(Combined)	44.992	14	3.214	1.074	.472
Residual * Unstandardized Predicted Value	Groups	Linearity Deviation from Linearity	.000 44.992		.000 3.461	.000 1.156	1.000 <mark>.424</mark>
	Within Grou	ups	26.942	9	2.994		l
	Total		71.934	23			

Based on the results of the linearity test, it is known that the value of Sig. deviation from linearity is 0.424 > 0.05, it can be concluded that there is a linear relationship between metacognitive skills and critical thinking skills in EFL students' argumentative writing skills.

3. Multicolinearity Test

Coefficients^a

		Collinearity Statistics			
Model		Tolerance	VIF		
1	SQRT_X1	.859	1.164		
	SQRT_X2	.859	1.164		

a. Dependent Variable: SQRT_Y

Based on the table above, the results of the multicollinearity test between variables shows that the Tolerance value is 0.859 > 0.10 and the VIF value is 1.164 < 10,00. Thus, there is no multicollinearity and multiple regression analysis can be continued.

e. Hypothesis Test

The first and second hypothesis were tested using Pearson's Product Moment Correlation analysis while the third hypothesis used multiple correlation. Benchmarks to measure the power of the two variables.

1. Hypothesis Testing of Correlation Between Metacognitive Skills and Argumentative Writing Skills

The first hypothesis in this study is that there are positive relationship between Metacognitive Skills and Argumentative Writing Skills for TBI 4B class at UIN Fatmawati Sukarno Bengkulu in the academic year 2021/2022. The results of the analysis using the Product Moment Correlation show the correlation of the Sig value. (2-tailed = 0.002) < 0.05, it is concluded that there is a relationship between Metacognitive Skills and EFL students' Argumentative Writing Skills in class TBI 4B UIN Fatmawati Sukarno Bengkulu.

Table C.1 Hypothesis Testing of Metacognitive Skills and Argumentative Writing Skills

Correlations

	-	Metacognitive	Argumentative
		Skills	Writing Skills
Metacognitive Skills	Pearson Correlation	1	.611**
	Sig. (2-tailed)		.002
	Sum of Squares and Cross-products	114.958	283.625
	Covariance	4.998	12.332
	Ν	24	24
Argumentative	Pearson Correlation	.611**	1
Writing Skills	Sig. (2-tailed)	.002	
	Sum of Squares and Cross-products	283.625	1873.625
	Covariance	12.332	81.462
	Ν	24	24

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

Meanwhile, the Pearson correlation value is 0.611, which means that it shows a positive relationship that the higher the metacognitive skills, the higher the student's argumentative writing skills. the correlation coefficient of 0.611 can be concluded that the correlation value is strong because it is in the range of 0.60 -0.799.

2. Hypothesis Testing of Correlation Between Critical Thinking Skills and Argumentative Writing Skills

The results of the analysis using the Product Moment Correlation show the correlation of the Sig value. (2-tailed = 0.001) < 0.05, it is concluded that there is a relationship between Critical Thinking Skills and Argumentative Writing Skills in TBI 4B class at UIN Fatmawati Sukarno Bengkulu.

Table C.2 Hypothesis Testing of Critical Thinking Skills and Argumentative Writing Skills

		Critical	Argumentative
		Thinking Skills	Writing Skills
Critical Thinking Skills	Pearson Correlation	1	.613**
	Sig. (2-tailed)		.001
	Sum of Squares and Cross-products	118.958	289.375
	Covariance	5.172	12.582
	Ν	24	24
Argumentative	Pearson Correlation	.613**	1
Writing Skills	Sig. (2-tailed)	.001	
	Sum of Squares and Cross-products	289.375	1873.625
	Covariance	12.582	81.462
	Ν	24	24

Correlations

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

Meanwhile, the Pearson correlation value is 0.613, which means that it shows a positive relationship that the higher the critical thinking skills, the higher the student's argumentative writing skills. the correlation coefficient of 0.613 can be concluded that the correlation value is strong because it is in the range of 0.60 -0.799.

 Hypothesis Testing of Correlation Between Metacognitive Skills and Critical Thinking Skills In EFL Argumentative Writing Skills

The third hypothesis is that there is a positive relationship and there is a significant relationship between Metacognitive Skills and Critical Thinking in ELF students' Argumentative Writing Skills class TBI 4B UIN Fatmawati Sukarno Bengkulu in the academic 2021/2022. Testing this third hypothesis using multiple regression analysis.

 Table C.3 Hypothesis Testing of Correlation Between Metacognitive Skills and Critical Thinking

 Skills In EFL Argumentative Writing Skills

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	855.024	2	427.512	8.814	.002ª
	Residual	1018.601	21	48.505		
	Total	1873.625	23			

a. Predictors: (Constant), critical thinking skill, metacognitive skills

b. Dependent Variable: argumentative writing skills

Value Fcount 8,814 < Ftable 2,064, and value Sig. 0,002 it can be concluded that the variables of Metacognitive Skills (X1) and Critical Thinking Skills (X2) have a significant relationship to the variable of Argumentative Writing Skills (Y).

This means that there is a positive and significant correlation between Metacognitive Skills and Critical Thinking Skills on the Argumentative Writing Skills of TBI 4B class students at UIN Fatmawati Sukarno Bengkulu in the academic year 2021/2022.

Discussion

In the explanation of the first hypothesis there is a correlation positive and significant relationship between Metacognitive Skills and Argumentative Writing Skill of TBI 4B class students at UIN Fatmawati Sukarno Bengkulu in the 2021/2022 academic year. The second hypothesis explains that there is a positive and significant relationship between Critical Thinking Skills and Argumentative Writing Skills for TBI 4B class students at UIN Fatmawati Sukarno Bengkulu in the academic year 2021/2022.

This is related to the study of theory which explains that each cycle is given metacognitive learning exercises and critical thinking on the argumentative writing ability of one of the students. Referring to the criteria of critical skills as a basis, the analysis found that recruiting Metacognitive and critical thinking processes in instructional treatment enabled students to improve their argumentative writing skills¹⁶. These findings demonstrate the important role of combining metacognition and critical thinking in teaching writing as a strategy to improve college-level writing skills (Murtado, 2021). However, in the third hypothesis, it can be proven that there is a positive and significant correlation between Metacognitive Skills and Critical Thinking Skills on the Argumentative Writing Skills of TBI 4B class students at UIN Fatmawati Sukarno Bengkulu in the 2021/2022 school year. This is influenced by the high interest factor so that it can obtain a positive and significant relationship.

CONCLUSION

There is a positive and significant correlation between Metacognitive Skills and Critical Thinking Skills on the Argumentative Writing Skills of TBI 4B class students at UIN Fatmawati Sukarno Bengkulu in the 2021/2022 academic year.

In the Metacognitive Skills (X1) have a significant relationship to the variable of Argumentative Writing Skills (Y). The value of Rcount is 0.611, while the price of Rtable with N=24 at a significance level of 5% is 0.404. So the price Rcount > Rtable so that the correlation is positive and significant. Thus it can be said that the higher the Metacognitive Skills, the higher the Argumentative Writing Skills.

Critical Thinking Skills (X2) and Argumentative Writing Skills (Y). The results of the analysis using the Product Moment Correlation show the correlation of the Sig value. (2-tailed = 0.001) <0.05, it is concluded that there is a relationship between Critical Thinking Skills and Argumentative Writing Skills in TBI 4B class at UIN Fatmawati Sukarno Bengkulu. The calculated R value based on Product Moment correlation analysis is 0.613, this value is greater than the R table with N = 24 at a 5% significance level of 0.404.

¹⁶ Panahande, E. & A. *The Effect of Planning and Monitoring as Metacognitive Strategies on Iranian EFL Learners' Argumentative Writing Accuracy.* Procedia - Social and Behavioral Science 98 (2014) 1409 - 1416.

Metacognitive Skills (X1) and Critical Thinking Skills (X2), Argumentative Writing Skills (Y). Testing this third hypothesis using the multiple correlation test. Where the value Fcount 8,814 < Ftable 2,064, and value Sig. 0,002 it can be concluded that the variables of Metacognitive Skills (X1) and Critical Thinking Skills (X2) have a significant relationship to the variable of Argumentative Writing Skills (Y).

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