

The Correlation of Students' Metacognitive and Critical Thinking with Writing Skills

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ABSTRACT

The present research was to investigate the correlation of students' metacognitive and critical thinking with writing skills. This research used correlation study. In collecting the data, 15 questions of questionnaire were provided. There are 7 questionnaires for metacognitive and 8 questionnaires for critical thinking. The written test was gotten by the students' assessment that the researcher received from the lecturer of Writing 2 in class A, B, and C. The sample was taken by three classes consist of 71 students that had been choosing. The result of research found out that there was not any significant correlation of students' metacognitive with writing skills. Then, there was not any significant correlation of students' critical thinking with writing skills. Form on the valuation of the research simultaneous, $F_{count} < F_{table}$ ($0.749 < 3.29$). It can be sum up that there was not any simultaneous of students' metacognitive and critical thinking with writing skills. In accordance with the hypothesis, the researcher summarized that those variables were not correlating between students' metacognitive and critical thinking with writing skills.

Keywords: Students' Metacognitive, Students' Critical Thinking, Writing Skills

INTRODUCTION

Writing is one of the four language skills in language teaching that very important because it produces information to others, expressing someone's idea, and tell what someone's feel. Writing is the most difficult language skill and considered to be the most complex language skill to learn, compared to other language skills . According to (Tillema, 2012) stated that writing is one of the most important skills for educational success, but also one of the most complex skills to be

mastered (Kamelia et al., 2019; Sudarmaji et al., 2020). Nevertheless, writing is regarded as a productive skill. It aims the act of process to composing a text or sentence. As explanation above, there are some problems occurred in practicing writing skill. The student lack of their ideas (Forsia, 2018). Therefore, the students weren't able to write the topic inappropriateness, the students had low vocabulary, the students looked difficulty to adjust the grammar correctly and the students were incorrect use of

mechanics of writing (spelling, punctuation, quotation, and capitalization). It has shown that the students are weak to write in English. The student had string up while they were to write a text. The problem is caused by the student have vocabulary restriction. (Ningrum, 2015) explained people cannot express their feeling both in form of spoken and written to communicate effectively without having a sufficient vocabulary. If the students do not have adequate vocabulary, they will have difficulty in making a sentence.

Then, when the students are paraphrasing, they faced many problems (Nadera, 2018). For instance, the students are not taking their own words or combine the sentences based on their own critical thinking, and formulate sentences in a more effective way. Most students commit many mistakes related to sentence structure. For instance, grammatical, syntactical mistakes are effectuated. Thereupon, the students who can't gather the idea to write, it caused they still make mistake to use grammar properly. The students learning English often make mistakes and commit errors while learning English, especially when they tried to arrange sentences or use tenses while writing. As a result, they write sentences with incorrect grammar (Muhsin, 2016). There are few more purpose uses for writing skills.

According to (Owocki, 2016) explains those are mainly four purposes, which are; to inform, to explain, to narrate, and to persuade. All of the students needed good writing skills in order to accomplish their writing skills for better (Durga & Rao, 2018). Thus, the students should improve their writing skills,

for which teachers have to motivate them to have good writing skills, by providing instruction in writing processes and rules of writing, such as vocabulary, grammar rules, syntactic forms, sentence patterns, correctness and writing practice. The students with good writing skills are always victorious at expressing oneself (Sadiku, 2015). According to (Ngadiso, 2013) there are indicators of writing skills as follows: the compatibility of writing with the theme, the compatibility of paragraph sections, the material of the subject, grammar, sentence structure, the diction/words choice, and mechanics; spelling, capitalization, and the punctuation (period, comma, etc.).

In fact, there are many strategies that can be used by the students. They will not have any difficulties if they know how to implement the writing. How to implement writing can be used by metacognitive and critical thinking. Among all the learning, metacognitive is a higher-order executive skill which entails planning, monitoring, and evaluating. After the students have a good command of their metacognitive, they will become more independent, autonomous, and more capable of planning, monitoring, and evaluating their learning process and thus become efficient learners (Goctu, 2017).

The students were experiencing in these processes not only have the chance to employ self-regulation for writing skills but also they can improve their writing skills by composing a well-structured text.

Recent research has shown that the students use metacognitive in writing focus more on linguistic elements, content, knowledge of task requirements, the personal learning

process, text, accuracy, and discourse features (Cer, 2019). Therefore, these variables should be prioritized in improving writing skills. The present study focused on the students' metacognitive to determine whether effective writing skills appeared, and subsequently, the effectiveness of this based practice was writing tasked. (Al-Jarrah et al., 2019) stated as follow: *“Metacognitive for writing might include analyzing the writing task to determine what is required, making plans in accordance with writing to use in a given writing task (e.g., determining whether brainstorming is necessary), monitoring the success (e.g., judging whether sufficient ideas were generated during brainstorming) and selecting remedial (e.g., deciding that more research is needed to gather ideas).”*

In the context above, those are metacognitive while performing the writing tasks. All those experts regard metacognitive as essential to learning. Those exposures to metacognitive results in the thinking essential for the development based on self-reflection. Metacognitive helps learners to plan, monitor, and evaluate their own progress and control their learning as they read, write, and solve problems in the classroom. Accordingly, the teachers also should help the students expand their metacognitive to become efficient writers.

There was another learning to writing precisely, it was critical thinking. Critical thinking is a process of someone's thinking activities that may be helpful in solving a problem or identify the idea in writing. (Hashemi & Zabihi, 2012) defines critical thinking as creative skills to produce new idea and solve

problems through develop learning ways for active learning, thus assess the validity and reliability of assumptions and sources of information. The purpose of using critical thinking is to enhance students' awareness of the importance of participating and implicating in writing assignment that encourages students to take or disown information that they receive. Likewise, asking questions during lesson can enhance students' thought. Critical thinking as learning how to ask and answer questions, synthesis and assessment those ideas (Alkhouday, 2015). The present study focused on using critical thinking to determine whether effective writing skills appeared, and subsequently.

In this section, the researcher discusses the novelty of this research. The first variable was metacognitive. Recent research before has conducted to study about metacognition. The research which the title is A Correlational Study on Metacognitive Learning Strategies to Develop Students' Writing Skills was conducted by (Puspita, 2016). This research aimed to find out whether there is a positive and significant relationship between metacognitive learning strategies and students' writing skills. Also, to find out the proportion of each type of metacognitive learning strategies are planning, monitoring, and evaluating. This research employed a correlational study. The subjects of the study were 30 students.

The research sample was drawn by using simple random technique sampling. To analyze the data obtained, this research used Pearson's Product-moment Simple Correlation. Students' metacognitive learning

strategies were measured using a questionnaire method. The questionnaire was adapted based on theories of metacognitive learning strategies. English writing skills were tested by a written test from the recount texts. The researcher used interviews to find out the students' responses to writing when using metacognitive learning strategies, as well as interviewing the English teacher to strengthen the result findings. The results of this research showed that there were positive responses on writing recount texts from the students when using metacognitive learning strategies in the writing classes because it helped the students to center their learning, arrange and plan their learning, and evaluate their learning.

The second variable was critical thinking. Recent research before has conducted to study about critical thinking. The research which the title is *The Relationship between Critical Thinking Skill and Argumentative Writing Skill* was conducted by (Hasanah, 2015). The objective of this study was to describe the relationship between critical. This study was found out identifying, analyzing, and evaluating in critical thinking. Correlation method was applied in this study. There were two instruments in collecting the data; the first instrument was to measure students' critical thinking skill, in this case, Cornell Critical Thinking Tests, Form X was administered to the samples. The second instrument was to measure students' argumentative writing skill, in this study, an instruction asking the students to write argumentative were given to the students.

In comparison with the previous related studies above, this research

has some similarities because it has the same independent variables, metacognitive and critical thinking. First variable is metacognitive. This research has same indicators as previous research. The indicators of this variable find out planning, monitoring, and evaluation. To measured students' metacognitive were using a questionnaire method. The questionnaire was adapted based on metacognitive theory. English writing skills were tested by written test. It is gotten by the students' assessment that the researcher receive from the lecturer of Writing 2 in class A, B, and C.

Afterwards, the second variable is critical thinking. This research has different from the previous researcher. More precisely in the indicators of this variable will find out recitation, applying, interpretation, exploration, and understanding. To assess students' critical thinking used a questionnaire method. Then, to measure students' writing skill that from the written test is gotten by the students' assessment that the researcher receive from the lecturer of Writing 2 in class A, B, and C. In regard to the students' difficulties in writing activities, it propels the researcher interested in conducting a study on students' metacognitive with writing skills, and students' critical thinking with writing skills. Thereupon, the researcher conveyed the readers to know if there is simultaneous of students' metacognitive and critical thinking with writing skills or not.

METHOD

According to (Sharma, 2018) stated that data analysis is the process of to arrange the data finding to make it comprehensible by the test of

analysis assumption and data analysis. Since the data of two variables had been collecting, which the title is students' metacognitive and critical thinking with writing skills. Both of them are using the Pearson's Product-moment Simple Correlation formula. The scores of the two tests were analyzed to determine whether there was correlation or not between two variables covered in this study. At the end, this analysis could be useful to examine the truth or false of this study hypotheses. In this research, the parameter statistic was used to calculate the data. Therefore, as the requirement in the parameter statistic in correlation research, the linearity and normality distribution of the data had to be examined first.

Descriptions of the Data

This section discussed the research sample which was taken by population of this research. This research conducted in the Third Semester on Faculty of Teacher Training and Education of English Department at Syekh-Yusuf Islamic University. According to (Pratiwi et al., 2014) asserted that "a very acceptable sample size depends on the type of research, namely: the sample size of descriptive research at least 10% of the population, the sample size of correlational research at least 30 subjects, the sample size of causal-comparative research at least 30 subjects for each group, and the sample size of experimental research at least 15 subjects for each group." Based on it, which this research used correlation research. This research is taken by three classes from Class A, Class B, and Class C consists of 71 students that had been choosing as a sample. The

data was conducted from 19th September – 8th October 2020. The researcher obtained the maximal score, minimum score, the mean score, the standard deviation, and variance score. The data on the table 4.1, follows from the table, it indicated that students' metacognitive the higher score was 1.00 and the lower was 0.43 with the average 0.13808. Students' critical thinking the higher score was 1.00 and the lower score was 0.63 with the average 0.10272. Then, students' writing skills the higher score was 90.63 and the lower was 27.63 with the average 19.56155.

The Test of Analysis Assumption

Normality test

This research count up *Lilifors* using *Kolmogrov-Smirnov* on SPSS version 22, the data was normal if the significant value is more than 0.05. The result of normality test is presented on the table 4.2, based upon the result of normality test, the data significant value of *Kolmogrov-Smirnov* showed that metacognitive, critical thinking, and writing skills was less than 0.05 ($0.000 < 0.05$). It concluded the result of metacognitive, critical thinking, and writing skills is not normal.

Linearity test

This research was calculated using by SPSS version 22 and put on ANOVA table in order to found the linear correlation between students' metacognitive (X_1) and critical thinking (X_2) with writing skills (Y). The data was linear if the significant value is more than 0.05.

Students' Metacognitive with Writing Skills

The result of correlation of students' metacognitive with writing skills on the table 4.3 showed that the significant of deviation from linearity is more than 0.05 ($0.546 > 0.05$). It can be concluded students' metacognitive with writing skills is linear.

Students' Critical Thinking with Writing Skills

The result of correlation of students' critical thinking with writing skills can be seen on the table 4.4 showed that the significant of deviation from linearity is more than 0.05 ($0.621 > 0.05$). It can be concluded students' critical thinking with writing skills is linear.

Test of Classic Assumption Multicollinearity

Multicollinearity in order to found out correlation of independent variables in regression has the strong linear. This research calculated using SPSS version 22 to get the multicollinearity to observe the tolerance and VIF (Inflation Factor) in model of regression. If the criterion of VIF is less than 10 and a tolerance more than 0.1, it means no multicollinearity. The result of multicollinearity can be seen on the table 4.5 showed the value of metacognitive and critical thinking in tolerance more than 0.10 ($0.985 > 0.10$), it means the data is not multicollinearity. The VIF value showed that metacognitive and critical thinking is less than 10 ($1.015 < 10$) it can be said not multicollinearity.

Heteroscedasticity

Heteroscedsticity refers to test residuals. If the data is not heteroscedsticity it implys the data was fine.

Spearman's rho correlation method

The Spearman's rho correlation method is to correlate independent variables with residuals; the test used a significance level of more than 0.05 with a 2-sided test. If the correlation between the independent variables with significant residuals is more than 0.05, it means that there is no heteroscedasticity problem. The following is the result of Spearman's rho correlation it's possible to see on the table 4.6 showed the correlation of metacognitive and critical thinking with *Unstandardized Residual* has significant value more than 0.05 ($1.000 > 0.05$), it can be said the data was not heteroscedcastisity.

Scatterplot method

This research calculated using scatterplot graph in SPSS version 22. It means the independent variable was ZPRED, and with the residual SRESID. The result of heteroscedcastisity in Scatterplot graph. Based on the graphic 1.1, the dots spread randomly either above or below zero on the Y axis; it is identified that there is no heteroscedcastisity. It implied the data was fine.

Analysis of Multiple Correlation

Multiple correlations are measure that can be predicted between the independent variable and the dependent variable. This research calculated using SPSS v.22. The result of multiple correlations from table 4.7 showed that the result of multiple correlation of metacognitive and critical thinking (simultan) with writing skills accordingly the value of correlation, the interpretation of the data was 0.008 that mean the data was weak. The significant has value

0.757 ($0.757 > 0.05$) H_0 accepted and H_a rejected. The result is no correlation of students' metacognitive and critical thinking with writing skills on the third semester in Faculty of Teacher Training and Education of English Department at Syekh-Yusuf Islamic University Tangerang.

The statistical hypothesis test

Partial hypothesis test

Partial test used for to find the significant or not apiece coefficient of regression value (X_1 and X_2) separately. T-test was used for partial test. It was in order to find out the independent variables have relation amongst the dependent variable by partial. If $t_{count} > t_{table}$ then the data has significant correlation.

Metacognitive

Based upon the table 4.8, the result of variable metacognitive t_{count} is -0.555, so $t_{count} < t_{table}$ ($-0.555 < 1.667$). It can be explained that there is no correlate of variable students' metacognitive with variable writing skills or H_0 accepted and H_a rejected.

Critical thinking

Based upon the table 4.8, the result of variable critical thinking t_{count} is -0.428, so $t_{count} < t_{table}$ ($-0.428 < 1.667$). It sum up that there is no correlate of variable students' critical thinking with variable writing skills or H_0 accepted and H_a rejected.

Simultaneous hypothesis

Simultaneous test was used to find out amongst independent variables as simultaneous has relationship through dependent variable. This test calculated using F test. In case the test result of F_{count} is more than F_{table}

where the alternative hypothesis is accepted, it can be elucidated the independent variables as simultaneously have significant correlation through dependent variable. Below is the result of the simultaneous hypothesis:

Writing skills

Based on the table 4.10 above, the result of F_{count} is less than the F_{table} with the level of significance 5% ($n=70, n-m-1$) ($df=73-2-1=70$) t_{table} at appendix. F_{count} was less than 3.98 ($0.280 < 3.98$). So, H_a rejected and H_0 accepted. Those can be concluded $F_{count} < F_{table}$ where there is no significant correlation of students' metacognitive and critical thinking with writing skills in the third semester on Faculty of Teacher Training and Education of English Department at Syekh-Yusuf Islamic University Tangerang in academic year 2020/2021.

FINDINGS AND DISCUSSION

In this section discussed the finding of the correlation of students' metacognitive and critical thinking with writing skills, based on theoretical framework presented in Chapter II. The following is described as the result of each research question:

Metacognitive is a comprehension that someone has of their own thought or cognitive process. Depend on the students' answer to the questionnaires; they have their metacognitive while writing. Some students know what they are going to write with their metacognitive, and some students don't know. It can be sum up, the result of this research has found out there is not any significant correlation of students'

metacognitive with writing skills in the third semester on Faculty of Teacher Training and Education of English Department at Syekh-Yusuf Islamic University Tangerang in academic year 2020/2021.

The other research by (Puspita, 2016) has a significant of metacognitive learning strategies develop students' writing skills. Based upon the discussion, the researcher found out the difference results in a correlation of students' metacognitive by the other research that all variables have a positive significant correlation, but in this research not found the positive significant correlation.

Critical thinking gives students' idea and can be thinking critically to making up students' mind. If they can use their critical thinking well, they can manage what they want to write on their writing. It can be concluded, the result of this research has find out there is not any significant correlation of students' critical thinking with writing skills in the third semester on Faculty of Teacher Training and Education of English Department at Syekh-Yusuf Islamic University Tangerang in academic year 2020/2021.

The other research by (Hasanah, 2015) has a significant of critical thinking skills and argumentative writing skills. Based upon the discussion, the researcher found out the difference results in a correlation of students' critical thinking by the other research that all variables have a positive significant correlation, but in this research not found the positive significant correlation.

Form on the valuation of the research simultaneous, $F_{count} < F_{table}$ ($0.749 < 3.29$). It can be sum up that there is no correlation of students'

metacognitive and critical thinking with writing skills. In accordance with the hypothesis that has been doing before, the researcher summarized that students' metacognitive and critical thinking with writing skills. Those variables were not correlating.

The other research by (Sadeghi et al., 2014) has a significance of metacognitive and critical thinking. Based upon the discussion, the researcher found out the different results in correlation of students' metacognitive and critical thinking by the other research that all variables have a positive significant correlation, but in this research not found the positive significant correlation.

It covers the findings and discussions of the study in which there is no separation within. It is expected that in the discussion, the author investigates his/her findings and refers back to the theoretical or empirical study which is written systematically, critically, and informatively.

CONCLUSION

The present of this research was investigated in order to know the correlation of students' metacognitive and critical thinking with writing skills in the third semester on Faculty of Teacher Training and Education of English Department at Syekh-Yusuf Islamic University Tangerang in academic year 2020/2021. Based upon the findings recited in the previous chapter, this research concluded for variable X_1 there is not significant correlation of students' metacognitive with writing skills. For variable X_2 there is not significant correlation of students'

critical thinking with writing skills. Besides based on the hypothesis that had been done before, there is not

simultaneous correlation of students' metacognitive and critical thinking with writing skills.

REFERENCES

- Al-Jarrah, T. M., Al-Jarrah, J. M., Talafhah, R. H., & Bashir, I. (2019). Exploring The Effect of Metacognitive Strategies on Writing Performance. *Global Journal of Foreign Language Teaching*, 9(1), 33–50. <https://doi.org/10.18844/gjflt.v9i1.3977>
- Alkhoudary, Y. A. M. (2015). The Effect of Teaching Critical Thinking on Al-Buraimi University College Students' Writing Skills: A Case Study. *International Journal of Applied Linguistics and English Literature*, 4(6), 212–219. <https://doi.org/10.7575/aiac.ijalel.v.4n.6p.212>
- Cer, E. (2019). The Instruction of Writing Strategies: The Effect of the Metacognitive Strategy on the Writing Skills of Pupils in Secondary Education. *SAGE Open*, 9(2). <https://doi.org/10.1177/2158244019842681>
- Durga, V. S. S., & Rao, C. S. (2018). Developing Students' Writing Skills in English - A Process Approach. *Journal for Research Scholars and Professionals of English Language Teaching*, 2(6), 1–6.
- Forsia, L. (2018). THE EFFECT OF COOPERATIVE INTEGRATED READING AND COMPOSITION (CIRC) TECHNIQUE ON STUDENTS' WRITING SKILL. *JIPIS*, 27(1), 63-66.
- Goctu, R. (2017). Metacognitive Strategies in Academic Writing. *Journal of Education in Black Sea Region*, 2(2), 82–96. <https://doi.org/10.31578/jeps.v2i2.44>
- Hasanah, N. (2015). *The Relationship between Critical Thinking Skills and Argumentative Writing Skill (A Correlational Study at the Twelfth Grade Students of SMA Kharisma Bangsa, Tangerang Selatan)*.
- Hashemi, M. R., & Zabihi, R. (2012). Does Critical Thinking Enhance EFL Learners' Receptive Skills? *Journal of Language Teaching and Research*, 3(1), 172–179. <https://doi.org/10.4304/jltr.3.1.172-179>
- Kamelia, K., Agustina, H. N., & Sudarmaji, I. (2019). the Use of Mind Mapping on Improving Students' Writing Ability At Tenth Grade of Sman 7 Kota Tangerang in the Academic Year of 2018/2019. *Jurnal Penelitian Dan Karya Ilmiah*, 18(2), 112–120. <https://doi.org/10.33592/pelita.v18i2.46>
- Muhsin, M. A. (2016). Analysing The Students Errors in Using Simple Present (A Case Study at Junior High School in Makassar). *Pacific Science Review B: Humanities and Social Sciences*, 2(3), 81–87. <https://doi.org/10.1016/j.psrb.2016.09.006>
- Nadera, B. (2018). Investigating ESP Students' Writing Problems The Case of the Management School of Tlemcen. *International Conference on Social Science, Humanities and Education*, 1–6. <https://doi.org/10.33422/icshe.2018.12.82>
- Ngadiso. (2013). Assessing The Students' Writing Skill. *Applied Catalysis A: General*, 58(2), 15–22. <https://doi.org/10.1179/1743280412Y.0000000001>
- Ningrum. (2015). A Study On Students' Difficulties In Learning Vocabulary Rohmatillah Institut Agama Islam Negeri (IAIN) Raden Intan Lampung. *Institut Agama Islam Negeri (IAIN) Raden Intan Lampung*, 69–86.

- Owocki, G. (2016). *The Common Core Writing Handbook*.
- Puspita, A. N. (2016). *A Correlational Study on Metacognitive Learning Strategies To Develop Students' Writing Skills in Class 8A of SMP Bopkri 1 Yogyakarta*.
- Sadeghi, B., Hassani, M. T., & Rahmatkhah, M. (2014). The Relationship between EFL Learners' Metacognitive Strategies and Their Critical Thinking. *Journal of Language Teaching and Research*, 5(5), 1167–1175. <https://doi.org/10.4304/jltr.5.5.1167-1175>
- Sadiku, L. M. (2015). The Importance of Four Skills Reading, Speaking, Writing, Listening in a Lesson Hour. *European Journal of Language and Literature Studies*, 1(1), 29. <https://doi.org/10.26417/ejls.v1i1.p29-31>
- Sharma, B. (2018). Processing of Data and Analysis. *Biostatistics and Epidemiology International Journal*, 1(1), 3–5. <https://doi.org/10.30881/beij.00003>
- Sudarmaji, I., & Bunga Lifanie, M. (2020). A Comparison Study: Teacher, Peer And Self-Feedback On Students Essay Writing. *JISAE: Journal of Indonesian Student Assessment and Evaluation*, 6(2), 168 - 180. <https://doi.org/10.21009/JISAE.062.07>
- Sudarmaji, I., Mulyana, A., & Karsiyah, K. (2020). Applying Digital Storytelling To Improve Indonesian High School Students' Visual Memory and Writing Skill. *English Review: Journal of English Education*, 8(2), 91. <https://doi.org/10.25134/erjee.v8i2.2987>
- Tillema, M. (2012). *Writing in First and Second Language: Empirical studies on text quality and writing processes*.