

CORRELATION BETWEEN STUDENTS' METACOGNITIVE STRATEGY USED IN WRITING PROCESS AND ESSAY WRITING PERFORMANCE

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Abstract: The aim of this study was to find out whether or not there was any significant correlation between students' use of metacognitive strategy in writing and their essay writing performance. Eighty-three sixth-semester students of English Education Study Program of a state university in Palembang got involved in this study. A metacognitive awareness of writing strategy questionnaire and an essay writing test were used as the instruments to collect the data which were analysed statistically by using a correlation and regression analyses. The finding showed that there was a significant correlation between the students' use of metacognitive strategy and their essay writing performance. There was also a significant contribution of the metacognitive strategy used to the students' essay writing performance (70.7%).

Keywords: *metacognitive writing strategy, essay writing, EFL studnets*

Writing as one of the English language skills is important that it helps language learners to communicate in written forms with different specific objectives and emphasis (Sanu, 2016). However, among all English language skills, writing is believed as one of the most problematic areas for foreign language learning (Panahandeh & Asl, 2014). Richards and Renandya (2002) mentioned that writing became the most difficult skill to master because there were some difficulties in learning it. The difficulties were not

only about generating and organizing ideas, but also about translating those ideas into a readable text form.

One of the effective factors in learning writing was the use of writing strategy. The use of strategy is a purposeful cognitive action. Oxford (1989) defines language learning strategies as behaviors or actions which language learners use to make language learning more successful, self-directed, and enjoyable. Harris, Graham, Mason and Friedlander (2008) state that it is important to

discuss writing strategies in writing classrooms to help learners improve their writing performance.

Language learners can overcome the problems in writing by employing appropriate metacognitive strategies. There are several purposes in using metacognitive strategies. They were for selecting suitable methods intelligently, supervising on their efficacy, correcting of errors, and if required, changing strategies and replacing them with new ones (Good & Brophy, 1995 as cited in Maleki, 2005). Therefore, Rahimi and Katal (2012) believed that using metacognitive strategies provide learners with the ability to plan, control and evaluate their learning, which finally led them to gain higher achievement and better learning outcome.

Wenden (1991) defines metacognitive strategies as mental operations or procedures that learners use to regulate their learning. Metacognitive strategies are directly responsible for the execution of a writing task which included three main aspects: Planning, Evaluating, and Monitoring. It is considered important for language learners since they need those aspects of metacognitive during producing an English writing. In a complex writing process, there are a number of metacognitive and cognitive activities are involved, such as brainstorming, planning and drafting (Flower & Hayes, 1981).

Studies focusing on metacognitive strategies have been conducted previously. For example, Conner (2007) conducted a study investigating the correlation between the strategies used by the final year high school students in writing and their writing performance. It was found that the students who produced

quality essays used metacognitive learning strategies to plan and monitor their work. Another study conducted by NematTabrizi and Rajaei (2016) found that both cognitive and metacognitive writing strategies helped the elementary language learners improve their writing.

At the English Education Study Program of Faculty of Teacher Training and Education within Sriwijaya University, Writing is a compulsory course topic the students must enroll. There are four Writing topics: Writing I, Writing II, Writing III, and Writing IV. The focus of Writing II and Writing III is essay writing. Therefore, in the relation to the purpose this present study, the writer interviewed ten sixth semester students who were randomly selected and had taken Writing I and II. They admitted that they could write an essay. This was also supported by the Writing scores of Writing I and Writing 2 classes that were at Good average score category. However, the students still said that they did have problems in writing such as lack of knowledge in organizing ideas, selecting appropriate words or phrases, and presenting their thoughts in a focused way.

Considering the facts that the students demonstrated good score in writing subjects, but admitted that they still had problems in writing, it was worth to conduct an investigation to see the correlation between the students' use of metacognitive strategies and their writing performance.

METHODOLOGY

This research was a correlational study since the main objective was to find out whether or not there was a correlation between students'

metacognitive strategy used in writing process and their essay writing performance. Total sampling or population sampling was used in this research. According to Sugiyono (2010), total sampling is a sampling technique where all of the population become the sample. Therefore, all of the sixth-semester students (N=83) of the English Education Study Program of Faculty of Teacher Training within Sriwijaya University were the sample of this study. The students had taken Writing II and Writing III courses.

Table 1
Sample of the Study

Year of Enrollment	Semester	Campus	N
2015	VI	Palembang	48
		Indralaya	35
TOTAL			83

In order to collect the data, two instruments were used. They were questionnaire of Metacognitive Learning Strategies Awareness (Hong's dissertation, as cited in Razi, 2012) and an academic writing test (Essay Writing). The questionnaire consisted of 32 Likert type items divided into 4 main categories, including *planning* (11 items), *evaluation* (14 items), *monitoring* (2 items), and *self-awareness writing strategies* (5 items). The questionnaire was tried out to the non-sample students to find out the validity and reliability. The value of the r-obtained of the questionnaire (0.453) was higher than the r-table so the questionnaire was considered valid. The result of Cronbach Alpha showed that the value of the reliability was 0.829. It could be concluded that this questionnaire was valid and reliable. The students were also asked to write an essay between 300-500 words with

the provided topic. The validity of the essay writing test was checked by two validators and the inter-rater reliability was applied to check its reliability. The data were analysed statistically by using a correlation analysis. In addition, regression analysis was conducted to find out whether or not the students' use of the metacognitive strategies contributed to their essay writing performance.

FINDINGS

Result of Students' Academic Writing Test

As shown in Tables 2 and 3, the students' writing scores ranged from a minimum score of 64 (moderate) to a maximum score of 88 (very good) with the mean score of 75.23 and a standard deviation of 6.498. It was concluded that the level of the students' essay writing performance were ranged from Moderate to Very Good.

Table 2
Score distribution of students' academic writing test

Score Interval	Category	N	%
86 - 100	Very good	6	31.3
71 - 85	Good	51	61.4
56 - 70	Moderate	26	7.3
41 - 55	Low	-	-
0 - 40	Fail	-	-
Total		83	100

Table 3
Descriptive statistics of essay writing

	N	Min	Max	Mean	Std. Dev
Writing	83	64	88	75.23	6.498

To summarize, based on the mean score (75.23), the level of the students' essay writing performance was categorized to "Good".

Result of Normality Test

The normality test was conducted in order to see whether the data was normally distributed or not. This test was checked by using One-Sample Kolmogorov-Smirnov test. The result of the normality test showed that the sig. value of essay writing test was 0.041, and the value of metacognitive strategy level was 0.077 which meant that only metacognitive strategy level was normally distributed since the value was higher than 0.05. However, the data could be categorized as normally distributed because the sample size was more than 30 (Smith & Wells, 2006). To sum up, the data of essay writing test and

metacognitive strategy level were normally distributed.

Result of Metacognitive Strategy Questionnaire

In this study, the writer collected the data about the students' metacognitive strategy in their writing process by using metacognitive strategy questionnaire. It consisted of 32 items, and the scale ranged from 1 to 4 which 1= strongly disagree, 2= disagree, 3= agree, and 4= strongly agree. The analysis of the result for evaluating the students' use of metacognitive strategy level was done based on the grading criterias: Always, Sometimes, Rarely, and Never.

Table 4
Students Use of Metacognitive Strategy Based on Categories

No.	Interval	Categories	N	%
1.	105-128	Always	24	28.9
2.	81-104	Sometimes	59	71.1
3.	57-80	Rarely	-	-
4.	32-56	Never	-	-
Total			83	100

As shown in Table 4, there were 24 students (28.9%) whose scores fall into 'Always', and 59 students (71.1%) into 'Sometimes' categories. However, there was no student (0%) whose scores of writing metacognitive strategies fall into 'Rarely' and 'Never' categories. The percentage was calculated by dividing the frequency of each category with the total number of the students or the

total number of the frequency and then multiplying it with 100%.

Because the metacognitive strategy questionnaire consisted of four aspects, the analysis was also conducted to see the students' use of metacognitive strategies based on the four aspects (see Table 5).

Table 5
Description of students' use of each aspect of metacognitive strategies

Aspects of Metacognitive Strategy	Sometimes		Always	
	N	%	N	%
Planning	60	72.3	23	27.7
Evaluation	59	71.1	24	28.9
Monitoring	48	57.8	35	42.2
Self-awareness	57	68.7	26	31.3

As shown in Table 5, there were 60 students (72.3%) who acknowledged they sometimes used Planning strategy, and 23 students (27.7%) who always used Planning strategy. There were 59 students (71.1%) who stated they sometimes used Evaluation strategy, and 24 students (28.9%) who stated they always used Evaluation strategy. Thirdly, in the monitoring category, the result showed that there were 48 students (57.8%) who sometimes used monitoring strategy, and 35 students (42.2%) who always used monitoring strategy. Lastly, in self-awareness category, the result presented that there were 57 students (68.7%) who sometimes used self-awareness strategy, and 26 students (31.3%) always used self-awareness strategy.

From the result of the grading categories of each aspect of metacognitive strategy, it could be concluded that from those 4 aspects,

the students' use of the metacognitive strategies fall into 'Sometimes' and 'Always' categories.

Result of Correlation Analysis between Metacognitive Strategy and Students' Essay Writing Performance

The result showed that the value of r -obtained of the two variables were 0.843, and the correlation direction was positive. Because the p -value of the two variables (0.000) was lower than 0.05, it could be interpreted that H_0 was rejected, therefore, H_1 was accepted. In other words, there was a significant correlation between metacognitive strategy used in writing process and essay writing of the sixth-semester students of English Education Study Program of Sriwijaya University. The following was the result of correlation analysis.

Table 6
Correlation between Metacognitive Strategy and the Students' Essay Writing Performance

		Metacognitive strategy
Students' writing	Pearson Correlation	.843 **
	Sig. (2-tailed)	.000
	N	83

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

Because the value of r -obtained was 0.843, it was considered a strong correlation based on Creswell's degree of correlation coefficient table (2012). Furthermore, as described in Table 6 that there was a significant correlation between metacognitive strategy and students' essay writing performance,

the writer continued to investigate further information about the correlation between each aspect of the metacognitive strategy and students' essay writing performance. The result of the analysis was presented in Table 7.

Table 7
Correlation Analysis between Each Aspect of Metacognitive Strategy and Essay Writing Performance

		Planning	Evaluation	Monitoring	SelfAwareness
Writing	Pearson Correlation	.639**	.573**	.186	.623**
	Sig. (2-tailed)	.000	.000	.092	.000
	N	83	83	83	83

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

As previously described in Table 6, there was a significant correlation between the students' use of metacognitive strategy and their essay writing performance. However, the result presented in Table 7 showed that when the correlation analysis was conducted for each aspect of metacognitive strategy, Monitoring strategy did not show a significant correlation with the students' writing performance. The ρ -value of Monitoring strategy was 0.092 which meant that ρ -value was higher than 0.05. Therefore, it could be interpreted that H_0 was accepted, and H_1 was rejected. In other words, there was no significant correlation between

Monitoring strategy and students' essay writing performance.

Next, a further investigation using a linear regression analysis was done in order to find out the contribution of the students' use of metacognitive strategy as the independent variable to the students' essay writing performance. The significant F change showed that metacognitive strategy contributed significantly to students' essay writing performance ($0.00 < 0.05$). In addition, since the R-square was 0.707, suggesting that metacognitive strategy significantly contributed 70.7% to the students' essay writing performance (see Table 8).

Table 8
Contribution of Students' use of Metacognitive Writing Strategy To Their Writing Performance

Model	R	R ²	Adjusted R ²	Std. Error of the Estimate	Change Statistics				
					R ² Change	F Change	df1	df2	Sig. F Change
1	.843 ^a	.711	.707	3.515	.711	199.252	1	81	.000

a. Predictors: (Constant), Metacognitive Strategy

Because there were 3 aspects of metacognitive strategy that had significant correlation with the students' essay writing performance, a further analysis was conducted in order to find the contribution of each aspect to the students' essay writing performance. Table 9 presented the result of the multiple linear regressions.

The result showed that Planning, Evaluation, and Self-awareness metacognitive strategies contributed significantly to the students' essay writing and Planning gave the highest contribution to the students' essay writing performance (40.1%).

Table 9
Contribution of Each Aspect of Metacognitive Strategy
to Students' Essay Writing Performance

Aspects of Metacognitive Strategy	R Square	Adjusted R Square	Std. Error of the Estimate
Planning	.401	.401	5.030
Evaluation	.710	.309	5.359
Self-awareness	.990	.280	5.114

DISCUSSION

Based on the findings of this study, the result of this study showed that there was a significant correlation between metacognitive strategy used in writing process and essay writing of the sixth semester students of English Education Study Program of Sriwijaya University. The degree of the correlation coefficient was categorized as strong correlation since the value r -obtained was 0.843. However, when the writer analyzed the correlation from each aspect of metacognitive strategy, the result showed that only three aspects that had significant correlations with the students' essay writing performance. They were *Planning*, *Evaluation*, and *Self-awareness*.

The students' use of *Planning* metacognitive writing strategy had a significant correlation with their essay writing performance. It also contributed 40.1% to the students' writing performance. Planning was important metacognitive skills because it provided a detailed idea about the topic of writing. Planning generally refers to the process that "involves retrieval and organization of information" (Wenden, 1987). By applying planning strategy in writing process, the students were thinking about what they needed to accomplish and how they intended to go about achieving it. In this study, the students have thought in detail about the topic

assigned to them and 'sometimes' employed this planning strategy.

The *Evaluation* metacognitive writing strategy also significantly correlated to the students' essay writing performance and gave 30.9% contribution to the students' writing performance. Evaluation was one of the cognitively demanding tasks for the students that involved task definition, strategy selection, and modification of text in the writing plan (Grabe & Kaplan, 1996). Students were in 'Sometimes' category which meant that they sometimes used evaluation strategy in order to revise their writing, check the content of their writing, and make the ideas clear.

The result also showed that there was a significant correlation between *Self-awareness* metacognitive writing strategy and the students' essay writing performance. It also significantly contributed (29.0%) to the students' writing performance. It was found that the students 'sometimes' used self-awareness strategy in writing their essay. This statement was supported by Conner (2007) who mentioned that students who achieved more in essay writing had a higher level of self-awareness.

However, *Monitoring* metacognitive writing strategy showed no significant correlation with the students' essay writing performance. Monitoring could be described as being aware of what one

was doing (Panahandeh & Asl, 2014). Since the result presented that there was no significant correlation between monitoring and the students' essay writing, it could be predicted that it was caused by some reasons. One of them was the condition when the writer conducted the test. The writing test was done after the students had Peer Teaching which was not a proper time for taking a test. It could be assumed that the students were not in "aware" condition due to the time when they had the writing test.

As a whole, the students' use of metacognitive strategy gave 70.7% contribution to the students' essay writing performance. It proved that the metacognitive strategy had influenced the students' essay writing performance. In other words, the higher the students use metacognitive strategy, the higher their essay writing performance are.

The result of this study was supported by several researcher with the similar findings. Mekala et al. (2016) conducted a study to investigate the role of metacognitive strategy in second language writing. The result showed that there was a positive and significant correlation between metacognitive strategy and the development in their writing. Another supporting research, done by Pitenoe, Modaberi, and Ardestani (2017), was aimed in order to explore how metacognitive strategy could affect the content of the learners' writing. The result of this study indicated that there was a significant correlation between metacognitive strategy and Iranian learners' writing.

CONCLUSION

Based on the findings and the interpretations of the study, there were three conclusions that could be drawn.

First, the essay writing performance of the sixth-semester students of English Education Study Program of Sriwijaya University was categorized as "good" category. Second, the students' use of metacognitive strategy in general was in "sometimes" criteria. Third, the result showed that there was a significant correlation between metacognitive strategy used in writing process and essay writing of the sixth-semester students of English Education Study Program of Sriwijaya University. Pearson correlation coefficients were very strong and positive which meant that increasing the strategies corresponds to increasing writing performance. Last, the result also presented that metacognitive strategy significantly contributed to the students' essay writing performance (70.7%).

SUGGESTION

Considering the result of the study, the writer would like to offer suggestions for the teachers, students, and the other researchers who are interested in this study. First, teachers can explore more strategies related to cognitive metacognitive in order to make it a facilities in teaching writing, or even another English skills. Second, since writing skill is important, the students must be aware of the importance of metacognitive strategy as well since it can help them to increase or even control themselves in writing process. Last, the future researchers who are interested in this study can browse more information about metacognitive strategy in the internet since there must be many more things to explore and investigate regarding metacognitive strategy, especially in the writing process. The future researchers can also conduct a

similar study with bigger size of the sample.

REFERENCES

- Conner, L. N. (2007). Cueing metacognition to improve researching and essay writing in a final year high school biology class. *Research in Science Education*, 37(1), 1-16.
- Creswell, J. W. (2012). *Educational research; planning, conducting, and evaluating quantitative and qualitative research*. Boston, MA: Pearson Education, Inc.
- Flower, L., & Hayes, J.R. (1981). A cognitive process theory of writing. *College Composition and Communication*, 32(4), 365-387.
- Grabe, W., & Kaplan, R. (1996). *Theory and Practice of Writing: An Applied Linguistic Perspective*. New York: Longman.
- Harris, K., Graham, S., Mason, L., & Friedlander, B. (2008). *Powerful writing strategies for all students*. Baltimore, MD: Paul H. Brookes.
- Maleki, B. (2005). Effect of instructing cognitive and metacognitive strategies on development of course contents learning and memorization. *New Cognitive Findings*, 3, 225-236.
- Mekala, M. S., Shabitha, M. P., & Ponmani, M. (2016). The role of metacognitive strategies in second language writing. *GSTF Journal on Education (JEd)*, 4(1).
- NematTabrizi, A. R., & Rajaei, M. (2016). The effect of metacognitive and cognitive writing strategies on Iranian elementary learners' writing achievement. *International Journal of Learning and Development*, 6(3), 216-229.
- Oxford, R. L. (1989). Use of language learning strategies: A synthesis of studies with implications for strategy training. *System*, 17(2).
- Panahandeh, E., & Asl, S. E. (2014). The effect of planning and monitoring as metacognitive strategies on Iranian EFL learners' argumentative writing accuracy. *Procedia Social and Behavioural Science*, doi:10.1016/j.sbspro.2014.03.559
- Pitnoee, M. R., Modaberi, A., & Ardestani, E. M. (2017). The effect of cognitive and metacognitive writing strategies on content of the Iranian intermediate EFL learners' writing. *Journal of Language Teaching and Research*, 8(3), 594-600. doi: <http://dx.doi.org/10.17507/jltr.0803.19>
- Rahimi, M., & M. Katal. (2012). Metacognitive listening strategies awareness in learning English as a foreign language: A comparison between university and high school students. *Procedia - Social and Behavioral Sciences*, (31), 82-89.
- Razi, S. (2012). *Effects of a metacognitive reading program on the reading achievement and metacognitive strategies*. Unpublished doctoral

- dissertation. Dokuz Eylul University Educational Sciences Institution, İzmir, Turkey.
- Richards, J. C., & Renandya, W. A. (2002). *Methodology in language teaching an anthology of current practice*. UK: Cambridge University Press.
- Sanu, L. O. (2016). Narrative paragraph writing of the second semester student of State Institute of Islamic Studies (IAIN) Samarinda A Syntactic Analysis. *Script Journal: Journal of Linguistic and English Teaching*, 1(1), 36-45.
- Smith, Z. R., & Wells, C. G. (2006) Central limit theorem and sample size. *Notheastern Educational Research Association*, 1-22.
- Sugiyono (2010). *Metode Penelitian Pendidikan (Pendekatan Kuantitatif, Kualitatif, dan R&D)*. Bandung, Indonesia: ALFABETA.
- Weigle, S. C. (2002). *Assessing writing*. Cambridge: Cambridge University Press.
- Wenden, A. 1987. Metacognition: An expanded view on the cognitive abilities of L2 learners. *Language learning*, 37(4): 573-597.
- Wenden, A. (1991). Metacognitive strategies in L2 Writing: A case for task knowledge. J. E. Alatis (Ed.), *Georgetown University Round Table on Languages and Linguistics*, 302-321.

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