

Correlation between Cognitive Writing Strategies and Students' Writing Performance

Andjarwati Sadik

English Department Faculty of Letters
Hasanuddin University Makassar,
South Sulawesi, Indonesia

Abstract: This research explores the relationship between cognitive writing strategies and students' writing performance. The primary aim of this paper is to explore whether or not the two variables are interrelated. It also investigates how strong are the relationship between the two variables. The target observation was students at the moderate level. The sample was drawn systematically from population of 80 students at the English department Hasanuddin University 2008 - 2009 Academic year. The students were divided into 3 groups based on the results of their achievement test. The results indicated that 37 students included at the moderate level. Data were mainly obtained by means of achievement test where the students were asked to write about approximately 300 words in 60 minutes. The test was evaluated based on the five writing elements, assessed by two raters. Another way of obtaining data was through strategies questionnaire (10 Questions) and data were analyzed quantitatively using Kendall's tau-c formula. Qualitative analysis was also applied. The results of the quantitative analysis through their achievement test are not significant (0.298). Its contribution is 11.4%. In contrast, in relation to questionnaire, the result shows that the correlation is significant (0.000) and its contribution is 70.3%.

Keywords: cognitive writing strategies, writing performance, achievement test, strategies questionnaire, and moderate writers.

Introduction

Understanding information in a foreign language is a challenge for learners of English as a second/foreign language. Applying what they understand from the information in the written form is even more challenging. On the other hand, writing is an essential part of thinking and learning in educational context, particularly in light of 21st Century demands (e.g. Johannesen, 2001) and writing tasks are a “critical tool for intellectual and social development” (Bruning & Horn, 2000, p. 30). Therefore, students’ ability to present information and ideas through their writing has “an integral role in academic and professional success” (Applebee, Langer, Mullis, Latham, & Gentile, 1994, p. 25, quoted in Hamman, 2005).

Scholars define writing as a way for students in all content areas to make meaning for themselves (Bereiter & Scardamalia, 1987) as well as to learn how to think and communicate in their particular domains (Herrington, 1985). For example, writing is an important means through which student are challenged to think more critically. As Bereiter & Scardamalia (1982), Berninger et al. (1992) find writing is cognitively demanding.

In line with Bereiter and Scardamalia (1982), De la Paz and Graham (2002) state that writing is definitely a demanding task because it requires the orchestration of a variety of cognitive resources. For developing writers it will be even more demanding as they have not yet mastered important writing processes, skills, and knowledge involved in writing strategies: planning and drafting and revising text.

Promoting human effectiveness at a task requires understanding of the strategies that can accomplish the task and how to develop such strategies among learners. Strategies development has deservedly received much study by cognitive psychologists, with educational psychologists doing much work to detail how cognitive strategies develop, and can be developed, to increase student performance with respect to important academic tasks (Pressley and Harris, 2001: 2).

What more are Cognitive writing strategies enable students to understand and produce language (1990: 37). The strategies can be used to improve any language skills. Therefore, Cooley (2008) in his research argues, to improve adolescents’ reading, writing, and thinking across content areas, they need a particular type of strategy instruction, which is known as cognitive strategy instruction, which holds great promise for improving adolescents’ reading, writing, and thinking across content areas. Writing strategies are defined as conscious decisions made by the writers to solve a writing problem (Wenden, 1991 and Riazi, 1997).

A number of research/studies related to cognitive writing strategies have been conducted by researchers/scholars and will be presented in the following discussion.

Research has shown that all students can benefit from instruction in learning strategies. Chamot and O’Malley (1994) work with second language learners reinforce the notion that students who learn to continuously monitor their own learning, and who have a store house of strategies to use when learning becomes difficult, far better than students who do not have such strategies (cited in Crandall, 2002). Conley (2008) argues that to improve adolescents’ reading, writing and thinking process across content areas, students need cognitive strategies cognitive strategies for adolescents needs to be conducted.

Most research on writing strategies focus on the differences of strategies used by low and high achievers. For example, Chien (2007) explores cognitive and meta-cognitive writing strategies in EFL student writers in relation to their achievement in L2 (English) writing. The researcher finds that two major differences were observed between the two groups. First, with regard to the planning, the percentages in the low achievers are about 1.5 times (9.7%) as high as the percentages in the high achievers. It is clear that the low achievers tend to engage more in the

planning process than the high achievers. This pattern may apply that the low achievers need to go back to do planning, while the high achievers do not have this need and could move on with the mental activities such as monitoring and evaluating. So, they can complete their writing task earlier and more effective.

Another scholar, Hoang (1999) also differentiates low and high achievers writers. His findings reveals that proficient (high achiever) learners use more writing strategies more effectively than the lower ones. From his research, Mu (1991) produces taxonomy of writing strategies which cover the four writing strategies and one of them is cognitive writing strategies which cover seven elements: generating ideas, revising, elaborating, clarification, retrieval, rehearsing, summarizing.

From the above findings, what needs to be further and urgently investigated is looking at English writing from cognitive writing strategies perspectives. More specifically, focuses on students whose cognitive writing strategies are in moderate level, as the above findings refer to high and low achiever only. In fact, it assumed that many EFL learners for example, in Indonesia fall in that category.

Therefore, this research attempts to explore and answers two main research questions: 1. How strong the correlation between cognitive writing strategies and students writing performance; 2. How big is the contribution of the strategies to the students' writing performance. The objective of the research is to explore the relationship and the contribution of the strategies to the writing performance of EFL learners. The target population in this research is students of English department Hasanuddin University as foreign language learners.

Material

Population is defined as all members of any well-defined class of people, events or objects (Ary, et al., 1979: 129). The population of the research consisted of students of the English Department who have passed Academic Writing subject in the 2008 -2009 academic year. This course is offered at the fifth semester. Before taking the course, all students are required to take two other writing subjects: Writing 1 and Writing 2. This is the reason for including them in this research as they are considered to have enough knowledge of English writing skills.

The number of students (population) who took the final test for the Academic Writing Subject in the 2008 – 2009 Academic Year was 116 students. For some reason, they were not all accessible in terms of their time at the moment the research was conducted; next; they were difficult to contact and the research had to start addition, some of them were at work. The number of students who could be accessed was 80, so they were the population of this current research.

The small group that is observed or a small portion of a population is called a sample (Ary et al., 1979: 129). The samples of this research were taken from the above population which consisted of 80 students. It is stated that selection of a sample is a very important step in conducting a research study as the “goodness” of the sample determines the generalization of the results (Gay, 1981). In order to get a representative sample for this research, the sample was drawn systematically with the following procedures:

1. The name list and their Academic Writing final test were taken from the department.
2. Achievement test was administered to all population (80 students) and evaluated following Brown & Bailey's rating scale (1984: 244 - 245), with two raters. Based on their test results, they were divided into three groups: Group 1 was those students whose achievement test ranged from 14 to 22 (5 students) and they are in the highest category; Group 2 ranged from 10 to 13 (72 students) and they were in the moderate category;

Group 3 ranged from 10 - 11 (21 students) and they were in low moderate, Group 4 ranged from 8 - 9 (3 students) fell into the lowest category.

3. To determine the number of sample drawn from the population, Ary, et al. (1979:135) states that there is no single rule that can be used to determine sample size. The best answer to the question of sample size is to use as large a sample as possible because a larger sample is much more likely to be representative of the population. Based on the above statement, 50% was considered representative of a total population of moderate group, so that 37 students were the sample of this research. In order to get representative sample of the 72 students, random sampling was applied. The way they were selected is as follows:
 - 3.1 The names of the 72 students were written in a small piece of paper individually, put them in a small can, and took one by one until the number was 37 students. Students. It is important to notice here that the students in "High" and "Low" level/category were only included at the beginning for the purpose of determining which students fell into the "Moderate" level. So, only students in the "Moderate" category were analyzed along this study.
 - 3.2 The 37 students were given questionnaire with 10 questions related to cognitive writing strategies.
 - 3.3 After they completed the questionnaire, they were interview using in-depth interview which consisted 7 main questions related to cognitive writing strategies to support the questionnaire.
4. This research was conducted at the English Department Faculty of Letters Hasanuddin University and it is located at Hasanuddin University Campus, Tamalanrea, Makassar, South Sulawesi. The reason for choosing the site was mainly because the subjects of the research are students at the department. Besides, I am a permanent teaching staff at the department and teach all writing courses (Writing 1, Writing 2, and Academic Writing) offered at the department. So that I know the site and the students' writing problems very well.
5. Prior to the implementation of the research, permission was requested from the Head of the English department. The permission was to conduct and involve the students directly in the research, to obtain and used necessary data, facilities used and the administrative staff employed during the research. Agreement from the head of the department and the students were obtained. The students then signed a "Letter of Agreement" to be actively participated in the research and also signed by the head of the department.

Method

Data gathered from the instruments (Achievement test and Questionnaire) were analyzed quantitatively and qualitatively. There are two stages and their own procedures in the implementation of these mix methods.

The way the data were analyzed quantitatively was by applying correlation formula Kendal Thau-c and the analysis used for qualitative data was descriptive method. The way it is used is by describing the process of facts and phenomena found in the research as the way they are (Gay, 1981: 153).

Quantitative Method

In this stage, Cross-sectional study as one kind of observational research was used. This means that only students who have passed Academic Writing Subject in the 2008 – 2009 Academic Year were included and they were students who have completed their fifth semester. This design was meant to study the dynamic and variables included in this present research. Besides, it could show the relationship between independent variable and dependent variable. The independent variable in this current study was cognitive writing strategies. On the other hand, the dependent variable was the writing performance of the students. The independent variables and dependent variable were explored at the same time. The following explanation is the second stage of the implementation of the mix methods, that is qualitative method.

Qualitative Method

In the stage of qualitative method, the data obtained from the two instruments (Achievement Test and Questionnaire) for cognitive writing strategies were also analyzed and this was to complement data analyzed quantitatively, so that through analysis could be obtained.

Data for this research were directly collected from the students, assisted by two senior students. Three measurements were utilized: achievement test and questionnaire each instrument used was explained in details in the following section. Activities in the research were recorded, and note-taking.

Achievement Test

Achievement test is related directly to classroom lessons, units, or even a total curriculum. It is limited (Brown, 2004: p. 47.). It attempts to measure the mastery and proficiency of individuals in different areas of knowledge and it can be classified as standardized and teacher – or researcher-made (Ary, et al., 1979: 179). In this case, it was classified as researcher-made where the topic of the test was made by the researcher.

The test was conducted at the English Department. For this test, the subjects were asked to write about 300 words (about three paragraphs) and the topic was “Legislative Election in Indonesia (9th April 2009).” The topic was chosen based on the consideration that the legislative election was within the month this research was conducted. Besides, the students were directly involved in the election, so they could remember the event and have ideas in mind to write. The time allocated was 60 minutes as Oshima and Hogue (1999) suggest, twenty minutes per paragraph. The assessment of the test was based on 5 writing elements: Organization (Introduction, Body, and Conclusion); Logical development o ideas (Content); Grammar; spelling, and mechanics; Style and quality of expression, proposed by Brown & Bailey (2004: 244 -245) with some modification.

Questionnaire

Questionnaire was used to see whether or not the students applied cognitive writing strategies in their process of writing. The type of questionnaire used in this research was close-ended questions (taken from Setiyadi, 2006, p.81, with some modification), consisting of 10 questions covering seven essential cognitive writing strategies proposed by Mu 1999): generating ideas, revising, elaborating, clarification, retrieval, rehearsing, and summarizing; with five options using Likert' Scale.

Data Analysis

For analyzing quantitative data, SPSS Version 14 was applied and for qualitative data, descriptive analysis was used. Detailed explanation of each analysis is presented below.

Quantitative Data Analysis

The quantitative analysis used in this research was statistical analysis applying SPSS for Windows Version 14, more specifically, using a test introduced by Kendall Thau-c (1983). This was to analyze the relationship between independent variable (cognitive) and dependent variable (writing performance). For sample more than 30, the distribution is closed to normal, so that the parameter used is Z standard value where the value of $\alpha = 0.05$ and the value ≥ 1.96 . The evaluation of relationship significance between variables is done through p value (≤ 0.05).

On the other hand, the size of correlation between the independent and dependent variable is evaluated by using Kendall Thau-c Index (ρ) which gives meaning to the size of ordinal (contribution) of independent variable toward their dependent variables. The evaluation of whether or not data distribution is normal in the sample, the data are evaluated through the result of approximate test of T score which resulted from Kendall thau-c test, where this estimation is based on the assumption that null hypothesis distributes normally in the population. Based on this consideration, all variables where their relationships are evaluated, should always follow the rules of normal distribution.

However, all data in this method used were first tabulated. The names of the students were kept confidentially; therefore, their names were converted to code number (1, 2, 3, and so on). The following is the explanation about the technique of analysis of each instrument for quantitative data.

Achievement Test

Achievement test was assessed based on the five (5) elements of writing rating scale proposed by Brown & Bailey's (1884). Each element scored from 1 – 5 and the score of each element was added up for further statistical analysis mentioned above.

The test result was used to group the students and there were three groups: Group 1 was students in the "High Category" whose test score ranged from 14 to 22 (5 students); Group 2 was students in the "Moderate Category (the focus of the research) whose test score ranged from 10 – 13 (37 students); and the last group, that is Group 3 were students who fell into "low category," whose score ranged from 8 – 9. Then the data were coded and tabulated for statistical analysis.

Questionnaire

Data gathered from questionnaire (ten close-ended questions) for cognitive writing strategies were grouped according to their choice of answers which were five options (1 = Never; 2 = Seldom; 3. Cannot Decide; 4 = Often; 5 = Always). This was to see which option was the most frequently chosen by the students. Then, the data were tabulated for statistical analysis.

Qualitative Data Analysis

All data obtained from the quantitative analysis which could not be analyzed quantitatively, were analyzed qualitatively.

Findings

This research was conducted at the English Department Faculty of Letters Hasanuddin University. The collection of sample started from 16 April to 8 May, 2009. The observation unit (respondent) in this research was students of English department who have passed Academic Writing Subject in 2008 – 2009 Academic year. Whilst its unit of analysis was cognitive and meta-cognitive writing strategies as well as all dependent variables related to the writing strategies, in this research, only one dependent variable that is the students' writing performance.

After doing the checking of the results concerning the answers of all instruments used and other sample requirements, all students in the moderate category (37) in fact, fulfilled the requirements to be included in the data processing and analysis. The instruments used to collect data for the independent variable were achievement test and questionnaire.

From the results of data processing, between independent and dependent variables, the data then presented in both descriptive tables (without statistical testing) and analysis tables (with statistical testing). Based on the research objectives which would be achieved in this research, there is one major variable: Cognitive writing strategies which are presented in detail in the following section.

Variable of Cognitive Writing Strategies

Writing means translating one's ideas or concepts from our minds in the written form. The translation of ideas or concepts can be done by some alternatives, such as writing (written), speaking (oral), non-verbal communication (gesture, attitude, motive). In this research, translating ideas or concept from the minds are only directed specifically to the writing strategies, by considering that the mission as a teacher in language education, particularly in English education, writing and writing strategies are very crucial elements.

Besides, the problem which also occurred in the students' writing is writing strategies where these strategies according to Chien (2007) are the key approach to promote writing. The measurement parameters used in this case were two instruments: achievement test and questionnaire. Cognitive writing strategies is stated as the independent variable and the way it is measured is by using the above instruments.

After conducting the research, processing and analyzing the data systematically, the results were obtained and are presented in the tables below.

Achievement Test

It is a tool of measurements used in this research. This test was used for two purposes. One was to know the writing ability of the students; two, to group the students based on their test result, so that Moderate Achiever Writers could be obtained.

Table 1. Distribution of Cognitive Writing Strategies Based on Achievement Test Results

Cognitive Writing Strategies Obtained from Achievement Test	Frequency (n)	Percent (%)
Very Good	14	37.8
Good	21	56.8
Fair	2	5.6
Poor	0	0.0
Very Poor	0	0.0
Total	37	100.0

Table 1 indicates that cognitive writing strategies of the students obtained from the results of their achievement test vary from "Can't decide" (5.6%) to "Good" (56.8%), and "Always" (37.8%). None of the students is in the category of "Poor" and "Very Poor." The majority of the students are in the category of "Good" (56.8 %).

Questionnaire

It is another tool of measurement used in this research. The results are presented at the table below:

Table 2. Distribution of Cognitive Writing Strategies Obtained from Questionnaire

Cognitive Writing Strategies Obtained from Questionnaire	Frequency (n)	Percent (%)
Always	11	29.7
Often	18	48.6
Cannot Decide	8	2.6
Seldom	0	0.0
Never	0	0.0
Total	37	100.0

Looking at cognitive writing strategies of the students, table 2 provides information that their cognitive writing strategies vary from the lowest is in the category of “Can’t decide (2.6%), Often (48.6%), and Always (29.7%). The majority of the students’ cognitive writing strategies are in the “Often” category. The reality implies that whatever the instruments used to know or detect their use of cognitive writing strategies in their process of writing, the result will not be so much different.

If we look at the result of their achievement test analysis based on writing elements (Organization, Logical Development of Ideas, Grammar, Mechanics; and Styles & Quality of Expression). Table 5 below provides information on achievement test result which is related to the five writing elements as presented in the following table.

Table 3. Distribution of Achievement Test Result Based on Writing Elements

Writing Elements	Achievement Test Result										Total	
	Very good		Good		Fair		Poor		Very poor			
	n	%	n	%	N	%	n	%	N	%	N	%
Organization (Introduction, Body, Conclusion)	0	0.0	23	62.2	13	35.1	1	2.7	0	0.0	37	100.0
Logical Development of Ideas (content)	0	0.0	27	73.0	10	27.0	0	0.0	0	0.0	37	100.0
Grammar	0	0.0	35	94.6	2	5.4	0	0.0	0	0.0	37	100.0
Mechanics	0	0.0	19	51.4	18	48.6	0	0.0	0	0.0	37	100.0
Styles & Quality of Expression	0	0.0	31	83.8	6	16.2	0	0.0	0	0.0	37	100.0

From the organization point of view in the writing process of the students, (Introduction, Body, Conclusion), 23 (62.2%) out of 37 observed students are in the "Good" category and 13 (35.1%) students are in the "Fair" category. 1 student (27%) is in "Poor" category. None of the students is in other categories like "Very good," and "Very poor." The same thing happens in the element of Logical Development of Ideas. In this case, the content is only distributed to two categories: "Good" 27 students (73.0%) and "Fair" 10 students (27%) with the highest percentage is in the category of "Good" (73.0%). Next, it also occurred in "Grammar" element which occupies the biggest number of students, 35 students (94.6%) are in "Good" category. The smallest number of students is in "Fair" category for their Grammar, 2 students (5.4%). Whereas, in "Mechanics" element, none of the students is in "Very Good," "Poor," "Very Poor" category. However, there are 19 students (51.4%) in "Good" category and 18 students (48.6%) for their "Mechanics" element. None of the students is in "Very Good," "Poor," and "Very Poor" category. Finally, the last element that is Style and Quality of Expression shows that 31 students (83.8%) are in "Good" category, 6 (16.2%) are in "Fair" category. In contrast, none of the students is in "Very Good," "Poor," and "Very Poor" category.

The Analysis of Variables Relationship.

The relationship between Independent variable (cognitive writing strategies) and dependent variable (writing performance) obtained from the two instruments (achievement test and questionnaire) was analyzed by applying Kendall Thau-c test (analysis). The analysis was used because this test was able to analyze the test result gradually. For example, Very Good to Very Poor or Always to Never. For sample more than 30 the distribution is closed to normal, so that the parameter used is Z standard value where the value of $\alpha = 0.05$ and the value ≥ 1 . The evaluation of relationship significance between variables is evaluated through p value (≤ 0.05). While the correlation between independent and dependent variable is evaluated by applying Kendall Thau-c Index (p) which gives meaning to the ordinal (contribution) of independent variable to dependent variable. The evaluation whether or not data distribution is normal in the sample the data are evaluated through the result of approximate test of T score which resulted from Kendall Thau-c test where this estimation is based on the assumption that null hypotheses distributed in the population. Based on this consideration all variables that the relationship will be evaluated should always follow the rule of normal distribution. The variables that the relationship will be evaluated are shown in the following table.

The Correlation between Cognitive Writing Strategies and Writing Performance Obtained from Achievement Test

Table 4. The Correlation between Cognitive Writing Strategies and Writing Performance Obtained From Achievement Test

Cognitive Writing Strategies Obtained from Achievement test	Writing Performance						Statistical test result				
	Very good		Good		Fair		Number		Kendall thau-c	Norm a-lity	Signif
	n	%	n	%	N	%	N	%			
									0.114	1.041	0.298

Very Good	7	22.6	16	51.6	8	25.8	31	100.0			
Good	1	33.3	2	66.7	0	0.0	3	100.0			
Fair	0	0.0	0	0.0	3	100.0	3	100.0			
Total	8	21.6	18	48.6	11	29.7	37	100.0			

The 31 students who are included in "Very Good" category based on the students' ability of cognitive writing strategies, 7 of them (22.6%) are in "Very Good," 16 (51.6%) are "Good," and 8 students (25.8%) are in "Fair" category for their writing performance. Moreover, 3 students are in "Good" category for their cognitive writing strategies, 1 of them (33%) is in "Very Good" category, 2 (66.7%) are in "Good" category and none of them is in "Fair" category for their writing performance. Next, 3 students are in "Fair" category for their cognitive writing strategies, and all of them are in "Fair" category for their writing performance. None of the students falls in "Very Good" and "Good" category for their writing performance.

The result of the analysis shows that $\text{Thau-c}(\zeta) = 0.114 < \text{score of Z standard} = 1.96$ with significance level is 0.298. The rank of ordinal scale in the independent variable is evaluated by using Somers' d test (analysis).

The Correlation between Cognitive Writing Strategies and Writing Performance Obtained from Questionnaire

Table 5. Correlation between Cognitive Writing Strategies and Writing Performance Obtained from Questionnaire

Cognitive Writing Strategies Obtained from Questionnaire	Writing Performance						Number		Statistical test result		
	Very good		Good		Fair				Kendall thau-c	Normality	Signif
	n	%	N	%	N	%	N	%			
Always	2	100.0	0	0.0	0	0.0	2	100.0	0.703	7.041	0.000
Often	6	28.6	14	66.7	1	4.8	21	100.0			
Cannot Decide	0	0.0	4	28.6	10	71.4	14	100.0			
Total	8	21.7	18	48.6	11	29.7	37	100.0			

The 2 students who are included in "Always" category based on the students' ability of cognitive writing strategies obtained from questionnaire are in "Very Good" category (the same scale) for their writing performance. None of the students in the category fall in "Good" and "Fair" category for their writing performance. Next, 21 students are in "Often" category, 6 (28.6%) are in "Very Good" category, 14 (66.7%) are in "Good" category, and 1 (4.8%) is in "Fair" category for their writing performance. Furthermore, 14 students are in "Cannot Decide" category for their cognitive writing strategies while 4 of them (28.6%) are in "Good" category, and 10 students (71.4%) are in "Fair" category for their writing performance. None of them is in "Very Good" category.

Actually, there are two more categories each: Seldom and never; and Poor and Very Poor; however, since no students under the categories (Zero) and for the purpose of practicality, they are omitted from the table.

The result of the analysis shows that $\text{Thau-c } (\zeta) = 0.703 > \text{score of Z standard} = 1.96$ with significance level of 0.000. The rank of ordinal scale in the independent variable which is evaluated by using Somers' D test (analysis) seems to be symmetrical with level of significance is 0.000. This means that the rank of the scale of cognitive writing strategies variable and the results of writing performance are significantly correlated. The correlation between cognitive writing strategies obtained from questionnaire and writing performance of the students are evaluated by using Kendall Thau-c shows the result of $\text{Thau-c } (\zeta) = 7.041$. This score implies that the contribution of cognitive writing strategies obtained from questionnaire to the students' writing performance is 70.3%.

Discussion

The findings of this current research indicate that cognitive writing strategies correlate with the students' writing performance, although their relationship is not all significant. This implies that there are other factors which also affect the writing performance of the students where in this research are not explored. For example, their linguistic knowledge, culture, etc. Mu's (2007) findings indicate that metacognitive and cognitive writing strategies mostly affect students' performance. In line with Mu's findings, this research also shows quantitatively, the correlation between writing strategies and the writing performance of the moderate achiever writers.

The findings indicate that the distribution of cognitive writing strategies obtained from the two instruments used (See tables 1 and 2) show that the highest level of cognitive writing strategies ability the students can achieve is in "Good" category. This means that whatever instruments used to measure their cognitive writing strategies the results will be more or less the same.

Next, in connection with the result of their achievement test which is evaluated based on the five elements of writing (Organization, Logical Development of ideas, Grammar, Mechanics, and Styles & Quality of Expression), it indicates that the majority of the students basically, have no problem with Grammar (See Table 4) although their level of Grammar ability is in "Good" category, not in the "Very Good" category. This is interesting because it proves that the students focus more on grammar rather than organization and content where in writing assessment, organization and content usually get higher score than Grammar. This further explains that the moderate achiever writers spent their time more on surface level rather than organization and content. Previous research findings indicate that low achiever (novice writer) satisfied with scratching the surface, like grammar and they do not try to examine a problem in depth (mhtml:file://G:/2009) such as organization and content. As comparison, high achievers pay attention more on organization and content. Although the example refers to low achievers, their way of dealing with writing is the same as the way the moderate achiever writers reacts in writing. Moderate achiever writers' writing is closer to the low achievers rather than to the high achievers.

Between the two instruments used to measure the correlation between cognitive writing strategies and their writing performance, questionnaire shows significant correlation with level of significance is 0.000 (significant), and the contribution of cognitive writing strategies to the writing performance of the students obtained from the results of the questionnaire is 70.3% (strong) (See Table 5) compared to the other instrument, that is achievement test. According to

Lemeshe (1987), the contribution ranged from 0 - 25 is weak; 25 – 50 is moderate; 50 – 75 is considered strong, and 75 - above is perfect. The correlation between cognitive writing strategies and writing performance obtained from the achievement test results is 0.298 (not significant) and the contribution of cognitive writing strategies obtained from the achievement test to the writing performance of the students is 11.4% (weak).

Although the correlation above is not significant, it does not mean that there is no correlation at all. There is correlation but does not reach the point to be considered significant. In order to state a variable has correlation, it is basically affected by three factors: measurement used; the person who does the measurement and the object being measured (Lemeshe, 1987). Based on the rule, it can be said that the insignificance and the weakness of the instruments is caused by the factor (s). This needs further research. This is the characteristic of quantitative method because it cannot dig further down since its orientation is population and provides one conclusion. In contrast, qualitative method is able to explore those problems. Therefore, in this research, qualitative method is also used. The findings which cannot be explained by qualitative method is explained qualitatively in the following section.

Theoretically, if one has good ability of cognitive writing strategies, his/her writing performance is normally good as well. However, the theory is not fully true. The theory might be applicable for first language learners of English (L1). There are eight students whose cognitive writing strategies are in "Very Good" category, however, their writing performance obtained from achievement test are in the "Fair" category. This deviates far from normal. Ideally, if their writing strategies are very good, their writing performance should be very good too. Qualitatively, this implies that they know the strategies but they cannot apply the strategies appropriately. This is based on what students say that *"We know the rules/strategies if we follow them we need more time to do our tasks."*

There is also one student whose cognitive writing strategies is in "Good" category but the student's writing performance obtained from the questionnaire is in the "Fair" category. It means that their relationship is not normal or asymmetrical. The theory might be applicable for first language learner of English, the finding like this cannot be analyzed quantitatively, however, it can be further analyzed through qualitative analysis. This is the benefit of doing triangulation. From the student's answers in the questionnaire the cause of the problem can be detected. The student says: *I seldom clarify problems occurred in my writing.* This implies that although we have the ability of the strategies but they are not employed consistently, the strategies will give negative contribution to our writing performance.

Furthermore, there are four students whose cognitive writing strategies are in "Can't Decide" category but their writing performance obtained from the questionnaire fall into "Good" category. This is not normal, in other words, it must be something wrong here. Ideally, they should also be in "Fair" category. The problem can be explored in the results of their questionnaire where their answers reflect their ability of cognitive writing strategies. Basically,, they say that: *I seldom clarify problems occurred in my writing but I often generate ideas (brainstorm) before I start writing.*

This shows that although their ability of cognitive writing strategies in "Fair" category, but actually, they have a little knowledge of the strategies and aware of the benefit, it affect their writing performance positively.

Conclusion

Although the two instruments used in the research, only questionnaire shows the correlation between cognitive writing strategies and the students writing performance is significantly correlated, however, it does not mean that the achievement test has no correlation. Actually, there is correlation but it does not reach level to be considered significant. Next, it is very obvious that cognitive writing strategies obtained from achievement test and questionnaire contribute to the students writing performance, although the contribution of the achievement test is weak. In contrast, questionnaire's contribution is strong. In addition, qualitatively, there are students who are (not) aware and inconsistently use the strategies and these affect their writing performance positively and negatively. Finally, it is recommended to explore other writing strategies, such as metacognitive, rhetoric, and social/affective writing strategies to get a broad view of our EFL learners' understanding and application of those strategies.

About the Author:

My name is Andjarwati Sadik, lecturer at English Department Faculty of Letters Hasanuddin University Makassar, South Sulawesi, Indonesia. M.Ed. in Higher educational Administration, Washington State University, USA; Dip. TEFL. and M.Ed in TESOL Sydney University; DR in Linguistics Hasanuddin University. Head, Language Centre Hasanuddin University, 2010 - present

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