

# The Use of Metacognitive Writing Strategies for Vocational High School Students

## *A Mix-Method Study of Gender Difference*

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### ABSTRACT

In the endeavor of increasing the country's rank on PISA, Indonesia continues to develop a curriculum in its teaching-learning process. Teachers are proposed to adapt the curriculum based on the aim of the course and students' background knowledge. English literacy, a part of PISA assessment components, is the focus of the present study. Developing metacognition in English writing strategies - *planning, monitoring, evaluating* for high school students would present a fruitful impact since they can select their effective strategies. The objective of this study is to examine if the use of metacognitive writing strategies between male and female vocational high school students would reveal a significant difference, and how it works. The mixed-method that included a questionnaire and semi-structured interview was the research design. The participants were divided into male writers (N=4) and female writers (N=10) for participating in a two-week study. Subsequently, the collected data were analyzed in the Independent t-test on SPSS for questionnaire, and interpreting the audio recording transcription was for analyzing semi-structured interview data. The quantitative study showed that the use of metacognitive writing strategies between male and female vocational high school students was not significantly different. The semi-structured interview had the same results. These triangulation results led to the positive findings that students' genders do not contribute differently to their use of metacognitive writing strategies; however, both male and female writers have used all components of metacognitive writing strategies.

**Keywords:** *Gender difference, metacognition, metacognitive writing strategies, writing.*

### 1. INTRODUCTION

PISA assessment provides the participating countries to continue evaluating their curriculum according to life learning. This value is the assessment for each participating country to see the quality of learning compared to other countries (OECD, 2018). Since its participation in 2000, Indonesia's rank on PISA has indicated that both the quality of students' learning and the curriculum of education need to improve. Therefore, recently, the curriculum development of education in Indonesia has been focused on improvement based on PISA results. Revision of curriculum – curriculum development is now the main aim of the Ministry of Education and Culture of Indonesia for coping Indonesia's literacy into higher quality and PISA rank in the upcoming year (Pratiwi, 2019).

To improve this aspect of literacy, teachers are expected to adapt the curriculum so that they can help students to have adequate literacy in solving problems.

Despite its major role, however, some studies found that not many teachers in Indonesia adapt curriculum satisfactorily (Laurillard, 2013). This is probably because of the use of the exclusive curriculum in Indonesia (Mukminin et al., 2019). The exclusive curriculum demands textbook-centered with upper facilities in learning whereas one of the reasons underlying this finding was different class sizes and the low of teachers' ability in curriculum adaptation that contradicted with the exclusive curriculum. At the end of instruction, the teacher cannot apply curriculum adaptation. To overcome this issue, the rights-based approach that focuses on students' needs rather than restricted to the curriculum is recommended to be developed, later considered as an inclusive curriculum. Teachers have a role to construct the learning in the class according to the student's background and their level of proficiency since the method of teaching is not constant. The adaptation of curriculum is needed to have the appropriate learning instruction (Polat, 2011).

Literacy skills are closely related to writing. As such it is recommended to teach writing strategically. The strategies in writing vary. In the ACT model by Anderson, metacognitive strategies are considered as the recognition of students' responsibility in their learning; it can be before, during, and the end of the learning. They are categorized into three main components – *planning, monitoring, and evaluating* (O'Malley & Chamot, 2001). Evaluating and creating Higher Order Thinking on Revised Bloom's Taxonomy include those three components of metacognitive strategies (Anderson & Krathwohl, 2001). Metacognitive writing strategies play a part in students' writing strategies selection. When they have applied those to their writing strategies, they can differentiate the effective strategies that they need in the time of planning, monitoring, and evaluating the writing task. It is no wonder that metacognitive writing strategies in English learning are the most used by vocational high schools (Sukarni, 2018).

Studies on writing have shown that gender is one of the factors in students' writing achievements that handles the cognition roles in any age. Female students tended to have higher writing performances than male students (Castro & Limpo, 2018). While students in Indonesia have a balanced portion on writing performances. Female students outperformed cognitive, compensation, and effective strategy than male students, and male students outperformed memory, metacognitive, and social strategy than female students (Mahmud & Nur, 2018).

Departing from the practice of metacognitive writing strategies and gender roles, this present study is to investigate whether there is a significant difference between male and female writers in the use of metacognitive writing strategies, and how it works. It is hoped that by elaborating on the role of gender difference in using metacognitive writing strategies, this study is beneficial for providing better writing learning instruction as the application of curriculum adaptation.

## 2. METHOD

The researcher selected a mixed-method as the research design. It was conducted in a questionnaire and a semi-structured interview. The adapted questionnaire was from two references, Mohite's (2014) and Moqbali et al. (2020) questionnaire. The need was to select metacognitive writing strategies among other strategies and translate them into Bahasa – the mother language of participants. According to the initial aim of the study, the questionnaire was to investigate whether there is a significant difference between male and female writers in the use of metacognitive writing strategies. The questionnaire contained nine items for *planning* strategies, six items for *monitoring* strategies, and five items for *evaluating* strategies. Then, a semi-structured interview was for seeking a stronger factor of the questionnaire finding and triangulation as if there is a

positive agreement between questionnaire finding and the interview data. Triangulation in the study is crucial for ensuring the validity of the study (Dörnyei, 2007). One of the ways to accomplish this is combining quantitative and qualitative methods for seeking whether there exists a positive finding or not. Separating time between two research designs is recommended to do as it will represent students' honest answers (Mohite, 2014). Therefore, the researcher gave approximately four weeks between questionnaire and interview. By doing so the researcher would seek the honesty of participants' answers through combining the answer in the questionnaire and interview.

The participants of the study were fourteen vocational high school students. They were in Grade 10. All students participated in filling up the questionnaire whereas two students, representing a male and a female writer, participated in interview research. The researcher used purposeful sampling for selecting the sample in the interview. The criteria were the most knowledgeable students and willing to participate in the study. Fifteen questions were provided and per-question represented a sub-strategy. The questionnaire contained five sub-strategies for each strategy in metacognitive writing strategies. Even though the strategies are for English as Foreign Language (EFL) learners, the students were allowed to answer the questions in Bahasa. This interview was run on audio recording on a chatting application – WhatsApp Voice Notes, for maintaining students' answers in their best condition and atmosphere.

Techniques of data analysis for the questionnaire used SPSS of Independent t-test, and interpreting transcription of audio recording was for interview data analysis. Aside from triangulation, interview data analysis also summarized the strategies used for both genders – if both used all the representing strategy components and the most needed improvement for the students.

## 3. FINDINGS AND DISCUSSION

This was a mixed-method study incorporating a questionnaire as the quantitative approach and a semi-structured interview as the qualitative approach.

### 3.1. Questionnaire Result

Within the framework quantitative approach, the researcher collected data from the questionnaire's responses. The total of the whole strategies score is 110, and the mean of students' scores was 85.58. The students reached 77.8% of metacognitive writing strategies used from the total score of strategies. Students who filled up the questionnaire were considered at an intermediate level in the use of writing strategies. Regarding the answering objective of the study, the exact analysis of the data is shown in Table 1 to Table 4.

**Table 1.** Independent T-test for the use of planning strategy on metacognitive writing strategies

	Male	Female
N	4	10
$\bar{X}$	34.75	32.60
s	7.762	6.851
t	.513	.484
Sig. (2-tailed)	.618	.649

Significant value level at the 0.05 level (2-tailed)

**Table 2.** Independent T-test for the use of monitoring strategy on metacognitive writing strategies

	Male	Female
N	4	10
$\bar{X}$	23.00	24.50
s	5.099	3.274
t	-.665	-.545
Sig. (2-tailed)	.519	.614

Significant value level at the 0.05 level (2-tailed)

**Table 3.** Independent T-test for the use of evaluating strategy on metacognitive writing strategies

	Male	Female
N	4	10
$\bar{X}$	28.75	28.10
s	5.795	4.332
t	.232	.203
Sig. (2-tailed)	.821	.848

Significant value level at the 0.05 level (2-tailed)

**Table 4.** Independent T-test for the use of overall strategy on metacognitive writing strategies

	Male	Female
N	4	10
$\bar{X}$	86.50	85.20
s	18.339	12.882
t	.152	.130
Sig. (2-tailed)	.882	.903

Significant value level at the 0.05 level (2-tailed)

Based on Table 1, the mean of the use of planning strategies for male writers is 34.75 while 32.60 with t value .513 and .484 respectively. They both had the same higher than .05 significant value, .618 for male writers and .649 for female writers. Those indicated that there was no significant difference between male and female writers in the use of planning strategies.

Subsequently, both male and female writers also used monitoring strategies without significant differences, for their significant values are higher than the significant value level ( $\alpha > 0.05$ ) .519 for male writers and .614 for female writers.

Table 3 showed that t values of the use of evaluating strategy on metacognitive writing strategies for male writers ( $t=.232$ ) and female writers ( $t=.203$ ) had

significant values .821 and .848. It revealed that both genders did not affect their use of evaluating strategies.

After comparing two means between gender difference and their use of each strategy in metacognitive writing strategies (*planning, monitoring, and evaluating*), it was later compared between gender difference and their use of overall strategies in metacognitive writing strategies. As Table 4 revealed, all significant values for both genders are higher than the significant value level - male writers (sig (2-tailed)= .882), female writers (sig (2-tailed)= .903), These accorded to three previous data analyses for each strategy that writers' gender did not contribute any significant difference on their use of metacognitive writing strategies.

This finding can be related to other findings of performance in writing. Aripin and Rahmat (2021) found that the use of metacognitive writing strategies was different between male and female writers for university students. However, the present study showed that gender does not contribute significantly to their use of metacognitive strategy. Instead, the present study shows similar results to other research on high school students' performance in writing. For example, De Smedt et al. (2018) reported that higher school students did not perform their writing abilities toward gender difference in their mother language and second or foreign language. In addition, in the study of the quantitative approach, high school students in low and high writing achievements who utilized metacognitive writing strategies did not perform a significant difference on their writing achievements (McFarland, 2013). In other words, the present study completes the findings from the number of sources of research that both gender difference and students' achievements do not reveal a significant difference in their use of metacognitive writing strategies.

### 3.2. *Semi-structured Interview Result*

To ensure the validity of the research, the triangulation of data sources is necessary as part of a qualitative approach. In addition to the statistics result of the questionnaires, this study also cross-checked it with an interview with the participants. The major aim of conducting this interview was to ensure whether interview findings showed a positive finding to questionnaire findings. One male and one female writer were asked further about their answers to fifteen questions provided. Out of fifteen strategies, the male writer used eleven strategies, whereas ten strategies were used by the female writer. It concluded the same agreement to the questionnaire findings that there was no existing significant difference between a male and female writer in their use of metacognitive writing strategies.

This finding implies two notions. First, it is the opposite of Aripin and Rahmat's (2021) finding that female university students outperformed better using metacognitive writing strategies than male students in the qualitative study (Think Aloud Protocol). At the same time, it confirms the other research on high school students' writing as has been mentioned in the previous section. Second, this could be the limitation of the present study as it did not analyze deeper into the context of the research. A more detailed method of qualitative research design for further research possibly could give a better description of the analysis. Hence, the suggestion has already been applied to this study.

However, aside from no significant difference in the use of metacognitive writing strategies by male and female writers, the researcher recapitulated several strategies that they expressed the same. These could answer how both genders use metacognitive writing strategies in the same way.

In the question "Which one would you like help with: grammar, vocabulary or finding ideas and organizing them?" male and female writers selected finding ideas and organizing them. It stands as the core of the issue to have better use of metacognitive writing strategies. Once students have expressed their problems in English writing class, the teacher would more easily adjust the strategies for expanding teaching needed by them.

Later, in the question "How do you revise your written work and how much time does it take you? Why?" Both students expressed that they checked their writing a lot before submitting. It showed that despite the lack of finding ideas and organization, they have the intention to present the best in their writing. This motivated the researcher to figure out the solution to the issue mentioned.

The question "Would you find it useful to be given a guide of what to write in each paragraph? Why?" is to overcome the issue. Both male and female writers showed that they agreed that a guide for each paragraph would help them to improve their writing. The urgency for the teacher in that class is to provide or develop writing guidelines that cover steps of per paragraph writing. With these three questions, it gathered students' problems along with the solution.

Both questionnaire and semi-structured interview results shared the same statement that male and female writers used metacognitive writing strategies in the same way. All statements which they answered represented a similar agreement. Furthermore, the teacher is prompted to introduce metacognitive writing strategies to the students without any special distinction between genders. That will be more ready for the teacher in processing

class instruction referred to students' needs and certain goals in English subject.

The teacher can now focus on how to construct the class instruction of English writing as a foreign language to the students. The core writing strategies to teach ought to be three strategies that were gathered in the previous discussion. Those stand for the most similar agreements for both genders, and involve them in learning after the curriculum adaptation phases should establish students' better writing performances.

Hence, it concluded that indeed no significant difference between male and female writers in the use of metacognitive writing strategies. However, it should be noted that the students have recognized the problems in writing and used the strategies that would work for their better writing. This includes the goal of inserting metacognition in learning strategies.

Concerning the importance of writing to improve literacy as part of PISA's assessment, the present study sheds light on how to make use of writing strategies. It has been proven in this study that both male and female writers have shown awareness of the stages of planning and evaluating their writing. This finding implies that metacognitive writing strategies enable students to critically evaluate what they have done. This is a positive notion of literacy, which, if handled well by the teachers, may pave the way for higher literacy skills.

#### **4. CONCLUSION**

This study aims to find out whether there is a significant difference between male and female high school writers in using metacognitive writing strategies. The findings reveal that there is no significant difference between male and female writers in the use of metacognitive writing strategies. However, they have already used metacognition in their writing strategies.

If teachers compose the instruction as students' needs on the use of metacognitive writing strategies, then the students will have more possibility of writing improvement, both male and female students. The instruction that is rooted in students' needs has the potential to form what students want to achieve in writing. It later will establish good awareness of metacognitive writing strategies for both students, male and female writers.

For further research, seeking whether writing guidelines will contribute to students' writing improvement is the advanced research idea. In addition, a depth-original trusted analysis is needed on that research; thus, qualitative research design with limited time provided for each question's answer - particularly Think Aloud Protocol (TAP), is needed to be considered by the further researcher.

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