



P-ISSN 2355-2794
E-ISSN 2461-0275

Metacognitive Reading Strategies Awareness and Metacognitive Reading Strategies Use of EFL University Students across Gender

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Abstract

This study investigates EFL students' metacognitive reading strategies awareness and their metacognitive reading strategies use. It also compares female and male EFL students in terms of their metacognitive reading strategies awareness and metacognitive reading strategies use. The quantitative research method is used through the survey research design. The study involves 53 undergraduate students, consisting of 33 females and 20 males. The data are collected by using a questionnaire of Metacognitive Awareness of Reading Strategy Inventory (MARSIR inventory) developed by Mokhtari et al. (2018). The strategies on the MARSIR inventory were scored on 1-5 scales. The data were analyzed through a simple calculation to find out the level of awareness of the students, and the statistical test of independent sample t-test were conducted to know the difference between females and males. The results show that all of the students possess high metacognitive reading strategies awareness, indicating high metacognitive reading strategies use. Despite there is a different level of awareness between female and male students, further analysis using an independent sample t-test shows that the level of awareness between the two is .742 ($p > 0.05$), meaning that the difference is not significant. The result of the research also shows that there are no significant differences in all subscales of metacognitive reading strategies use across gender. The p-value for global reading strategies is .224, for problem-solving strategies is .486, and for support reading strategies is .249. Thus, gender plays no role in determining the metacognitive reading strategies awareness and metacognitive reading strategies use.

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Citation in APA style: Deliany, Z., & Cahyono, B. Y. (2020). Metacognitive reading strategies awareness and metacognitive reading strategies use of EFL university students across gender. *Studies in English Language and Education*, 7(2), 421-437.

Received June 19, 2020; Revised August 1, 2020; Accepted August 8, 2020

<https://doi.org/10.24815/siele.v7i2.17026>

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Keywords: Metacognitive reading strategies awareness, metacognitive reading strategies use, EFL students, gender.

1. INTRODUCTION

Metacognition has been considered as one of the important factors in determining reading comprehension. This is because metacognition plays a vital role in cognitive activities in learning, including comprehension of textual information. The application of metacognition in reading is actualized in the form of strategy. Many researchers conduct studies on metacognitive reading strategies the readers use. Studies pertinent to metacognitive reading strategies awareness and metacognitive reading strategies use have been conducted in different contexts and involved various subjects (Alami, 2016; Charoenchai & Carmeesak, 2017; Abu-Snoubar, 2017; Aktar & Ahmed, 2018; Wudeneh, 2018; Dardjito, 2019; Sheikh et al., 2019; Teng, 2020). Other streams of research focus on the role of metacognitive reading strategies in predicting students' literal and higher-order reading comprehension (Ghaith & El-Sanyoura, 2018), the teaching of reading strategies (mainly cognitive and metacognitive reading strategies) for English as a second/foreign language (ESL/EFL) students (Ali & Razali, 2019), the effects of metacognition and proficiency on EFL reading performance, and the relation between metacognition and EFL reading performance (Öztürk & Senaydin, 2019).

Zhang (2018) conducted a study that focused on gender differences in metacognitive and cognitive strategies use and reading test performance. These studies indicate that the field of metacognition simultaneously grows over time. Besides, metacognition is a part of higher-order skills which nowadays become one of the demands of 21st-century learning. This study was done to map out the students' metacognitive reading strategy awareness and perceived use of the strategy to enrich the repertoire of reading research by providing an overview of students' metacognitive reading strategy awareness at the tertiary level in Indonesia. The focus is on the relationship between metacognitive reading strategy awareness and use across gender. Gender is considered as one of the distinctive factors in determining reading comprehension, so it is essential to be explored as well.

Meanwhile, in Indonesia, few studies have been reported in giving a picture of how students are aware of using metacognitive reading strategies. At the same time, awareness is essential to the students' self-regulation and self-monitoring. Accordingly, this study tries to answer the following research questions:

1. How is EFL students' metacognitive reading strategies awareness?
2. How is EFL students' metacognitive reading strategies use?
3. Is there any difference in the metacognitive reading strategies awareness of female and male EFL students?
4. Is there any difference in the metacognitive reading strategies used by female and male EFL students?

2. LITERATURE REVIEW

Reading is one of the language skills which need to be mastered by students of English as a foreign language (EFL) besides listening, speaking, and writing skills. Reading skills can be achieved overtime when the readers are able not only to understand the meaning from the reading text but also to employ a strategy in their reading. It has been known that strategic readers tend to achieve better comprehension than those who do not orchestrate any strategy in their reading (Soodla et al, 2016). This happens because, during reading, the readers may face difficulties so that using strategies will be helpful to tackle the problem. Zhang (2018) asserted that strategic readers automatically and unconsciously use reading strategies as they have frequently practiced them.

The practice of using reading strategies cannot be separated from the role of metacognition: knowledge of cognitive processes and products which includes reflection on one's thoughts (Zhang, 2018) or capacity to manage the thinking process to achieve goals (Dardjito, 2019). When readers face difficulties in reading and then decide to choose the appropriate strategy to tackle the obstacles, they have been aware of their reading. Their awareness of such situations comes from their awareness to manage and monitor the cognition process in their reading (Dardjito, 2019). When readers can solve a problem, they have utilized the strategy of self-monitoring (Shih & Huang, 2018). Besides, they also have self-management; metacognition that plays a role to help regulate the readers' cognitive aspects of problem-solving (Zhang, 2018). Briefly stated, skilled readers, involve metacognition in their reading.

2.1 Metacognitive Reading Strategies Awareness and Use

The implementation of metacognition in reading is actualized in the form of metacognitive reading strategies. There are four components of metacognition, namely metacognitive knowledge, metacognitive experiences, objectives, and strategies (Duman & Semerci, 2019). The readers' use of strategy is built on their metacognitive knowledge; a prerequisite for the appropriate deployment of metacognitive strategies that support reading comprehension through its improvement (Soodla et al., 2016; Zhang, 2018).

Metacognitive strategy in reading has different classifications. According to Mokhtari and Sheorey (2002), metacognitive reading strategies consist of three strategies: Global Reading, Problem-Solving, and Support Reading. Global Reading strategies help the reader in stating the purpose of their reading which influences vocabulary improvement and the grasp of information on specific topics. Problem-solving strategies concern the way readers solve the problem faced in reading a difficult text by adjusting the reading speed, rereading the text, reading aloud, and guessing the meaning of the difficult words. Support reading strategies provide the readers with extra reading techniques to be applied in their reading by using some reference materials. According to Abu-Snoubar (2017), the concept of metacognitive reading strategies means that the readers are mentally active in regulating and monitoring their reading comprehension process. Readers regulate their reading through global reading strategies in the first stage of reading which can be assumed in pre-reading activities. Meanwhile, whilst reading, the readers implemented problem-solving strategies if they face any difficulties or distractions. Support reading strategies

are done in the post-reading activities to enhance comprehension. However, it cannot be said that the implementation of the metacognitive reading strategy is restricted to the reading stage. The strategies may use in any stage of reading.

According to [Zhang \(2018\)](#), the implementation of metacognitive reading strategies can be observed when readers underline some parts of the text, take notes, or look forward and backward across pages when reading, while the measurement of readers' strategic reading is often inferred from what they say about their reading process. Thus, readers need to be aware of and know about what they are doing during their reading. Such awareness used to achieve reading comprehension is the subset of metacognition called metacognitive awareness ([Dardjito, 2019](#)). It is how the readers are aware of what they think and learn. Developing metacognitive awareness is an important part of helping students become more effective and, more importantly, autonomous. If students are conscious of how they learn, then they can identify the most effective ways of doing so.

Moreover, metacognitive reading strategies awareness represents the perceived use of the strategies. [Rastegar et al. \(2017\)](#) conducted a study that validated a significant positive relationship between overall metacognitive reading strategies and reading comprehension achievement. This is because the awareness of reading difficulty is likely to raise the effectiveness of the strategy ([Aktar & Ahmed, 2018](#)). [Alami \(2016\)](#) found out that Omani students prefer to use problem-solving strategies most often than other strategies. Similarly, [Charoenchai and Carmeesak's \(2017\)](#) study revealed that problem-solving strategies followed by global reading strategies are used at a high level by university students. In the Ethiopian context, [Wudeneh \(2018\)](#) found out that students are mostly aware of using problem-solving strategies compared to the other strategies. While the previous study concerns with the students at tertiary level, [Teng's \(2020\)](#) study focused on young learners' metacognitive reading strategies awareness. This study concerns students at the tertiary level. Since they are assumed to be good readers who have implemented reading strategies, their awareness of implementing strategies needs to be explored to optimize their reading, thus enhancing their learning performance.

2.2 Metacognitive Reading Strategies Awareness and Use Towards Gender Gap

Further investigation in the area of metacognitive reading strategies deals with the gender gap. Some studies have revealed that gender plays a role in determining reading comprehension. Several studies reported that females achieve better reading comprehension than males ([Cekiso, 2016](#); [Oda & Abdul-Khadim, 2017](#); [Rachmajanti & Musthofiyah, 2017](#)). However, it was also found that there was no significant difference between females and males in terms of their reading comprehension test although they differ in some aspects of reading strategies use but similar in others ([Zhang, 2018](#)). This inconclusive result makes the gender gap necessary to study more deeply to determine whether there are differences in the metacognitive awareness of reading strategies if one exists in the reading comprehension.

[Alami \(2016\)](#) reported that female students, whose awareness is higher than male students, used metacognitive reading strategies more frequently than male students who used it moderately. Moreover, [Abu-Snoubar \(2017\)](#) found that there was no significant difference between female and male students in the overall employment of metacognitive reading strategies use. The result of the study indicated that problem-

solving was the most frequently used strategy. Also, [Zhang \(2018\)](#) stated that a degree of overlap in gender appeared in terms of responding to reading comprehension tasks and employing strategies to tackle the tasks even though gender differences can be recognized in the level of reading ability level and the pattern of strategy use.

3. METHOD

A survey research design was employed in this study to investigate the female and male students' metacognitive reading strategies awareness and metacognitive reading strategies use. This study was conducted at Universitas Negeri Malang, one of the reputable universities in East Java. The population of the research was undergraduate students in the English Language Teaching Program. The samples of the study were selected through non-proportional purposive classified random sampling. The participants of this research consisted of 53 EFL students (33 female and 20 male). There were 27 student participants (50.9%) from the 2nd semester and 26 from the 4th semester (49.1%).

The instrument to collect data used in this research was a questionnaire. It was adopted from MARSIS (Metacognitive Awareness of Reading Strategies Inventory) especially the one revised (MARSIS-R) by [Mokhtari et al. \(2018\)](#). MARSIS-R consists of 15 items that describe the strategies or actions use when reading academic or school-related materials such as book chapters, journal articles, and stories. The items are divided into three subscales: global reading strategies (represented by 5 items), problem-solving strategies (represented by 5 items), and support reading strategies (represented by 5 items). The questionnaire required the students to identify themselves according to several categories of readers (poor, good, average, excellent). The result of categorization is presented in Table 1.

Table 1. Students' category of reader.

Type of Reader	N	(%)
An excellent reader	2	3.8
A good reader	17	32.1
An average reader	31	58.5
A poor reader	3	5.7
Total	53	100

The students needed to read each statement of the questionnaire to indicate whether they are aware of metacognitive reading strategies and at the same time to show which metacognitive reading strategies they use. Then, to respond to each of the questionnaire statement they were required to use 1-5 scales:

- 1 = I have **never heard** of this strategy before,
- 2 = I have **heard** of this strategy, but I **don't know** what it means,
- 3 = I have **heard** of this strategy, and I **think I know** what it means,
- 4 = I **know** this strategy, and I **can explain** how and when to use it,
- 5 = I **know** this strategy **quite well**, and I **often use** it when I read.

The responses to the questionnaire statements were purely about what the students have done when they do the reading so there was no right or wrong answer to the statements. The time allocation for filling the questionnaire was about 10 minutes. The questionnaire can be seen in Appendix A.

The data were analyzed through a simple calculation to find out the level of awareness of the students and the statistical test of Independent sample t-test to know the difference between females and males. The strategies on the MARSIR inventory were scored on 1-5 scales. According to Mokhtari et al. (2018), the scores obtained provide three types of information such as individual score, scale score, and composite score. An individual score for each reading strategy reveals which strategy the students are aware of and use or may not aware of or use. Scale score shows the level of awareness concerning the groups of reading strategies. It can be obtained by merely adding up the appropriate items for each scale. Finally, a composite score can be obtained by summing the scores of all strategy items to determine the level of awareness and use for all reading strategies. Then, the result is presented in a table (see Table 2) that was used to record individual, subscales, and total inventory scores.

Table 2. MARSIR questionnaire result form.

Global reading strategies (GRS)	Problem-solving Strategies (PSS)	Support reading Strategies (SRS)	Total reading Strategies
1. _____	6. _____	11. _____	GRS Mean: PSS Mean: SRS Mean:
2. _____	7. _____	12. _____	
3. _____	8. _____	13. _____	
4. _____	9. _____	14. _____	
5. _____	10. _____	15. _____	
GRS mean: _____ ÷ 5 = ____	PSS mean: _____ ÷ 5 = ____	SRS mean: _____ ÷ 5 = ____	Total mean: _____ ÷ 15 = ____

A guide proposed by Mokhtari et al. (2018) was used to interpret the students' scores on the MARSIR questionnaire. There are three levels of interpretation covering a High level of awareness (3.5 or higher), Medium level of awareness (2.5-3.4), and Low level of awareness (2.4 or lower). The results of the interpretation were used to examine (1) the students' metacognitive reading strategies awareness, (2) their metacognitive reading strategies use, (3) the differences between female and male students in terms of metacognitive reading strategies awareness, and (4) the differences between female and male students in terms of metacognitive reading strategies use.

4. RESULTS

4.1 EFL Students' Metacognitive Reading Strategies Awareness

To answer research question 1, the score obtained from the results of the questionnaire were calculated to get the mean used to determine the level of metacognitive reading strategies awareness. The result of the calculation is presented in Table 3.

The maximum score for each reading strategy is 265 (highest score). Based on Table 3, it can be seen that the highest score for each reading strategy was on item number 10 ('Guessing the meaning of unknown words or phrases') which belongs to problem-solving strategies and the lowest score was on item number 11 ('Taking notes while reading') of support reading strategies. In respect to the clusters of reading strategies, the highest scale score was on problem-solving strategies (1008, mean=3.8)

while the lowest score obtained was on global reading strategies (968, mean = 3.6). The composite score concerning all reading strategies was 2958 (mean = 3.7).

Table 3. MARSII-R questionnaire results.

Global reading Strategies	Problem-solving Strategies	Support reading Strategies	Total reading Strategies
1. 199	6. 191	11. 174	GRS
2. 199	7. 196	12. 177	Mean: 3.6
3. 204	8. 184	13. 202	PSS Mean: 3.8
4. 182	9. 214	14. 211	SRS Mean: 3.7
5. 184	10. 223	15. 218	
GRS mean: 968 ÷ 265 = 3.6	PSS mean: 1008 ÷ 265 = 3.8	SRS mean: 982 ÷ 265 = 3.7	Total mean: 2958 ÷ 795 = 3.7

Based on Table 3, the means of global reading, problem-solving, and support reading strategies were 3.6, 3.8, and 3.7 respectively. In this case, each strategy obtained a mean above 3.5 which could be interpreted as showing high awareness. The total mean of 3.7 showed that metacognitive reading strategies awareness of university EFL students was high and they used the metacognitive reading strategies in reading academic or school-related materials.

4.2 EFL Students' Metacognitive Reading Strategies Use

To find the answer to the second research question, the obtained score was calculated to find out the mean of each metacognitive reading strategy item. The result of the calculation is presented in Table 4.

Table 4. The mean and standard deviation of each item in metacognitive reading strategies.

Strategy	Items	N	Mean	SD
Global Reading Strategies	1. Having a purpose in mind when I read	53	3.75	1.017
	2. Previewing the text to see what it is about before reading it	53	3.75	1.142
Problem-solving Strategies	3. Checking to see if the content of the text fits my purpose for reading	53	3.85	1.116
	4. Using typographical aids like bold face and italics to pick out key information	53	3.43	1.233
	5. Critically analyzing and evaluating the information read	53	3.47	.973
	6. Getting back on track when getting sidetracked or distracted	53	3.60	1.007
	7. Adjusting my reading pace or speed based on what I'm reading	53	3.70	1.011
	8. Stopping from time to time to think about what I'm reading	53	3.47	1.170
Support Reading Strategies	9. Re-reading to make sure I understand what I'm reading	53	4.04	1.037
	10. Guessing the meaning of unknown words or phrases	53	4.21	1.007
	11. Taking notes while reading	53	3.28	1.045
	12. Reading aloud to help me understand what I'm reading	53	3.34	1.159
	13. Discussing what I read with others to check my understanding	53	3.81	1.039

Table 4 continued...

14. Underlining or circling important information in the text	53	3.98	1.047
15. Using reference materials such as dictionaries to support my reading	53	4.11	1.031

Moreover, it is known from Table 5 that the strategy most frequently used by female students was support reading strategies (M=3.79, S.D=3.592), and the strategy least frequently used by female students was global reading strategies (M=3.55, S.D=4.309). Meanwhile, the strategy most frequently used by male students was problem-solving strategies (M=3.89, SD=3.120), and the strategy least frequently used by male students was the support reading strategies (M=3.56, SD=3.458).

Table 5. The mean and standard deviation for the three subscales of metacognitive reading strategies.

Gender		Global Reading Strategies	Problem-Solving Strategies	Support Reading Strategies
Female	Mean	3.55	3.75	3.79
	N	33	33	33
	Std. Deviation	4.309	3.674	3.592
Male	Mean	3.82	3.89	3.56
	N	20	20	20
	Std. Deviation	2.900	3.120	3.458
Total	Mean	3.65	3.80	3.70
	N	53	53	53
	Std. Deviation	3.864	3.461	3.555

4.3 The Difference in the Metacognitive Reading Strategies Awareness of Female and Male EFL Students

To examine the difference in the metacognitive reading strategies awareness between females and males, the overall mean scores were calculated from the subtraction of female and male mean scores (Appendix B); the results are in Table 6.

Table 6. The results of mean subtraction.

Group	Means	N	Std. Deviation
Female	3.69	33	.673
Male	3.75	20	.506
Total	3.71	53	.610

From Table 6, it can be seen that there was a difference between female and male groups. Figure 1 illustrates the deviation of 0.06 points of the means.

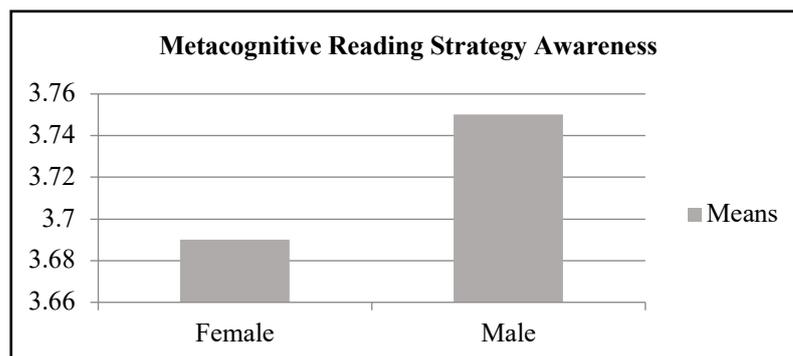


Figure 1. Cross-gender comparison of metacognitive reading strategies awareness.

The comparison between female and male students' means, as illustrated in Figure 1, indicated that male students' awareness of metacognitive reading strategies was higher than female students' awareness of metacognitive reading strategies. In other words, male students were more conscious about using metacognitive reading strategies than female students. An independent sample t-test was performed to find out if the observed difference between the two groups' mean scores was significant, and the results are shown in Table 7.

Table 7. The result of independent sample t-test.

	N	Female		Male		t	.Sig
		Mean	Std. Deviation	Mean	Std. Deviation		
Metacognitive Reading Strategies Awareness	53	3.69	.673	3.75	.506	.331	.742

Based on Table 7, the mean difference between the groups of 0.06 was not statistically significant. It was proven by the p-value obtained from the independent sample t-test which was more than 0.05 (.742). Thus, gender did not contribute to the different levels of metacognitive reading strategies awareness.

4.4 The Difference in the Metacognitive Reading Strategies Use of Female and Male EFL Students

To identify the answer to research question 4, a closer look was paid to the comparison between female and male students in terms of their level of awareness for each subscale of metacognitive reading strategies. It is illustrated in Figure 2.

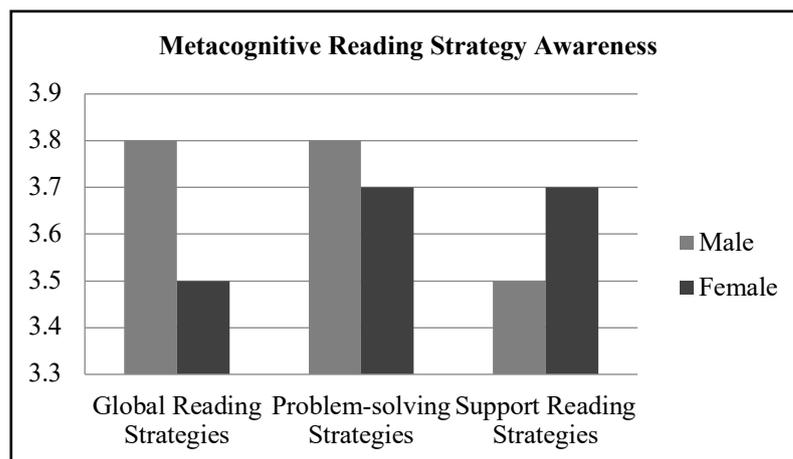


Figure 2. Cross-gender comparison of three subscales of metacognitive reading strategies used by the students.

The comparison between female and male students' overall means, as illustrated in Figure 2, indicated that male awareness of metacognitive reading strategies was higher than females. In other words, male students used the strategy more frequently than female students. An independent sample t-test was run to find out if the observed difference between the two gender groups' total mean score was significant.

Table 8. Result of independent sample t-test.

Gender \ Strategy	Male		Female		t	.Sig
	Mean	SD	Mean	SD		
Global reading	3.82	2.900	3.55	4.309	1.232	.224
Problem-solving	3.89	3.120	3.75	3.674	.712	.486
Support reading	3.56	3.458	3.79	3.592	1.165	.249

Table 8 shows the result of the independent sample t-test underlying each subscale of strategy. The significance values obtained were .224 for global reading strategies ($p > 0.05$), .486 for problem-solving strategies ($p > 0.05$), and .249 for support reading strategies ($p > 0.05$). The results revealed that there was no significant difference in the use of metacognitive reading strategies due to gender.

5. DISCUSSION

Mokhtari et al. (2018) recommended using MARSIS as a tool to derive students' profiles, which is useful to understand their level of awareness and use of metacognitive reading strategies and examine the differences between females and males. According to the results, the students' awareness of the strategies was categorized as a high or moderate level, which indicated their level of strategy usage. It can be claimed that the students are a strategic reader who employed reading strategies to enhance their reading comprehension or to tackle the problem faced during reading.

All students possessed moderate to high awareness of metacognitive reading strategies since the result of MARSIS-R showed that the level of students' awareness scored 3.4 - 4.2. The overall degree of awareness for each strategy showed that the

students were categorized as having high awareness as they scored above 3.5 on global reading, problem-solving, and support reading strategies of 3.6, 3.8, and 3.7 respectively. The least strategy used by the students was 'reading aloud to help me understand what I'm reading' (score=3.4). This may happen because the students are early adulthood aged 18-21 years old, whose cognition has been well-developed and mature enough in learning. Therefore, reading is much better done in silence.

Moreover, the type of reading materials may also influence the tendency of using silent reading than reading aloud. The students tend to read a long academic article, so silent reading is much effective and efficient. With respect to the cognitive view, reading is a complex cognitive process in which the reader, through interaction with the text, constructs meaning. Readers are required to be able to go through the lower level and higher-level processes. In reading an academic article, the higher-level process demands higher than lower-level ones. Therefore, they need to possess inference-making, executive function, and attention-allocation abilities (Kendeou et al., 2014).

The strategy most frequently used by the students was 'guessing the meaning of unknown words or phrases' (score=4.2). Guessing is the typical strategy used in reading at any level of education. It is because reading, especially in a second or foreign language, is an event where readers come across unfamiliar words and strive to comprehend the meaning of those words within the text by using context (Sheikh et al., 2019). In some instances, we need to understand a sentence, guessing the meaning of unknown words or phrases may be done more comfortably and more efficiently than opening up dictionaries. According to Kweldju (2015), comprehension occurs on the sentence level, where meaning is generated from the combined meaning of individual words and context. Therefore, the meaning guessed which combine with other meaning of words and considering the context will help students' comprehension in sentence level. Reading at the university level should no longer depend on the understanding of the meaning of individual words because the amount of reading is a way higher than in secondary school. As a result, comprehension should take place at least in paragraph level to get better learning achievement.

Based on the findings, the female and male students had a different level of awareness for each group of metacognitive reading strategies. Male students tended to be aware of utilizing global reading strategies and problem-solving strategies, while the female tended to be aware of utilizing problem-solving and support reading strategies. The level of awareness male students had in utilizing global reading, and problem-solving strategies were 3.8. According to the classification proposed by Mokhtari et al. (2018), male students were highly aware of employing both strategies during reading. However, they were not aware of using support reading strategies.

On the other hand, female students' awareness level of metacognitive reading strategies was equal to problem-solving and support reading strategies. That two strategies scored 3.7 from female students, and it was classified as highly aware. However, the similarity was found in the utilization of problem-solving strategies, which scored highest among the others for female and male students. It indicated that reading academic articles and school-related materials were likely to encounter many difficulties. When Problem-solving strategies are applied, readers activate their metacognition to know when to use, coordinate, and monitor various skills in problem-solving (Mayer, 1998). Then, it allows readers to regulate their brain, meaning that they take control of their thinking process to seek ways and make changes toward

mistakes or tackle difficulties. By having an awareness of the thinking process, readers can map their strengths and weaknesses.

From all types of metacognitive reading strategies, the global reading strategies were in the lower rank in comparison to the other types. There are five items within the domain of global reading strategies namely: 1) having a purpose in mind when reading, 2) previewing the text to see what it is about before reading, 3) checking to see if the content of the text fits the purpose of reading, 4) using typographical aids like boldface and italics to pick out key information, 5) critically analyse and evaluate the information read. Based on the result of the questionnaire, three out of five items (item number 1, 2, 3) were consciously known and used by the students. The highly aware of and most frequently used one was 'checking to see if the content of the text fits the purpose of reading'. Global reading strategies are used to organize and manage reading (Abu-Snoubar, 2017). Mostly, students employed this strategy in pre-reading activities. As it was found to have been highly consciously employed, this strategy was automatically used before entering deep in the text.

Problem-solving strategies are used to tackle the problem faced during the reading that may constrain comprehension. The strategies consist of: 1) getting back on track when getting sidetracked or distracted, 2) adjusting reading pace or speed based in what is being read, 3) stopping from time to time to think about what is being read, 4) re-reading to ensure what is being read, 5) guessing the meaning of unknown words or phrases. All of them were found to be consciously employed by students during reading. This is in line with the study conducted by several researchers (Alami, 2016; Charoenchai & Charmeesak, 2017; Abu-Snoubar, 2017; Wudeneh, 2018) who also found that problem-solving strategies are the most frequently used strategy. Moreover, it supported Zhang (2018) that metacognition plays a role in helping regulate the readers' cognitive aspects of problem-solving. This is because reading in the second language has different characteristics than in the first language. According to Ahmed (2015), reading in a second language requires readers to develop lower-level processing skills like vocabulary knowledge fully. Therefore, if there is a lack of vocabulary, it becomes one of the problems that prevent readers from understanding the text smoothly. Thus, to overcome this limitation, readers orchestrate Problem-solving strategies, which consist of several techniques to use while handling comprehension problems like guessing the meaning of unknown words.

Support reading strategies function as an aid that helps promote one's reading. Support reading strategies consist of: 1) taking notes while reading, 2) reading aloud to help to understand what is being read, 3) discussing what is being read with other to check understanding, 4) underlining or circling important information in the text, 5) using reference materials such as dictionaries to support reading. Based on the results of the questionnaire, the students had a high awareness of using this strategy. The use of reference materials is the strategy highly aware of that is employed when reading. Moreover, the dominant use of this strategy was found to be by females. It can be concluded that female students utilized more various support techniques than male students while reading to help them understand the meaning of a text.

Regarding gender, in line with Abu-Snoubar (2017), the study found that there was no significant difference between female and male students in utilizing metacognitive reading strategies, although male students' level of strategy use was higher than female students. Meanwhile, Zhang (2018) found no significant difference in reading comprehension tests between females and males, although they differ in

some aspects of reading strategy use. It indicated that the gender gap was not the factor determining the difference in both metacognitive awareness and reading comprehension. However, these results were not in line with the study conducted by [Alami \(2016\)](#), which showed a meaningful relationship between students' gender and the use of reading strategies. The study found out that there was a meaningful relationship between students' gender and strategy use ([Koban, 2016](#)). Since there is an inconsistency of the result, it can be concluded that the difference of metacognitive reading strategies awareness between female and male students does not determine their difference in reading comprehension achievement as mentioned by [Cekiso \(2016\)](#), [Oda and Abdul-Khadim \(2017\)](#), as well as [Rachmajanti and Musthofiyah \(2017\)](#).

6. CONCLUSIONS

This study confirms that metacognitive reading strategies awareness of all students is high. It also indicates high metacognitive reading strategies use. The result revealed that there was a different level of awareness between female and male students. However, further analysis using an independent sample t-test showed that the level of awareness between groups was not significant. Also, there were no significant differences in all subscales of metacognitive reading strategies use, which confirms that gender played no role in determining the metacognitive reading strategies awareness and metacognitive reading strategies use. Regardless of gender, the students' high awareness of metacognitive reading strategies indicates that they are good at reading and can be considered skilled readers.

The study suggests that it is essential to improve students' reading skills by identifying their reading strategies and examining their level of awareness in using the strategy. The investigation of their awareness of the strategies can contribute to a better understanding of the reading strategies most frequently used when reading English texts. This is necessary because, in some cases, students are not aware of metacognitive reading strategies, which may also result in ineffective use. By building their awareness, teachers can direct the students to use the reading strategy better and help them achieve better reading comprehension.

This study provides useful information about reading strategy EFL students used in reading English texts, primarily academic articles and school-related materials, which might have a contribution to teachers and curriculum designers to think upon their current teaching approach. Teachers can apply the survey on the first day of teaching reading to map out the students' profiles. By doing so, the teacher will have information on whether his or her students are strategic or not. Accordingly, metacognitive reading strategies can either be taught or only strengthened through meaningful reading activities. The curriculum designers are suggested to attach metacognitive reading strategies training in the curriculum in which adjustment to an appropriate teaching approach is made to enhance the students' metacognitive reading strategies awareness and use. However, the result of this study may be limited to the setting where the study is conducted. It indicates that different contexts and different

backgrounds of the subject may result in different findings. Therefore, further research needs to reach more extensive subjects so that the research findings can be generalized.

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APPENDICES

Appendix A

METACOGNITIVE AWARENESS OF READING STRATEGIES INVENTORY-REVISED
(MARSIR, 2018)

GENERAL INFORMATION

Name : _____
Age : _____
Gender : Male/Female

I consider myself (Check one):

1. _____ An excellent reader
2. _____ A good reader
3. _____ An average reader
4. _____ A poor reader

Instruction: Read each strategy statement below and then place the numbers (1, 2, 3, 4, or 5) in the spaces preceding each statement to show your level of awareness and/or use of each strategy.

Strategy scale:

1. I have never heard of this strategy before.
2. I have heard of this strategy, but I don't know what it means.
3. I have heard of this strategy, and I think I know what it means.
4. I know this strategy, and I can explain how and when to use it.
5. I know this strategy quite well, and I often use it when I read.

- _____ 1. Having a purpose in mind when I read.
- _____ 2. Previewing the text to see what it is about before reading it.
- _____ 3. Checking to see if the content of the text fits my purpose for reading.
- _____ 4. Using typographical aids like boldface and italics to pick out key information.
- _____ 5. Critically analyzing and evaluating the information read.
- _____ 6. Getting back on track when getting sidetracked or distracted.
- _____ 7. Adjusting my reading pace or speed based on what I'm reading.
- _____ 8. Stopping from time to time to think about what I'm reading.
- _____ 9. Re-reading to make sure I understand what I'm reading.
- _____ 10. Guessing the meaning of unknown words or phrases.
- _____ 11. Taking notes while reading.
- _____ 12. Reading aloud to help me understand what I'm reading.
- _____ 13. Discussing what I read with others to check my understanding.
- _____ 14. Underlining or circling important information in the text.
- _____ 15. Using reference materials such as dictionaries to support my reading

Appendix B*THE EFL STUDENTS' METACOGNITIVE READING STRATEGY AWARENESS*

No	Female students' scores	Mean	Male students' scores	Mean
1	69	4.60	68	4.53
2	67	4.46	49	3.26
3	43	2.86	59	3.93
4	45	3.00	47	3.13
5	52	3.46	65	4.33
6	68	4.53	59	3.93
7	51	3.40	44	2.93
8	27	1.80	65	4.33
9	63	4.20	45	3.00
10	37	2.46	65	4.33
11	57	3.80	57	3.80
12	49	3.26	52	3.46
13	54	3.60	51	3.40
14	72	4.80	48	3.20
15	46	3.06	50	3.33
16	48	3.20	62	4.13
17	55	3.66	58	3.86
18	50	3.33	65	4.33
19	64	4.26	62	4.13
20	64	4.26	56	3.73
21	58	3.86	==	==
22	63	4.20	==	==
23	69	4.60	==	==
24	54	3.60	==	==
25	45	3.00	==	==
26	64	4.26	==	==
27	60	4.00	==	==
27	49	3.26	==	==
29	56	3.73	==	==
30	53	3.53	==	==
21	52	3.46	==	==
32	63	4.20	==	==
33	64	4.26	==	==