The Correlation between Metacognitive Reading Strategies and Reading Comprehension Among 1ˢᵗ Year EFL Students at a Public University in West Java

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Abstract—Metacognitive reading strategies are essential strategies needed by readers in comprehending texts. This study aimed at investigating the correlation between metacognitive reading strategies and reading comprehension among the first year EFL students at a public university in West Java. Data were collected from 30 first year EFL students of English Education Department through questionnaire and test. The results of Pearson Correlation analysis showed a significant moderate correlation between metacognitive reading strategy awareness and reading comprehension (r=0.500, p<0.01). Learners who had high awareness of metacognitive reading strategies were proven to have higher reading comprehension achievement. This result revealed that metacognitive reading strategies had significant contribution to reading comprehension in which learners who made common use of metacognitive reading strategies were able to comprehend the text better.

Keywords—*reading comprehension; metacognitive reading strategies*

I. INTRODUCTION

Comprehension in reading plays a central role in the success of education [1]. As reading plays an essential role in the teaching and learning of English, it is one of the essential skills that EFL learners should master [2]. Learners of English should be aware of and be able to employ a variety of strategies in reading in order to attain comprehension. Learners who are aware of strategy selection are those who have knowledge of their own cognitive processes. The process of knowing one's own cognitive processes is recognized as metacognition [3]. Metacognition is one of the keys to comprehension [4].

Recently, metacognition has become the topic that is of interest among several researchers. It is one of the factors that is believed to give significant contribution towards learning. It concerns with how one takes care of his/her own learning. As for the reading, it is associated with how one chooses appropriate strategies in order to construct meaning and to become strategic reader. In other words, it is known as metacognitive reading strategies.

Metacognitive strategies allow learners to think about their own thinking in which it assists them to attain their reading comprehension by using and selecting appropriate reading strategies [5,6]. The process of selecting appropriate reading strategies helps learners to be strategic readers so that they are able to plan, organize, and assess their learning and to be self-directed readers [7]. Furthermore, those strategies enable learners to improve their reading comprehension and to diminish their failure in reading [8]. In line with this, Hudson in Ghwela, states that "most of the comprehension activities of efficient readers take place at a metacognitive level" [7].

In university level, Nambiar in Ghwela, mentions that success "is partly determined by the ability to read critically and analytically and to apply reading strategies to written and oral tasks" [7]. Thus, learners should be given more practices on reading strategies [9]. This is in line with Sheorey and Mokhtari's notion that to be active readers, learners need to enhance their metacognitive knowledge about reading strategies [10]. Furthermore, to enhance reading comprehension, learners should be given opportunities to improve their metacognitive awareness of reading strategies and to learn how to use them while reading [11]. Readers who are aware of appropriate strategy use are considered as 'perceptive' second/foreign language readers [2].

There are a number of studies which have investigated the metacognitive reading strategies awareness of EFL learners and its relationship with reading comprehension. A number of researchers have revealed that metacognitive reading strategy is an effective factor which is able to promote reading comprehension [12]. Madhumathi and Ghosh investigated the relationship between students' awareness of reading strategies and reading comprehension achievement [13]. The result showed that the students mostly employed the problem-solving strategies and that the reading strategy use moderately correlated with the reading comprehension achievement. In almost the same way, Anjomshoaa et al. found out that there was a significant moderate positive correlation between metacognitive awareness and reading comprehension [14]. Moreover, Ghafournia and Afghari's study also revealed that there was a significant correlation between metacognitive reading strategy awareness and reading comprehension where the participants with high-reading proficiency used metacognitive strategies more frequently than the participants with intermediate and low level of reading proficiency did [15]. This showed a positive linear relationship between

metacognitive reading strategy awareness and reading comprehension. It can be inferred that successful readers of second language learners (L2) or foreign language (EFL) are aware of metacognitive reading strategies and are able to use these strategies while reading.

This present study was carried out in order to examine whether there was any significant positive relationship between metacognitive reading strategy awareness and reading comprehension among EFL university students in West Java, Indonesia. It is believed that in Indonesia, information regarding students' metacognitive awareness issue is still limited [3]. Thus, issues regarding metacognitive awareness need to be investigated further. Therefore, it is essential to examine learners' metacognitive awareness of reading strategies in order to see how far they engage in the reading processes. As native or non-native readers tend to have difficulties in comprehending texts written in English, Martinez believes that they need to be made aware of the significant strategies required in reading. Furthermore, their awareness of reading strategies can be improved by the help of the lectures [16].

II. LITERATURE REVIEW

A. Reading Comprehension

Reading is an activity which is done in order to construct meaning from text. In constructing meaning, there should be "an active, fluent process that involves the reader and the reading material" [2]. This active, fluent process may include thinking, evaluating, judging, imagining, reasoning, and problem solving that occurs when one is reading a text [17]. In the reading process, a reader would have to deal with the process of identifying word and constructing meaning [17]. Being able to construct meaning from the contexts is what becomes the goal of reading comprehension [1]. Regarding this, Setiadi & Piyakun mentions that there are three characteristics that should be involved in the reading process; meaning construction, prior knowledge, and reading purposes [17]. In EFL context (such as in English language course), reading may include a set of learning goals for the ability to read a wide range of texts in English [18]. Being able to read a variety of texts written in English indicates success in learning [2]. When EFL learners are able to read texts written in English, they may apply it "either for their careers, for study purposes or simply for pleasure" [19].

Reading comprehension is "a complex process" that includes interaction between reader and text. It "occurs when the reader extracts and integrates various information from the text and combines it with what is already known" [20]. An example of this interaction is asking questions to the self-regarding the information that he/she reads whether he/she understands it or whether he/she knows something about the information, whether the strategies match the reading process, whether the information are essential to their learning, and so on.

In addition, reading comprehension is defined as readers' ability "to understand the surface and the hidden meanings of the text using metacognitive reading strategies" [1]. Basically,

reading is not simply reading every word in the text but also getting the meaning from the text [21]. By reading, readers intend to get the information and also comprehend it. To comprehend the text well, it is central for the readers to employ a variety of reading strategies effectively. As for ESL or EFL learners, reading comprehension is mainly about developing appropriate efficient strategies [22]. Being able to use and develop strategies during reading means that learners are aware of their own thinking–which also means they have activated their metacognitive awareness of reading strategies. This is one of the aspects that can enable learners to become 'strategic' and 'thoughtful' readers. In line with this, Singhal mentions that reading comprehension does not only rely on cognitive process, but also psychological process, complex linguistic knowledge, and especially reading strategies which are necessary for enhancing reading comprehension and solving reading comprehension problems [8].

There are three important models of reading comprehension that readers should acknowledge: bottom-up model, top-down model, and interactive model. These models facilitate reading comprehension and help readers to figure out texts and solve their problems while reading [1]. The explanation of these models are as follows.

First, the bottom-up model, it focuses on the text. The readers usually start reading by understanding words, letters, and progressively improve toward larger linguistic masses to sentences, and end in meaning construction [1]. In this model, the reading occurs "from smaller units to larger ones" [17]. The reading process in this context is based on the words in the text, and then readers construct meaning from context by recognizing each word. In bottom-up processing, Brown points out that "readers must first recognize a multiplicity of linguistic signals (letters, morphemes, syllables, words, phrases, grammatical cues, discourse markers) and use their linguistic data-processing mechanism to impose some sort of order on these signals" [22]. Therefore, readers who utilize this model should "translate a piece-by-piece mental information in the passage(s), with little interference from their own background knowledge" [1]. Thus, it would take a lot of time and effort in reading comprehension.

Second, the top-down model, it requires learners' prior information and expectations to help construct meaning from a text. It allows the reader to draw upon their "intelligence and experience to understand a text" [22]. The top-down model focuses on the whole reading process which starts from expectations about the reading context then uses word information to confirm the expectations [1]. This means that readers can use certain vocabularies or phrases to comprehend the text and also some key words to help them recognize the text quickly [1]. The top-down model is also said as the process of reading which starts "with the whole text, and then down to smaller components of the text" [17]. Example of this model includes making prediction, summarizing, guessing, getting the gist from the text, and so on.

The third model is the interactive model. This model emerges as a combination of the bottom-up and the top-down models [22]. This emphasizes the interrelationship between the reader and the text [1]. In this model, reading comprehension is

seen as the result of meaning construction between the reader and the text [23]. According to Ahmadi et al., the purpose of the interactive model "stresses that a proficient reader simultaneously synthesizes the information available to him or her from several knowledge sources of either bottom-up or top-down in the period of reading process" [1]. Along with the interaction between the text information and the learner's background knowledge, the interactive model also includes the interaction between different types of metacognitive reading strategies [1,23].

B. Metacognitive Reading Strategies

Metacognition is defined as "the knowledge of the readers' cognition about reading and the self-control mechanisms they exercise when monitoring and regulating text comprehension" [24]. It deals with learners' knowledge and their own cognitive resources, which involves behaviours such as predicting, self-questioning, paraphrasing, summarizing, rereading to clarify meaning, and retelling [7].

Before talking about metacognitive strategies, here are the elaboration of the reading strategies itself. Reading strategies are vital for reading comprehension in which it serves as mental processes or a variety of techniques used by the readers in order to facilitate reading comprehension and to overcome failures in reading [20]. The employment of appropriate reading strategies helps readers to comprehend the texts better and to avoid wasting much time and energy in comprehending the text [14]. Thus, successful readers are indicated with their ability to employ reading strategies effectively [25,26].

Reading strategies includes cognitive reading strategies and metacognitive reading strategies. Cognitive strategies are defined as "the actions and procedures readers use while working directly with the text" [10]. On the other hand, metacognitive strategies are defined as "readers' cognition about reading and self-control mechanisms they exercise when monitoring and regulating text comprehension" [24]. In line with this, Sheorey and Mokhtari believe that metacognitive strategies are "intentional, carefully planned techniques by which learners monitor or manage their reading" in which it includes the process of thinking about learners' own thinking [10]. In other words, metacognitive reading strategies are higher order performance methods that refer to the planning, monitoring, and evaluating the success of a learning activity [27].

Sheorey and Mokhtari argue that an awareness of a variety of reading strategies is recognized as the reader's metacognitive knowledge about reading. This metacognitive awareness affects the cognitive enterprise of reading [10]. Metacognitive awareness itself is acknowledged as the process of understanding and applying strategies used to comprehend a text [14]. In relation to this, Maghsudi and Talebi mention that metacognitive strategies are "sequential processes that one uses to control cognitive activities, and to ensure that a cognitive goal (e.g., understanding a text) has been met" [28].

Vandergrift and O'Malley & Chamot point out the importance of the role of metacognitive strategies [2,29]. First, Vandergrift states that "metacognitive strategies are crucial because they oversee, regulate, or direct the language learning task, and involve thinking about the learning process" [29]. Second, O'Malley and Chamot declare that "students without metacognitive approaches are essentially learners without direction or opportunity to plan their learning, monitor their progress, or review their accomplishments and future learning directions" [29].

Metacognitive awareness of reading strategies have been studied many times by a number of researchers [20]. Thus, an instrument to measure metacognitive awareness of reading strategies of ESL/EFL learners was created and developed. One of the most widely-used instruments was that which was developed by Sheorey and Mokhtari [11]. The instrument was known as Survey of Reading Strategies (SORS) which consists of 30 questions and covered three categories of reading strategies. Those strategies are global reading strategies (GLOB), problem-solving strategies (PROB), and support reading strategies (SUP). The elaborations of those strategies are as follows.

1) Global reading strategies (GLOB): Global strategies include a variety of techniques employed by the readers while reading (e.g. planning how to read and manage comprehension). These techniques involve "having purpose in mind, previewing the text as to its length and organization, or using typographical aids and tables and figures" and so on [10,11,25]. In SORS, GLOB covers thirteen items of reading strategies which are concerned with global analysis of English texts. Those are: setting purpose for reading, using prior knowledge, previewing text before reading, checking how text content fits purpose, skimming to note text characteristics, determining what to read, using text features (e.g., tables, figures, pictures), using context clues, using typographical aids (e.g., italics), critically evaluating what is read, checking understanding of new information, predicting or guessing text meaning, and confirming predictions [11,24]. It can be concluded that planning how to read and comprehend English texts is essential as the reading processes will be more intentional and manageable.

2) Problem-solving reading strategies (PROB): Problem-solving strategies are utilized when reading difficult parts of a text. However, reading difficult texts enable learners to use more strategies [25]. Thus, these techniques are employed while working directly with the text [10,11,25]. These are "localized, focused techniques used when problems develop in understanding textual information" such as adjusting reading speed (depends on the materials being read), guessing the meaning of unfamiliar words, and rereading the text in order to get better understanding) [11]. PROB in SORS consists of eight strategies: reading slowly and carefully, trying to stay focused on reading, adjusting reading rate, paying close attention to reading, pausing and thinking about reading, visualizing information being read, re-reading for better understanding, and guessing meaning of unknown words [11,24].

3) Support reading strategies (SUP): Support strategies are indicated with readers' ability to use techniques or tools in order to better understand the text(s) [25]. These include

"using a dictionary, taking notes, or underlining or highlighting the text" [24]. In SORS, SUP contains nine items of reading strategies: taking notes while reading, reading aloud when text becomes hard, underlining or highlighting information in text, using reference materials, paraphrasing for better understanding, going back and forth in text, asking oneself questions, translating from English to mother tongue, and thinking about information in both English and mother tongue [11,24,30].

C. The Relationship between Metacognitive Reading Strategy Awareness and Reading Comprehension

Metacognitive reading strategies refer to "particular, deliberate, goal–directed mental processes or behavior, which control and modify the reader's attempts to understand texts" [31,32]. In other words, it is correlated with ways readers use to comprehend texts, including the selection and application of the strategies during reading. For instance, the first time they see the text, they would have to preview it then guess the information provided in the text. In addition, they may also activate their prior knowledge and connect it with the information in the text as soon as after they get the general information or gist of the text. Not only that, they may also reread the text when they have not understood the text better. All of these strategies are employed in order to obtain comprehension. Regarding this, Ahmadi et al. argue that in comprehending a text, a reader needs to employ a variety of reading strategies consciously or unconsciously, as metacognitive reading strategies can occur consciously or unconsciously [1]. The employment of these metacognitive strategies aims to enhance readers' ability to control their own learning and to learn when and how to use strategies while reading [1].

Metacognitive reading strategy is one of the effective tools in facilitating students' reading comprehension (in the context of foreign language learning) [1]. It is not only about how students organize their interaction with the text, but also how the use of strategies is related to effective reading comprehension [24]. Furthermore, metacognitive reading strategy is vital for reading comprehension as it is able to construct positive effect on readers' reading comprehension [20]. Readers who are metacognitive aware know what to do when they face difficulties in learning; for instance, they may re-read the material when it becomes difficult [11]. Moreover, they would employ strategies to identify what they need to do. Readers who use metacognitive reading strategies perform better in the reading comprehension compared to readers who do not use those strategies [30,32]. This is because they do not only construct the meaning from the text but also monitor and evaluate the texts they read [33].

From a number of studies regarding the relationship between metacognitive awareness and reading comprehension, it was found that "good readers are typically able to reflect on and monitor their cognitive processes while reading" and "tend to be better at regulating the use of such strategies while reading" [11]. They perform better in reading since they usually employ a variety of strategies while reading. These strategies, for instance, doing an overview before reading, using context clues, looking for important details, paying

greater attention, trying to relate important points in the text in order to better understand the text, using schema to interpret the text, re-evaluating and revising hypotheses about the meaning of text on content, trying to infer information from text, determining the meaning of unfamiliar words, monitoring text comprehension, identifying or inferring main ideas, using strategies to remember text (paraphrasing, repetition, making notes, summarizing, etc.), understanding the relationships between parts of text, recognizing text structure, changing reading strategies when comprehension to text turns vague, evaluating the qualities of text, reflecting on a process additionally after a part has been read, and anticipating or planning to integrate knowledge gained from reading, and so on [34].

It is important to note that skilled readers are proven to be able to use a wide range of strategies during reading while poor reader only employ a small range of strategies. Several studies have revealed that metacognitive reading strategies have a positive correlation with reading comprehension [10,14,24,30,35]. These studies confirm that skilled readers with metacognitive awareness will perform better in reading comprehension than those who have no idea about metacognition. Regarding this, Estacio declares that metacognitive reading strategies consequently work as a predictor of reading comprehension test scores [35].

III. METHODOLOGY

This study employed an explanatory research design to examine the correlation between metacognitive reading strategy awareness and reading comprehension. This correlational study involved 30 first year EFL students of an English Education Department of a public university in West Java. Data were collected through a questionnaire known as Survey of Reading Strategies (SORS) and a reading comprehension test. The explanation of the instruments are as follows:

A. Questionnaire

The questionnaire was adapted from the work of Mokhtari and Sheorey namely Survey of Reading Strategies (SORS) [11]. It was designed to measure metacognitive awareness and perceived use of reading strategies of adolescent and adult learners of English as a Second Language (ESL) or English as a Foreign Language (EFL) while reading school-related materials in English. This inventory consisted of 30 items which were divided into three categories of reading strategies: Global Strategies (GLOB) which consisted of 13 items, Problem-Solving Strategies (PROB) which consisted of 8 items, and Support Strategies (SUP) which consisted of 9 items. The instrument had been validated by experts in the field.

B. Reading Comprehension Test

The test included 40 multiple-choice comprehension questions of reading test taken from Longman Preparation Course for the TOEFL Test: The Paper Test (2005). The result of the test was used to indicate respondents' level of proficiency.

The participants were asked to take a reading comprehension test and to fill in a questionnaire. They took the test (in approximately an hour) first and then filled in the questionnaire (in approximately 15 minutes) right after they finished the test.

IV. FINDINGS AND DISCUSSION

A. Findings

1) Respondents' metacognitive awareness of reading strategies

a) Global Strategies (GLOB): The respondents' metacognitive reading strategy awareness under the category of Global Strategies are presented in Table 1 as follows.

TABLE I.   GLOBAL READING STRATEGIES

Item	Global Strategies	Mean	Frequency Scale	SD
1	I have a purpose in mind when I read.	4.27	High	0.79
3	I think about what I know to help me understand what I read.	3.97	High	0.89
4	I take an overall view of the text to see what it is about before reading it.	3.30	Moderate	1.12
6	I think about whether the content of the text fits my reading purpose	3.60	High	0.97
8	I review the text first by noting its characteristics like length and organization.	3.10	Moderate	1.09
12	When reading, I decide what to read closely and what to ignore.	3.33	Moderate	0.80
15	I use tables, figures, and pictures in text to increase my understanding.	2.43	Low	1.07
17	I use context clues to help me better understand what I am reading.	3.43	Moderate	0.82
20	I use typographical features like bold face and italics to identify key information.	3.00	Moderate	1.26
21	I critically analyze and evaluate the information presented in the text.	3.27	Moderate	0.94
23	I check my understanding when I come across new information.	3.83	High	0.87
24	I try to guess what the content of the text is about when I read.	3.70	High	0.95
27	I check to see if my guesses about the text are right or wrong.	3.47	Moderate	0.78
Total		3.44	Moderate	0.95

Table 1 shows the thirteen items of global reading strategies (GLOB) along with their mean. Among the thirteen items, statement 1, 3, 6, 23, and 24 are categorized as strategies that are commonly employed (or have high frequency level of use) by the respondents. These strategies are setting purpose for reading (M=4.27), using prior knowledge (M=3.97), checking how text content fits reading purpose (M=3.60), checking understanding of new information (M=3.83), and predicting or guessing text meaning (M=3.70).

The table also reveals that some of the global strategies are sometimes employed by the respondents with the mean score ranges from 3.00 up to 3.47 (which indicates moderate level of use). It indicates that most respondents sometimes preview text before reading it (M=3.30), skim to note text characteristics (M=3.10), determine what to read closely and what to ignore (M=3.33), use context clues to help better understand what they are reading (M=3.43), use typographical features like bold face and italics to identify key information (M=3,00), critically analyse and evaluate the information presented in the text

(M=3.27), and check to see if their guesses about the text are right or wrong (M=3.47).

On the other hand, when reading texts written in English, most respondents generally do not use text features like tables, figures, and pictures (Statement 15) with the score of M=2.43. This mean score indicates that the respondents have a low level of awareness on this strategy. This strategy has the lowest mean score among the thirteen items of global strategies.

In general, the table indicates that the respondents sometimes employ global strategies during reading texts written in English, which also means that they are "moderate-level strategy users" of global reading strategies with the score of M=3.44.

b) Problem-solving strategies (PROB): The respondents' metacognitive reading strategy awareness under the category of PROB is exhibited in table 2 as follows.

TABLE II.   PROBLEM-SOLVING READING STRATEGIES

Item	Problem-solving Strategies	Mean	Frequency Scale	SD
7	I read slowly and carefully to make sure I understand what I am reading.	4.07	High	0.87
9	I try to get back on track when I lose concentration.	4.20	High	0.85
11	I adjust my reading speed according to what I am reading.	3.80	High	1.06
14	When text becomes difficult, I pay closer attention to what I am reading.	4.03	High	0.85
16	I stop from time to time and think about what I am reading.	3.67	High	0.80
19	I try to picture or visualize information to help remember what I read.	3.47	Moderate	1.36
25	When text becomes difficult, I re-read it to increase my understanding.	4.23	High	0.86
28	When I read, I guess the meaning of unknown words or phrases.	4.10	High	0.92
Total		3.95	High	0.95

Table 2 displays list of the eight reading strategies under the category of problem-solving strategies (PROB). Almost all strategies under the category of PROB have high mean scores (above 3.50). The most significant strategy that is usually employed by the respondents falls into statement 25 where it possesses the score of M=4.23; it is the highest mean score among all of the eight statements. It indicates that almost all of the respondents usually re-read text when it becomes difficult in order to increase their understanding (statement 25).

Furthermore, from the table, it can be inferred that the respondents usually read slowly and carefully to make sure they understand what they are reading (M=4.07), usually try to get back on track when they lose concentration (M=4.20), usually adjust their reading speed according to what they are reading (M=3.80), usually pay closer attention to what they are reading when text becomes difficult (M=4.03), usually stop from time to time and think about what they are reading (M=3.67), and usually guess the meaning of unknown words or phrases (M=4.10). These indicate that the respondents are

considered as "high-level strategy users" of most of the strategies under the category of PROB. Nevertheless, the respondents of this study sometimes try to picture or visualize information to help remember what they read (M=3.47). In other words, the respondents possess moderate level of awareness on this strategy.

From table 2, it can be described that the problem-solving strategy has the average score of M=3.95. This means that most respondents usually use problem-solving strategies while reading texts written in English. This also signifies that the respondents are considered as "high-level strategy users" of problem-solving strategies. In other words, they are aware of the importance of strategies to solve the problem they face when they are reading, as it is common for readers to search for ways to solve their reading difficulties.

c) Support strategies (SUP): The respondents' metacognitive awareness of reading strategies under the category of SUP is presented in Table 3 as follows.

TABLE III.   SUPPORT READING STRATEGIES

Item	Support Strategies	Mean	Frequency Scale	SD
2	I take notes while reading to help me understand what I read.	2.33	Low	0.88
5	When text becomes difficult, I read aloud to help me understand what I read.	2.47	Low	1.28
10	I underline or circle information in the text to help me remember it.	3.30	Moderate	1.09
13	I use reference materials (e.g. a dictionary) to help me understand what I read.	3.60	High	0.97
18	I paraphrase (restate ideas in my own words) to better understand what I read.	3.87	High	0.94
22	I go back and forth in the text to find relationships among ideas in it.	3.87	High	0.97
26	I ask myself questions I like to have answered in the text.	3.23	Moderate	1.01
29	When reading, I translate from English into Indonesian.	3.43	Moderate	1.14
30	When reading, I think about information in both English and Indonesian.	4.00	High	0.87
Total		3.34	Moderate	1.02

Table 3 demonstrates the nine items of support reading strategies (SUP). The respondents achieve high level of awareness upon item number 13, 18, 22, and 30. This means that when reading, the respondents usually use reference materials (e.g. a dictionary) to help them understand what they read (M=3.60), usually make common use of paraphrasing (restating ideas in their own words) to better understand what they read (M=3.87); usually employ strategies of going back and forth in the text to find relationships among ideas in it (M=3.87), and usually think about information in both English and Indonesian when they read (M=4.00).

Table 3 also exhibits that the respondents possess moderate level of awareness on several strategies such as underlining or circling information in the text to help them remember it (M=3.30), asking oneself questions (M=3.23), and translating

text from English into Indonesian (M=3.43). On the other hand, the respondents rarely take notes while reading (M=2.33) and rarely read aloud when text becomes difficult (M=2.47). It can be said that they possess low level of awareness on these two strategies (item 2 & 5).

From the table, it can be inferred that the respondents of this study have moderate level of awareness on support strategy with overall average score of M=3.34. Among the three categories of reading strategies in SORS, support strategy achieves the lowest mean score from global strategy (M=3.44) and from problem-solving strategy (M=3.95).

2) Respondents' reading comprehension test result: The overall result of the reading comprehension test achieved by the respondents is displayed in table 4 as follows.

TABLE IV.   RESPONDENTS' PERFORMANCE IN READING COMPREHENSION TEST

Score	Description	Frequency	Range of Scores	Percentage
1-2	Low	0	-	0%
3-4	Satisfactory	7	3.75 – 4.5	23.33%
5-6	Average	16	5 – 6.5	53.33%
7-8	Sufficient	7	7 – 8.75	23.33%
9-10	Excellent	0	-	0%
Total Average	Average		5.82	

Table 4 shows the overall result of reading comprehension test achieved by the respondents. From the table, it can be described that there is no respondent (0%) who attains low level of proficiency. Among the 30 respondents, there are 7 (23.33%) respondents who achieve satisfactory level with the score of test ranges from 3.75 to 4.5; 16 respondents (53.33%) of this study achieve average level of proficiency with the score of test ranges from 5 to 6.5; 7 (23.33%) of them reach sufficient level with the score of test ranges from 7 to 8.75. From these, it can be inferred that the lowest score falls to 3.75 and the highest score falls to 8.75. The average test score of the 30 respondents falls to 5.82, which indicates average level of proficiency. This means that most respondents have average reading proficiency level.

3) The correlation between metacognitive awareness and reading comprehension: Table 5 presents the correlation between metacognitive awareness of reading strategies and reading comprehension.

TABLE V.   TABLE 5 PEARSON CORRELATION TEST BETWEEN METACOGNITIVE READING STRATEGY AWARENESS AND READING COMPREHENSION

		Metacognitive Reading Strategy Use
Reading Comprehension	Pearson Correlation	.500**
	Sig. (2-tailed)	.005
	N	30

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

Table 5 demonstrates that there is a moderate correlation (r=.500) between metacognitive reading strategy awareness and reading comprehension. The interpretation of the size of the correlation coefficient is based on Guilford's (1973) rule of thumb. The result shows that the correlation is significant, with the level of probability (*p*) is 0.002 which is smaller than 0.01 (p<0.01). If the score of *p* is smaller than 0.01, it means that the correlation is significant. The result also demonstrates that the correlation is positive (r=.500). Thus, there is a significant positive correlation between metacognitive reading strategy awareness and reading comprehension.

The following table is the descriptive statistics of the collected data:

TABLE VI.   DESCRIPTIVE STATISTICS OF THE VARIABLES

	N	Mean	Std. Deviation	Variance
Reading Comprehension	30	5.817	1.380	1.905
Metacognitive Reading Strategy Use	30	106.400	11.297	127.628
Valid N (Listwise)	30			

Table 6 indicates the descriptive statistics of respondents' metacognitive reading strategy use and reading comprehension. The table shows that there are 30 respondents investigated in this study. The mean score of metacognitive reading strategy use achieved by the respondents is 106.400 with standard deviations of 11.297 and the mean score of reading

comprehension is 5.817 with standard deviation of 1.380. The variances of both variables are 127.628 and 1.905 respectively. For the result of the Regression Analysis, see table 7 as follows.

TABLE VII.   THE REGRESSION ANALYSIS OF RESPONDENTS' METACOGNITIVE READING STRATEGY AWARENESS AND READING COMPREHENSION

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.679	2.139		-.317	.753
	Metacognitive Reading Strategy Awareness	.061	.020	.500	3.053	.005

a. Dependent Variable: Reading Comprehension

Table 7 shows the regression analysis of respondents' metacognitive reading strategy awareness and reading comprehension. From the table, it can be inferred that respondents' metacognitive reading strategy awareness influenced reading comprehension achievement with t_{value} (0.250) is higher than t_{table} (2.763). The sig. Value (0.005) was lower than the level of probability (0.01); this means that there was a significant influence between respondents' metacognitive reading strategy awareness toward reading comprehension achievement. For more information, see Table 8 as follows.

TABLE VIII.   MODEL SUMMARY[c] OF THE REGRESSION ANALYSIS

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.500[b]	.250	.223	1.21667	1.783

b. Predictors: (Constant), MRS

c. Dependent Variable: RC

Table 8 demonstrates the percentage of the regression analysis. From the table, it can be described that the R Square (R^2) has a score of 0.250. This indicates that the level of influence of respondents' metacognitive reading strategy awareness toward reading comprehension achievement is 25%. The rest of the percentage (75%) is unexplained factor value.

B. Discussion

This study has revealed that learners who made common use of metacognitive reading strategies had higher reading comprehension test score. It was proven from the result of Pearson Product-moment Correlation Coefficient that there was a positive moderate correlation between metacognitive awareness and reading comprehension (r=.500) among EFL learners.

Finding of this current study was consistent with the finding of Anjomshoaa et al.'s study which showed that metacognitive reading strategy awareness was moderately related to reading comprehension (r=.416) [14]. Although Anjomshoaa et al. used a different instrument from the one used in this current study–as Anjomshoaa et al. used Metacognitive Reading Strategies Questionnaire (MRSQ) developed by Taraban, Karr, and Ryneason–the result

remained the same that there was a moderate correlation between metacognitive awareness and reading comprehension. Not only that, finding from Madhumathi and Ghosh's study also revealed that metacognitive reading strategy awareness was moderately related to reading comprehension [13]. However, finding from the study carried out by Batang showed a strong correlation between metacognitive awareness and reading comprehension (r=.76) [34].

The results of this current study also demonstrated that respondents' metacognitive awareness significantly influenced reading comprehension (sig. Value=0.005, t_{table}=0.250) with the level of influence was 25%. It is proven that "metacognitive awareness significantly contributes to reading comprehension" [14].

Findings from previous studies have uncovered that there was a significant relationship between metacognitive awareness and reading comprehension among EFL and ESL readers. The studies revealed that the readers who have high metacognitive reading strategy awareness also showed to have higher level of reading comprehension. It was stated that "better readers are also better strategy users" [34]. Therefore, learners should be taught about a variety of reading strategies applicable for use so that they will be able to choose appropriate strategies that can assist them in comprehending the text better. As it is suggested by Batang that learners should be taught with metacognitive strategies since they are in college level [34]. This is because learners would have to cope with a variety of texts. Thus, the instruction should aim at raising learners' awareness of it so that they could employ (certain) strategies effective for their reading comprehension [2].

If the correlation was performed separately based on each category of the reading strategy, Ilustre found that it was only the problem-solving strategy which had positive correlation (r=.71) with reading comprehension [33]. Whereas, this current study found that the significant positive correlation did existed among the GLOB and the PROB; nevertheless, no correlation existed among the strategies under the category of SUP. There was a more surprising fact than this; Meniado's study showed no correlation existed between metacognitive reading strategies awareness and reading comprehension achievement. Regarding this, there should be further investigation on it [36].

Anderson believes that readers who are aware of appropriate strategy use are considered as perceptive second/foreign language readers [2]. In relation to this notion, it is found out that the relationship occurs not only in the context of reading but also in the context of listening. Yang found that differences occur in the use of metacognitive strategies among English listeners, where learners who had low achievement used fewer metacognitive strategies. This of course indicated the importance and influence of metacognitive strategies in foreign language learning.

Findings of this current study also showed that the learners used problem-solving strategies more frequently than the global and support strategies. This finding was consistent with that of Anderson's who revealed that second language readers tend to use problem-solving strategies more often such as adjusting reading rate, rereading difficult part of the texts, and

pausing to think about what they were reading [2]. Other researchers also found out that ESL/EFL readers mostly employed and were aware of the problem-solving strategies while reading texts written in English [7,10,13,24,36-38]. It is because EFL learners usually find difficulties in comprehending the text as it is not written in their first language. Thus, they will find ways to solve the difficulties.

Vianty suggests that it is crucial for language teachers to encourage their learners to employ metacognitive reading strategies in order to improve their reading performance both in Bahasa Indonesia and in English, as she had investigated and found that learners used more metacognitive strategies while reading texts written in Bahasa Indonesia than those written in English. In the same vein, Anderson asserts that learners should be made aware of a wide range of reading strategies so that they would be able to select appropriate strategies to achieve their goals [2]. Employing appropriate reading strategies allows readers to "understand texts more efficiently and do not waste too much time and energy" [14].

On the other hand, it was also found that the learners moderately used the Global Strategies and Support Strategies. They sometimes employed the Global Strategies and Support Strategies while reading texts written in English. However, the Support Strategies were the least used strategies among the three categories of reading strategies. This finding was consistent with the finding from the work of Yuksel and Yuksel [37]. The overall average mean score of the three categories were above 3.50; this meant that the first year EFL undergraduates had moderate awareness on the use of metacognitive reading strategies. This finding had validated the finding from Xianming's study which showed that first-year college students had moderate awareness on the use of metacognitive reading strategies.

This result indicates that while respondents have already had some capacity for employing some reading strategies, there are still rooms for improvements to be made, especially if we look at the fact that some strategies (in the category of Support Strategies) are still overlooked. Therefore, lecturers can start focusing on giving students chance to develop these particular strategies. It was obvious that the learners needed to be made aware of the importance of Support Strategies as these strategies might also be useful in facilitating them to comprehend the texts better. They might also use these strategies as their other alternatives. This might be because they did not have enough awareness regarding the support strategies so that most of them rarely used these strategies or this might be caused by their perception that saw these strategies as less useful in helping them comprehend the texts since these strategies were time-consuming [37]. Yuksel & Yuksel claimed these strategies as time-consuming due to its use which involved the use of some sort of support mechanisms or tools [37]. For instance, taking notes, using reference materials like dictionaries, reading aloud, highlighting the texts, going back and forth, and so on.

V. CONCLUSION

It has been stated earlier that the purpose of this study was to find out whether there was a significant positive relationship between metacognitive reading strategy awareness and reading comprehension. Findings of the study showed that learners with high awareness of metacognitive reading strategies were proven to have higher reading proficiency level. They tended to use more metacognitive strategies while reading compared to those with lower proficiency level. There was a significant moderate relationship (r=.500, p<.01) between metacognitive awareness of reading strategies and reading comprehension. This finding was consistent with the findings of the previous studies. Hence, the findings from this current study have added knowledge about metacognitive reading strategy awareness of EFL students in West java, Indonesia in connection to their reading comprehension. Based on this study, generally, EFL students in one of the universities in West Java, Indonesia have moderate awareness regarding the use of metacognitive reading strategies. It is also consistent with the findings from other studies about metacognitive awareness of EFL students in different countries.

Regarding the metacognitive strategies used by the learners, it was found that the reading strategies that were frequently used by EFL learners were problem-solving strategies. It was seen from the score of M which was above 3.50. The most commonly used strategies are problem-solving strategies; the most frequently used strategy under the category of problem-solving strategies was "re-reading text when it becomes difficult in order to increase understanding" (M=4.23). On the other hand, compared to the problem-solving strategies, the global strategies and the support strategies were moderately used by the learners.

The result of the study suggested that learners should put more attention to the strategies used while reading. They should be taught and be made aware of a variety of strategies. This will allow them to use the strategies while reading a variety of tasks. It was also suggested that educators should monitor the learners' process in reading, give instruction that enable them to use reading strategies frequently, and so on.

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APPENDIX

SURVEY OF READING STRATEGIES (SORS)

The purpose of this survey is to collect information about the various techniques you use when you read **academic materials in English** (e.g. reading textbooks for homework or examinations, reading journal articles, etc.).

All the items below refer to your reading of academic materials (such as textbooks, *not* newspapers or magazines). Each statement is followed by five numbers: 1, 2, 3, 4, and 5, and each number means the following:

'1' means that 'I **never or almost never** do this'.

'2' means that 'I do this only **occasionally'**.

'3' means that 'I **sometimes** do this'.

'4' means that 'I **usually** do this'

'5' means that 'I **always or almost always** do this'.

After reading each statement, **circle the number** (1, 2, 3, 4, or 5) which applies to you. Note that there are no right or wrong responses to any of the items on this survey.

No	Statement	Scale				
1	I have a purpose in mind when I read.	1	2	3	4	5
2	I take notes while reading to help me understand what I read.	1	2	3	4	5
3	I think about what I know to help me understand what I read.	1	2	3	4	5
4	I take an overall view of the text to see what it is about before reading it.	1	2	3	4	5
5	When text becomes difficult, I read aloud to help me understand what I read.	1	2	3	4	5
6	I think about whether the content of the text fits my reading purpose.	1	2	3	4	5
7	I read slowly and carefully to make sure I understand what I am reading.	1	2	3	4	5
8	I review the text first by noting its characteristics like length and organization.	1	2	3	4	5
9	I try to get back on track when I lose concentration.	1	2	3	4	5
10	I underline or circle information in the text to help me remember it.	1	2	3	4	5
11	I adjust my reading speed according to what I am reading.	1	2	3	4	5
12	When reading, I decide what to read closely and what to ignore.	1	2	3	4	5
13	I use reference materials (e.g. a dictionary) to help me understand what I read.	1	2	3	4	5
14	When text becomes difficult, I pay closer attention to what I am reading.	1	2	3	4	5
15	I use tables, figures, and pictures in text to increase my understanding.	1	2	3	4	5
16	I stop from time to time and think about what I am reading.	1	2	3	4	5
17	I use context clues to help me better understand what I am reading.	1	2	3	4	5
18	I paraphrase (restate ideas in my own words) to better understand what I read.	1	2	3	4	5
19	I try to picture or visualize information to help remember what I read.	1	2	3	4	5
20	I use typographical features like bold face and italics to identify key information.	1	2	3	4	5
21	I critically analyze and evaluate the information presented in the text.	1	2	3	4	5
22	I go back and forth in the text to find relationships among ideas in it.	1	2	3	4	5
23	I check my understanding when I come across new information.	1	2	3	4	5
24	I try to guess what the content of the text is about when I read.	1	2	3	4	5
25	When text becomes difficult, I re-read it to increase my understanding.	1	2	3	4	5
26	I ask myself questions I like to have answered in the text.	1	2	3	4	5
27	I check to see if my guesses about the text are right or wrong.	1	2	3	4	5

28	When I read, I guess the meaning of unknown words or phrases.	1	2	3	4	5
29	When reading, I translate from English into Indonesian.	1	2	3	4	5
30	When reading, I think about information in both English and Indonesian.	1	2	3	4	5