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| **RESEARCH ARTICLE**

Metacognitive Strategies on Reading English Texts of Non-English Majored Students at Dong Nai Technology University, Vietnam: A Mixed Design

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| **ABSTRACT**

The goal of this study is to see if there is a link between the usage of metacognitive reading strategies by non-English major students and their reading comprehension performance. This research was conducted at Dong Nai Technology University with 70 students ranging in age from 19 to 22 years old. Both quantitative and qualitative data were used in the investigation. These students were asked to complete a TOEIC reading test to assess their reading ability, followed by the Metacognitive Awareness of Reading Strategies Inventory (MARSI) (Mokhtari & Reichard, 2002) to assess their metacognitive use. Semi-structured interviews with four high scorers and four low scorers from the sample were used to acquire qualitative data. The findings demonstrated that students' metacognitive reading strategy use is at a moderate level, and the most frequent and least frequent strategies that they used are Problem-solving and Global strategies, respectively. Additionally, it found that more proficient readers used metacognitive strategies more frequently, more successfully, and more appropriately than less proficient readers and vice versa. Some qualitative results were also mentioned. The results of the study have some implications for both teachers and students to employ appropriate metacognitive reading strategies in second language acquisition.

1. Introduction

English is seen as an international language in the context of globalization. Proficiency in English, including listening, speaking, reading, and writing skills, is seen as a desirable goal for learners worldwide, not just Vietnam. Reading might be considered one of the most important language abilities for a university student because it gives written input to help with English skills. As a result, in order to excel in their academic lives and beyond, pupils must be able to comprehend what they read. Reading, on the other hand, is one of the most difficult talents to master at a high level (Grabe & Stoller, 2002). Furthermore, many studies show that reading comprehension is a difficult process, and students frequently struggle to construct meaning from written text (Grabe & Stoller, 2002). This is due to the fact that reading comprehension is a mental process that takes place in the mind with very little visible action (Alderson, 2002). As a result, even after years of mastering the English language, many EFL or ESL students struggle with English reading comprehension. As a result, individuals frequently experience challenges in areas such as finding work or advancing their careers after graduation.

Researchers have been focusing on this issue for a long time, and in recent years, they have proposed that using a metacognitive reading method can help readers enhance their reading comprehension (Salataki & Akyel, 2002). In addition, the majority of the studies found that metacognitive practices are beneficial to second language learners. Despite the fact that many studies have been conducted in these disciplines, both theoretical and empirical studies tend to provide contradictory viewpoints and conclusions, as well as a number of constraints. These studies were carried out using either a qualitative or quantitative approach.

The majority of research revealed that poor or failed learners are unable to utilize metacognitive strategies in their reading processes or use them less frequently, and little attention was devoted to more in-depth data on various difficulties related to metacognitive strategy use and reading comprehension. As a result, there is still a gap in research on the association between metacognitive reading strategy use and reading comprehension performance, as well as more in-depth data on the use of metacognitive methods.

1.1. Research Questions

This study, therefore, used a mixed-methods design that can enhance the depth and breadth of this body of research to answer the following research questions:

1. What are the most frequently and least frequently used metacognitive reading strategies employed by non-English major students at Dong Nai Technology University?
2. Is there any significant relationship between these non-English major students' overall metacognitive reading strategies use and reading comprehension performance?

1.2. Aims of the study

The present study aims at identifying the relationship between non-English major students' metacognitive reading strategies use and reading comprehension performance at Dong Nai Technology University. This study is a response to that need with two aims:

(a) Investigate the overall pattern, types, and frequency of metacognitive strategies used by the participants
(b) Figure out if there is any significant relationship between these students' overall metacognitive reading strategies use and reading comprehension performance

2. Literature Review

2.1 Metacognition in L2 learning

Metacognition recently realized as an empowering factor influencing the learning process and outcomes (Boekaerts, Pintrich & Zeidner, 2000; Bolitho et al., 2003; Anderson, 2003), is defined in several ways. As defined by Flawell (1979), metacognition reflects thinking about one's own thinking. In other words, it represents the human's ability to control his or her own mental processes. According to Anderson (2002), Metacognition simply can be defined as "thinking about thinking" or cognition about cognition. Therefore, it can be considered "a predictor of reading comprehension ability" (Baker, 2008, p. 25). There have been several other concepts of metacognition, but as noticed by Paris and Winograd (1990), most of the definitions include two most important aspects: knowledge about cognitive states and processes and the executive function of metacognition. Overall, metacognition is defined and categorized differently by different researchers. The concept of metacognition may serve as the root of the theory concerning metacognitive reading strategy use.

2.2 Metacognitive reading strategies

Deriving from the definition of metacognition, metacognitive use of reading strategies can be defined as "the knowledge of the readers" cognition relative to the reading process and the self-control mechanisms they use to monitor and enhance comprehension" (Sheorey & Mokhtari, 2001, p. 432). In the new approach, metacognitive reading strategy use is defined as any choice, behavior, thought, suggestion, and technique used by a reader to help their learning process (Oxford, 1990; Cook, 2001; Macaro, 2001). In other words, metacognitive reading strategy use in reading is defined as the actions that the reader performs, such as planning, monitoring, or evaluating the success of a particular learning task. In sum, metacognitive reading strategy awareness and use include the use of whether or not comprehension is happening and the conscious willingness of one or more strategies to monitor the reading comprehension.

There are different frameworks of metacognitive reading strategies; however, the researcher followed the framework of Mokhtari and Richard (2002) to fit the study. The framework includes global strategies, problem-solving strategies, and supporting strategies. A global reading strategy refers to a set of reading strategies oriented toward a global analysis of the text, for example, having a purpose in mind or previewing the text. The problem-solving reading strategy focuses on strategies for solving problems when the text becomes difficult to read or comprehension breaks down, such as reading slowly and carefully or guessing the meanings of unknown words. Support reading strategy involves the use of outside reference materials such as taking notes or paraphrasing. The present study, thus, followed the framework of Mokhtari & Richard (2002) for its fitness to the study. However, the question raised here is what the roles of metacognitive strategies in reading comprehension are.

2.3 Roles of metacognitive reading strategies use in reading comprehension

Metacognitive reading strategy awareness and use play an important role in enhancing the teaching and learning of reading and, more importantly, fostering reading comprehension (Carrell et al., 1989). Metacognitive awareness and the use of reading strategies can help students to understand not only what strategies they can use or how they should use them but also why, when, and where they are supposed to use them at a particular stage (Anderson, 2002). Such an approach is likely to lead students to become skilled readers. It has been claimed that "students without metacognitive approaches are essentially learners without direction or opportunity to review their progress, accomplishments, and future learning directions" (O'Malley, Chamot, Russo, & Kupper, 1985, p. 561). On another side, O'Malley, Chamot, Stewner-Mazanares, Russo, and Kupper (1985) say that learners who lack metacognitive approaches are those who have no direction or opportunity to reassess their progress, achievements, and potential direction. Learners ought to be taught how, when, and why to use various comprehension strategies so that they can become self-directed, independent readers. In short, the role of the metacognitive reading strategy use, which is an influential factor in reading comprehension performance, is to help students be aware of what they have read and learned to achieve text comprehension. Thus, several studies raised some concerns about this field. The question raised here is whether metacognitive reading strategy use is related to reading comprehension performance or not.

2.4 Relationship between metacognitive reading strategies use and reading comprehension

There have been numerous studies on this topic, both in the international and local contexts. Nonetheless, the data and findings are contradictory, and the study has been deemed inconclusive. On the one hand, it was claimed that the metacognitive reading technique was significantly linked to reading comprehension. Students who are aware of and use metacognitive reading strategies perform better in reading proficiency tests (Sheorey & Mokhtari, 2001; Ilustre, 2011; Hong-Nam, 2014; Mokhtari & Reichard, 2002; Monos, 2003; Oxford, 1996; Nguyen T. M. T. & Trinh Q. L.,2011). Sheorey and Mokhtari (2001), for example, looked at how 150 English native and 152 non-native university students in the United States read academic literature and how they used metacognitive awareness and reading strategies. In this study, Mokhtari and Sheorey used the Survey of Reading Strategies (SORS) (Mokhtari & Sheorey, 2002). The findings revealed that reading aptitude and reported reading strategies had a link. In other words, students with high reading ability in both native and non-native groups employed more methods than students with low reading ability. As a result of their strong metacognitive usage of the range of reading strategies, this result validated the fact that skilled readers utilize more methods than less talented readers (Sheorey & Mokhtari, 2001, p. 433).

Ilustre (2011) also looked into whether metacognitive reading practices could predict text comprehension more accurately. In this study, 226 college students were invited to complete the Reading Beliefs Inventory (RBI) and the Survey of Reading Strategies Inventory (SORS) (Mokhtari & Sheorey, 2002), as well as a reading comprehension test. According to the findings, only problem-solving techniques linked favorably with reading comprehension among the three subscales of metacognitive reading strategies. To put it another way, pupils who admitted to utilizing this approach scored higher on reading tests.

Furthermore, Mokhtari and Reichard (2002) used the Metacognitive Use of Reading Strategies Inventory (MARSI) to assess learners' level of reading strategies while reading academic or school-related materials. MARSI was designed to assess 6th-12th grade students' use and use of reading strategies while reading academic or school-related materials. The study included 825 children from ten urban, suburban, and rural school districts across five Midwestern states. Their findings revealed that the use of global and problem-solving reading strategies differed significantly, while there were no significant differences in the use of support reading techniques. To put it another way, readers who evaluated their reading ability as exceptional used the global reading method substantially more than readers who ranked their reading ability as average. In terms of the problem-solving reading technique, it can be determined that readers with good reading ability used it substantially more than readers with ordinary reading ability. As a result, many research studies have demonstrated that metacognitive methods have favorable connections and impacts on reading comprehension.

Oxford (1996) looked into this relationship in a similar way. More than 1,000 Korean students took part in his research (617 male and 493 female). One middle school, three high schools, and two universities provided the data. The findings revealed that students who regarded their proficiency as good and who thought English was highly essential used more Metacognitive strategies than those who did not. Monos (2003) investigated the use of metacognitive strategies by high and low-proficient learners in a similar study. A total of 86 Hungarian students studying English as a foreign language took part in the study. They were between the ages of 18 and 24. The instrument was the Hungarian College Students' Reading Strategies Survey. Monos' findings, like those of prior studies, demonstrated that high-performing students employed more metacognitive strategies.

Some research findings suggest a different scenario in a similar vein when it comes to the disparities between higher-proficient readers and lower-proficient readers in terms of metacognitive reading strategy utilization. Jafari & Shokrpour (2012), for example, explored their reading methods when Iranian ESP students read actual texts in English. The participants were only marginally aware of reading techniques, with Support strategies being the most frequently utilized, followed by Global strategies and then Problem-

solving methods. Zare (2013) discovered that the employment of reading techniques had a high positive link with reading comprehension achievement in his study of eighty Iranian EFL students. He also came to the conclusion that language learners can be classified as medium strategy users, with no significant differences in the use of reading strategies between male and female language learners. In conclusion, numerous researchers discovered a beneficial relationship between metacognitive reading methods and reading ability, but their findings were quite varied.

While the majority of studies discovered favorable connections and benefits of metacognitive methods on reading comprehension, a few found the opposite. Carrell (1989) investigated the metacognitive use of reading strategies by two groups of learners in their L1 and L2: the first consisted of 45 native Spanish speakers learning English as an L2 in an intensive program, and the second consisted of native English speakers learning Spanish as a foreign language. The researchers also looked into the link between their use and reading comprehension. A self-report questionnaire was used to assess the individuals' metacognitive use, and two English and Spanish texts were used to test their reading comprehension. Bottom-up reading strategies were found to have a negative connection with reading performance. Nonetheless, for L2 readers, this association was found to be favorable. Green and Oxford (1995) looked at 213 English students and discovered that while high competent students used more metacognitive methods than low proficient students, medium proficient students used more strategies than either high or low proficient students. Some researchers discovered a negative association between metacognitive reading methods and reading performance, as I described earlier. To summarize, the outcomes and findings of various investigations differ. Different contexts, subjects, methodologies, and cultures may be the origin of these contradictory outcomes.

The negative correlation results mentioned above differ from the findings in the local context in a few ways. Studies on this topic continue to pique attention throughout Asia, but they are still uncommon. Hong-Nam (2014) looked into the metacognitive and reading methods used by high school-aged English language learners (ELLs) in another study. Hong-Nam (2014) looked at the metacognitive and reading strategies used by high school-aged English language learners (ELLs), as well as the relationship between ELL reading strategy use and reading proficiency. Overall, participants reported using reading methods in a moderate way. Furthermore, ELLs valued problem-solving methods the most, followed by Global Reading strategies and Support Reading strategies. ELLs with intermediate reading proficiency reported employing more methods, despite the fact that the variations in the strategy used by reading proficiency were not statistically significant. This paper presents the findings of a study that investigated the metacognitive reading methods Vietnamese EFL students employed, as well as the relationship between metacognitive strategy use and reading achievement.

In the Vietnamese setting, studies on this topic are still uncommon. For example, Nguyen T. M. T. and Trinh Q. L. (2011) investigated the metacognitive strategy use and reading comprehension of 84 students in grade 11 at an upper secondary school in a remote location in Vietnam's Mekong Delta. The majority of problem-solving procedures were adopted by the participants, according to the findings. Support strategies, on the other hand, are used the least. Even though the study demonstrated a strong link between participants' usage of these tactics and their reading comprehension achievement, similar studies in the Vietnamese setting are still beneficial. Because of the disparities in contexts, techniques, and research participants, it appears that metacognitive use and reading comprehension are related to each other to some extent. However, the evidence is insufficient to draw any strong conclusions, and the results are inconsistent and contradictory. Furthermore, studies in this sector were conducted using either a qualitative or quantitative approach, with little attention paid to more in-depth data on aspects such as metacognitive strategy utilization and reading comprehension.

As a result, there is still a gap in the literature because there are few studies examining the relationship between metacognitive reading strategy use and reading comprehension performance, as well as more in-depth data on some other issues related to metacognitive strategy use and reading comprehension performance. As a result, there is still a gap in the literature because there are few studies examining the relationship between metacognitive reading strategy use and reading comprehension performance, as well as more in-depth data on some other issues related to metacognitive reading strategy use and reading comprehension, particularly in the context of Vietnamese education. As a result, the current study aims to close this research gap and, hopefully, contribute to future research on this subject. A conceptual framework has been established based on the examined literature to give a theoretical foundation for the current study. It is discussed in the following section.

3. Methodology
3.1 The participants
The research was conducted at the Dong Nai Technoly University. The participants in this study consisted of 72 non-English-majored students drawn from three intact classes; however, only 70 students (30 females, 43%, 40 males, 57%) aged from 19 to 22 were considered subjects of the study. Because among 72 responses from students, there were 70 valid responses that have all questions answered, and only these valid responses were included in the data analysis. In other words, students who did not

answer either questionnaire or Toeic test and who did not answer all the questions of these instruments were excluded from the scope of the study. A sample size of 70 students can be considered good enough to produce meaningful results for correlational research because the minimum requirement is 30. The majority of the sample was freshman and sophomores who are relatively new to the university learning situation. The rationale behind choosing freshman and sophomores to be the subject of the study is that they are supposed to have problems in reading comprehension due to the relatively new English learning situation at university. Therefore, the sophomores and freshmen would best enable the researcher to find the answers to the research questions.

3.2 Research instruments

3.2.1 Measuring metacognitive reading strategy use

The first instrument is the questionnaire to measure metacognitive reading strategy use, which is the revised version of the Metacognitive Awareness of Reading Strategies Inventory (MARSI). The Metacognitive Awareness of Reading Strategies Inventory (MARSI) was developed by Mokhtari and Reichard (2002) to assess students' metacognitive awareness and perceived use of reading strategies. The MARSI comprises 30 items with a five-point Likert scale ranging from "never" to "always". Three categories of metacognitive reading strategies are all testified, particularly global strategies (13 items), problem-solving strategies (8 items), and support strategies (9 items). The MARSI comprises 30 items with a five-point Likert scale ranging from "never" to "always". Three categories of metacognitive reading strategies are all testified, particularly global strategies (13 items), problem-solving strategies (8 items), and support strategies (9 items). In general, a global reading strategy represents a set of reading strategies oriented towards a global analysis of the text. The problem-solving reading strategy focuses on strategies for solving problems when the text becomes difficult to read. Support reading strategy involves the use of outside reference materials.

The MARSI was adapted or modified so that it would become more suitable in the research context. Firstly, the MARSI version was administered in Vietnamese to avoid participants' language problems which may cause their misunderstanding of the items. Secondly, the sequence of the items was rearranged according to their categories (strategies under the same category were clustered together) to support participants' better understanding of the items in the questionnaire. After the MARSI was clustered, items 1 to 13 belonged to Global Reading Strategies. These generalized and intentional strategies were used for a global analysis of text or for setting up the stage for the reading activity. Items 14, 15, 16, 17, 18, 19, 20, and 21 tested learners' ability to identify problems and decide ways to solve the problems. They were considered as Problem-Solving Strategies. Items 22, 23, 24, 25, 26, 27, 28, 29, and 30 belonged to the third cluster, Support Reading Strategies; these strategies provide readers with functional or support strategies (dictionaries, reference materials, and other practical strategies) aim to sustain learners' attending to readings.

Table 1. Description of the revised version of the MARSI

	Number of items	Category	Items
1	13 items	Global Reading Strategies	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
2	8 items	Problem-Solving Strategies	14, 15, 16, 17, 18, 19, 20, 21
3	9 items	Support Reading Strategies	22, 23, 24, 25, 26, 27, 28, 29, 30

As suggested by the designer, the average means of 3.5 or higher is considered a high level of metacognitive use, 2.5-3.4 as a medium level, and 2.4 or lower as a low level. In this study, MARSI was translated into Vietnamese so that all participants could clearly understand all the items and respond quickly and easily. According to Mokhtari and Reichard (2002), MARSI was reliable for measuring and assessing the students' metacognitive use. In the present study, the reliability analysis was conducted to examine the reliability coefficients for the MARSI using Cronbach's alpha. High reliability coefficients were observed for the overall usage of 0.82 and for all three strategy categories, with 0.83 for Global strategy, 0.81 for Problem-solving strategy, and 0.80 for Support strategy. The reliability coefficient alpha was .82, which indicated that the MARSI had high reliability and the effect of errors in the instrument was small. Therefore, this scale is considered to be reliable in measuring and assessing the students' metacognitive use. Concerning the validity, according to Mokhtari and Reichard (2002), MARSI was valid for measuring and assessing the students' metacognitive use. Thus, the researcher can conclude that this questionnaire is valid in the present study. On the whole, all scales in the questionnaire were reliable and valid, and the data collected by these scales were worth being further analyzed.

3.2.2 Measuring reading comprehension

The reading comprehension section of the TOEIC test is chosen to test students' reading comprehension performance. The reading section (part seven) of the TOEIC test consists of fourteen passages and 48 questions. It takes about 50 minutes to complete the test. The score method for the test used in this study is that the correct answer was given 1, and an incorrect answer received 0. Therefore, the maximum possible score for this test is 48 for the 48 items on the test.

The reading comprehension section of the TOEIC test is chosen to test students' reading comprehension performance because it is academic English competence at the university level. The reading section (part seven) of the TOEIC test consists of fourteen passages and 48 questions. It takes about 50 minutes to complete the test. The reading comprehension test was multiple choices with four possible answers for each item, which are quite familiar to all learners at the research site. This test was taken from practice tests provided by Cambridge English Language Assessment, a reputable and trustable testing association. The score method for the test used in this study is that the correct answer was given 1, and an incorrect answer received 0. Therefore, the maximum possible score for this test is 48 for the 48 items on the test. The researcher chooses the Toeic test because its certificate is the condition for students' graduation, and it is in the school's curriculum. As part of the requirements to TDTU, they had to submit valid certificates of TOEIC. Another reason why the reading passages from TOEIC were selected was that they were similar to the level of participants at the university (Zhang, 2003).

3.2.3 Semi-structured interview questions design
Based on participants' scores in the reading comprehension test, eight participants of the study were purposefully selected to be interviewed to get more insight into some particular aspect. Eight participants who gained the most and the least in their reading achievement (namely 4 "more proficient readers" and 4 "less proficient readers") were chosen for the interviews. The interviews were conducted face-to-face after the questionnaire was administered. Before the interview, I remind the students that there is no right answer or wrong answer to the questions. Questions were asked in Vietnamese to make the interviewees feel comfortable and self-confident in providing as much information as possible. Data obtained from the interviews was subsequently translated into English.

This study used one-to-one semi-structured interviews, which is the most popular interview type conducted in applied linguistics research (Dornyei, 2007, p.136). This method offers a compromise between structured interviews and unstructured interviews. Although it relies on a set of prepared guiding questions, it still allows for flexibility by encouraging interviewees to elaborate on certain issues or develop the answers in unexpected directions that may open up new interesting areas (Heigham & Croker, 2009). A seven-question interview which was developed by the researcher, was used in this study to gather some additional qualitative data. The purpose of this step was to get more insight into some individual opinions about metacognitive strategies in reading and to check whether the qualitative data in the interviews supported the findings of the questionnaires. Accordingly, this study relied on an interview guide with seven self-designed questions (see Appendix E) as follows:

The first, the second, the third questions determine whether students had any difficulties while reading academic texts except for lacking strategies, what kinds of difficulties they encountered, and what their biggest problem was. The fourth question examines students' personal reading solutions they may take to tackle these problems. Meanwhile, question number 5 investigates if they know metacognitive reading strategies and know when and why to apply them. Question number 6 figures out if they usually use these strategies and they find whether these strategies are effective or not. In the last question, students were asked to give information regarding problems hindering participants' use of metacognitive strategies in reading. The description of interview questions was summarized in Table 3.4.3. as follows:

Table 2 Description of interview questions

Interview question item	Content
1	
2	Difficulties while reading English academic texts except for lacking of
3	strategies
4	Student's solutions to solve reading problems
5	Know these strategies or not
	Know when and why to apply these strategies
6	How often do they use these strategies, and do they find these strategies effective or not
7	Problems hindering your use of Metacognitive Strategies

In terms of reliability, the interview questions were clearly worded and open-ended, which means there are no ambiguous or leading questions.

3.4 Research procedures
3.4.1 Data collection procedures
Students were asked to do the reading comprehension section of the TOEIC test in approximately 50 minutes. After administering the test, the Metacognitive Awareness of Reading Strategies Inventory (MARSI) was given to students to assess their awareness and use of the metacognitive strategies in reading comprehension. All the test and questionnaire formats were introduced to students by the researcher beforehand. For scoring the reading comprehension, one score was assigned to each correct answer.

3.4.2 Data analysis procedures
Firstly, to answer research question 1, I used descriptive statistical procedures. Secondly, Pearson correlation was used to explore the relationship between metacognitive reading strategy use and reading comprehension performance, and then an independent t-test was used to compare the differences between the mean frequencies of strategies used by two independent groups: more-proficient readers (subjects scoring above 24) and less-proficient readers (subjects scoring below 24). All the calculations were done with the support of The Statistical Package for the Social Sciences (SPSS) version 20. Finally, the results were analyzed and discussed in the light of previous studies, and teaching implications were drawn.

4. Results and Discussion
4.1 Finding results
4.1.1 The overall pattern, type, and frequency of metacognitive reading strategies use reported by non-English major students at DNTU

Table 3 Descriptive statistics for the three subscales and overall use of metacognitive strategies by non-English major students at DNTU (N=70)

	N	Mean	Std. Deviation
GLOBAL STRATEGY	70	3.23	.529
PROBLEM-SOLVING STRATEGY	70	**3.64**	.518
SUPPORT STRATEGY	70	3.36	.592
MARSI	70	**3.37**	.442
Valid N (listwise)	70		

The overall mean of reading strategy use is 3.37 suggesting a moderate level of metacognitive reading strategy use. In other words, non-English major participants in DNTU seem to be moderately aware of metacognitive reading strategies. As suggested by the designer in the previous part, the average means of 3.5 or higher is considered a high level of metacognitive use, 2.5-3.4 as a medium level, and 2.4 or lower as a low level.

Referring to the three subscales, the highest means is 3.64, associated with the Problem-solving strategy, followed by the Support strategy (M = 3.36, SD = .592), whereas the Global strategy accounts for the lowest mean of 3.23. It means that among the three main categories of metacognitive strategies in MARSI, the most frequent use of the metacognitive reading strategies was found to be the Problem-solving strategy (M = 3.64, SD = .518), followed by the support strategy (M = 3.36, SD = .592), and the least frequent metacognitive reading strategies that the learners used are Global strategy (M = 3.23, SD = .529).
The relationship between participants' metacognitive reading strategies uses and their reading comprehension performance.

Table 4. Descriptive statistics of metacognitive reading strategy and reading comprehension scores

	Mean	S.D	Skewness	Kurtosis
TOEIC score	24.89	7.565	.595	-.600
MARSI	3.41	.442	.016	-.470
Valid N	**70**			

As indicated in Table 2, the skewness and kurtosis of the two variables in this study are in acceptable ranges [-1; 1], indicating that they are normally distributed (Bachman, 2004). Therefore, the Pearson correlation can be used as a means of answering the second research question. The results of this statistical test are presented in Table 3.

Table 5. Pearson Correlations between the observed variables

		Reading Score	GLOBAL STRATEGY	PROBLEM SOLVING STRATEGY	SUPPORT STRATEGY	Total
Reading score	Pearson Correlation	-	.517**	.258*	.368**	.471**
	Sig. (2-tailed)		.000	.019	.001	.000
GLOBAL STRATEGY	Pearson Correlation		-	.330**	.633**	.811**
	Sig. (2-tailed)			.002	.000	.000
PROBLEM SOLVING STRATEGY	Pearson Correlation			-	.459**	.728**
	Sig. (2-tailed)				.000	.000
SUPPORT STRATEGY	Pearson Correlation				-	.879**
	Sig. (2-tailed)					.000
Total	Pearson Correlation					-
	Sig. (2-tailed)					
	N	82	82	82	82	82

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

As demonstrated in Table 5, the overall reading strategies and the reading comprehension performance were significantly and positively correlated (r = .471, p = .000). It means that the students who used more metacognitive strategies tended to score higher on the reading comprehension test, whereas the students who used fewer metacognitive strategies were likely to get low scores. Furthermore, all three subscales were also positively correlated with reading achievement. Among them, Global strategies held the highest correlation with reading comprehension achievement (r = .517, p = 000), Support strategies ranked the second (r = .368, p = .001) and Problem-solving strategies ranked the last (r=.258, p= .019). Generally, metacognitive reading strategy use correlates with reading comprehension significantly; the three subscales, namely Global strategies, Problem-solving, and Support strategies, also correlate with reading comprehension.

These results did not provide sufficient evidence to support the relationship between reading comprehension and metacognitive reading strategies in general. In other words, it is not reliable to draw any conclusion without further analysis. Hence, an independent Sample T-test was run to further explore the differences between more-proficient readers and less-proficient readers of non-English major students at DNTU in terms of metacognitive reading strategy use.

Based on scores from the reading comprehension test, 82 non-English major students are divided into two groups: more-proficient readers (involving 32 students who score more than or equal to 24) in TOEIC and less-proficient readers (including 52 students who score less than 24 in TOEIC). In fact, the maximum score is 48, with 48 correct answers. Descriptive statistics and an Independent Sample T-test were conducted to compare the level of MARSI of participants who were more-proficient readers and less-proficient readers. The results are illustrated in Table 4 and Table 5.

Table 6. Descriptive statistics for the three subscales and overall use of metacognitive strategies in both groups (more-proficient readers and less-proficient readers)

	Reading score	N	Mean	Std. Deviation
Total	More- proficient readers (>= 24.00)	34	**3.70**	.372
	Less- proficient readers (< 24.00)	48	**3.21**	.374
GLOBAL STRATEGY	More- proficient readers (>= 24.00)	34	3.59	.435
	Less- proficient readers (< 24.00)	48	2.97	.432
PROBLEM-SOLVING STRATEGY	More- proficient readers (>= 24.00)	34	3.81	.451
	Less- proficient readers (< 24.00)	48	3.53	.534
SUPPORT TRATEGY	More- proficient readers (>= 24.00)	34	3.68	.470
	Less- proficient readers (< 24.00)	48	3.14	.567

Table 6. shows the means and standard deviations of the overall metacognitive strategies and the three subscales of more-proficient and less-proficient readers. It depicts that the level of overall metacognitive reading strategies of more-proficient readers was slightly higher than that of less-proficient readers. For the more-proficient readers, the mean was 3.70, and the standard deviation was .372. Meanwhile, for the less-proficient readers, the mean was 3.21, and the standard deviation was .374. However, the standard deviation of the level of metacognitive reading strategies indicated that the amount of spread among more-proficient and less-proficient readers was not wide. In particular, with respect to more-proficient readers, the Problem-solving strategies were the most highly used strategies (M=3.81), followed by support strategies (M=3.68) and global strategies (M=3.59), respectively. The differences between more-proficient and less-proficient readers when using metacognitive strategy are indicated in Table 7 below.

Table 7. Independent sample T-Test for the three subscales and overall use of metacognitive strategies in both groups (more-proficient readers and less-proficient readers)

	Levene's Test		t-test for Equality of Means		
	F	Sig.	t	Sig. (2-tailed)	Mean Difference
GLOBAL STRATEGY	.237	.627	5.787	**.000**	.484
PROBLEM-SOLVING STRATEGY	.100	.752	6.369	**.000**	.619
SUPPORT TRATEGY	1.158	.285	2.565	**.012**	.288
Total	1.732	.192	4.599	**.000**	.546

According to the data shown in Table 5, more-proficient readers employed more metacognitive strategies than less-proficient readers (p=0.000<0.05). In addition, among the three categories, there are significant differences in the use of metacognitive strategies between the two groups, in particular Global strategies (t=5.787, p=.000), Problem-solving strategies (t=6.369, p=.000), Support strategies (t=2.565, p=.012).

In brief, non-English major students at DNTU use metacognitive reading strategies with a medium frequency. The most frequent use of the metacognitive reading strategies was found to be problem solving strategy, followed by support strategy, and then global strategy. Furthermore, overall reading strategies and reading comprehension performance were significantly and positively correlated.

4.2 Discussion

4.2.1 The overall pattern, type, and frequency of metacognitive reading strategies reported by non-English major students at DNTU
The first aim of this present study is to investigate the overall type and frequency of metacognitive strategies used among non-English major students of DNTU. As reflected in the findings, it can be inferred that the different metacognitive reading strategies are moderately used by the participants. This result supports the general findings of Sheorey & Mokhtari (2001); Ilustre (2011); Hong-Nam (2014); Mokhtari and Reichard (2002); Anderson (1991); Monos (2003); Oxford (1996); Chern (1993) EFL students' respectively moderate use and use of metacognitive reading strategies. It also supports the findings of Hong-Nam and Page (2014) on the moderate use of metacognitive reading strategies for ELLs in America. However, this particular result of the study does not coincide with the general findings of previous research showing active high overall use of metacognitive reading strategies by EFL students in Malaysia (Pammu, Amir, & Maasum, 2014) and Magogwe, (2013). The possible reason for this astounding result may be because of the fact that the use of metacognitive strategies varies depending on language learners' settings and orientations. Another possible explanation for the medium habit may be that a number of differences such as L1 language, testing conditions, educational background, age... Overall, compared to other studies in other countries, despite the same pattern of using metacognitive strategy, the figures that participants in Vietnam reported seem to be slightly lower than that figure.

In response to three categories, as shown in Table 4, the primary preference for problem solving strategies, followed by support strategies and then global strategies. The results of this study were also partially consistent with some studies that assessed the metacognitive use of reading strategy by using MARSI. For instance, a study by Mokhtari and Reichard (2002) indicated that the total average use of reading strategies was moderate, and the prime preference was for problem-solving, followed by global and support reading strategies. Although the results of the present study showed that the total average use of reading strategies was moderate, the order of preference was quite different. The category of Problem-solving was the most frequently used. It is the strongest predictor, which can be thought of as learners' ability to identify problems and decide ways to solve the problems. Support strategies were the metacognitive strategy of the second highest frequency. It represents strategies that provide the support mechanism aimed at sustaining responses to reading. The least frequent metacognitive reading strategies that the learners used are global strategies which can be thought of as generalized, intentional reading strategies aimed at setting the stage for the reading act. This is because English is regarded as a second language in Vietnam; Vietnamese students do not have many opportunities to practice reading English in daily life. This may explain why students use Problem-solving strategies the most and global strategies the least. The results are not quite the same as previous research conclusions done by Kudeir, Magableh, Nsser, & Alkawaldeh (2012). However, this preference is consistent with several previous studies that investigated the use of reading strategies via SORS (Zhang & Wu, 2009). And it is in line with studies where subjects nominated support strategies as their favored choice, for instance, Hungarian university students (Sheorey & Baboczky, 2008) and both ESL students and native English speaking U.S. college students (Sheorey & Mokhtari, 2001). The result could be explained by the following reasons. Most participants might acquire various reading strategies unconsciously since these strategies are embedded in the reading comprehension exercises and tests during class. However, most participants in the study reported that they used Global and support strategies less frequently than Problem-solving strategies, which could be due to the lack of knowledge of these two category strategies. Therefore, teachers should find out how effectively learners use different strategies to give them guidance accordingly. It suggests that it is important to teach learners clearly why and how to use effective strategies and to use strategies in appropriate contexts. And Problem-solving strategies should be sharpened through practice exercises. There are many reasons that may explain the different results. The difference might be attributed to many reasons, such as different contexts, the samples, learning situations, and culture in the studies.

4.2.2. The relationship between participants' metacognitive reading strategies use and their reading comprehension performance
A correlation test was run to measure a relationship between students' metacognitive strategy use and their reading comprehension. The statistic test was performed at the level of .000, and the Pearson r value is 0.471, which denotes a positive relationship between metacognitive strategy use and reading comprehension (n= 82, r = .471, p = .000). Based on the findings of this part of the study, one may conclude that there appears to be a strong relationship between the effectiveness of strategy instruction and reading proficiency level. In fact, highly proficient or skilled readers seem to use more strategies than poor or less skilled readers and also appear to use them more frequently. The more participants used metacognitive strategies, the higher they would achieve their reading comprehension. More proficient readers also have enhanced metacognitive use of their own use of strategies, which in turn can lead them to greater reading ability and proficiency. Skilled readers are also able to monitor and evaluate their learning processes while reading. They know which strategies to use and how and when to use them. This suggestion is supported by Sheorey and Mokhtari's (2001) research, which found that those students who rated themselves as having high L2 reading proficiency used significantly more strategies than those who gave themselves a lower self-rating.

The findings of this study are, therefore, in line with those obtained by some previous studies (Anderson, 1991; Baker & Brown, 1984; Carrell et al., 1989; Pressley & Afflerbach, 1995; Zhang, 2001) that found there is a significant correlation between

metacognitive use and reading comprehension among EFL and ESL readers, suggesting that the higher the students' second language proficient, the higher their L2 reading comprehension performance would be. These results seem to support the findings of several studies in both second and foreign language learning (Singhal, 2001; Monos, 2003; O'Reilli & Mcnamara, 2007; Oxford, 2006), proposing that the frequency and range of metacognitive strategy use increase as students become more proficient. It was not very surprising to see the positive relationship between metacognitive strategy use and reading achievement since this has been tested through numerous previous studies. However, the result of the current study demonstrated that such a relationship was not very strong (r = .471).

Although the methods to measure proficiency and the metacognitive strategy use are different, the result that there is a positive relationship between metacognitive strategy use and proficiency is the same. Therefore, the results of the present study are in line with the previous research findings demonstrating that proficient students show greater use and a higher tendency to use metacognitive strategies than low proficient students. One possible explanation for such difference would be the differences between the high and low proficient students in terms of their use and knowledge of metacognition, as Wenden (1987) suggests. Metacognition can be, therefore, seen as central to effective learning.

However, with regard to the pattern of correlations in Table 3, the findings are in sharp contrast with those reported by previous studies (Alhaqbani & Riazi, 2012; Monos, 2005; Sheorey & Mokhtari, 2001). The above finding did not confirm the findings of Alsamadi (2009), showing no significant relationship between Saudi EFL learners' comprehension performance and their use of reading strategies. It also does not support the findings of Mehrdad, Ahghar, and Ahghar (2012), revealing that the use of metacognitive reading strategies has no significant relationship with the reading comprehension performance of elementary and advanced level Iranian EFL students. One interesting result is that correlation in the present study is quite lower compared with results in other studies, for example, Phakiti (2003), Monos (2003) and even Nguyen T. M. Thao & Trinh Q. Lap (2011) in the Vietnam context. The possible explanation is the various cultural backgrounds, learning situations, and contexts. One more reason is that because MARSI is a self-reported questionnaire, participants can reflect on what they think about their use of metacognitive strategies. Consequently, participants may overestimate or underestimate their use of metacognitive strategies.

With respect to the differences between more and less-proficient readers in their reported use of metacognitive strategies, there have been some findings and discussions; when the metacognitive reading strategies are grouped according to sub-categories, the study revealed that their most frequently used or preferred strategies are those that fall under the Problem-solving Strategies (PROB). Considering the linguistic difficulties of the respondents, they really have to find strategies that help them unlock the problems in comprehending a text. This result supports the findings of Al-Sobhani (2013) and Yuksel and Yuksel (2012), having EFL students in Yemen and Turkey actively use Problem-solving strategies at a high level. In ESL contexts, the results also show that even ESL students in Botswana (Magogwe, 2013), in USA (Hong-Nam & Page, 2014), Indonesia (Pammu, Amir, & Maasum, 2014), and Malaysia (Maasum & Maarof, 2012) use Problem-Solving Strategies at a high level. This shows that Problem-Solving Strategies are widely and actively used by different levels of learners in different contexts.

The results show that successful participants were capable of planning for reading and utilizing possible aids to enhance their understanding and memorizing. Problem-solving strategies were found to be most frequently used in comparison to global and support strategies, indicating participants' ability to monitor their comprehension. They would use strategies like "re-read to increase understanding" or "adjust reading speed" when a text became difficult. Although all the participants reported the frequent use of problem-solving and global categories of strategies, the successful group demonstrated the most frequent use of them. These findings were consistent with findings from previous studies, which stated that successful students have good control of their cognitive process in reading by varying their metacognitive reading strategies to understand the text and effectively solve their reading problems (Phakiti, 2003).

4.2.3. Interview analysis and discussion
Data from semi-structured interviews of eight less-proficient and more-proficient readers provided further insights into some issues related to metacognitive strategy, and reading comprehension was analyzed.

Concerning the first question, "Do you have any difficulties while reading academic texts in English except for lacking strategies?" all the interviewees in both groups said yes. It means that they all have difficulties reading academic texts in English except for lacking strategies. Regarding the second and the third questions, "What kinds of difficulties did you encounter/meet while reading academic texts in English? What their big problem was? Which one do you find the most problematic?" both groups listed some difficulties such as the lack of patience, lack of vocabulary, lack of background knowledge. Among them, lacking vocabulary is considered their biggest problem. In other words, from the interview data, it could be inferred that both the less-proficient and more-proficient readers consider lacking the vocabulary to be the main problem. Overall, all the interviewees reported at least one reading difficulty apart from lack of strategy training and use, for example, patience, background knowledge, and lack of vocabulary. All of them agreed with the idea that poor vocabulary tended to be the biggest challenge and their largest difficulty

in academic reading. These helped confirm that strategy use and training was not the only determinant of reading comprehension; that is to say, other factors like vocabulary, grammar, and patience should be thoughtfully kept in mind as well.

With respect to the fourth question, "What do you do to solve each of these reading problems?" more proficient readers suggested some ideas such as "write down unknown words"(interviewee 1), "guess the meaning of the words in a different context"(interviewee 3), "Search the dictionary to remember the words immediately if I can" (interviewee 1), "I write the words many times"(interviewee 1), "I motivate myself" (interviewee 2), "I guess words in the context of reading."(interviewee 3), "I read the first and the last sentence to know the main idea"(interviewee 3), "I will look up the dictionary and ask my friends and teacher for help" (interviewee 4). In less proficient readers, they suggested, "I look up the dictionary or search Google to understand the words deeply." "I often watch movies or use pictures of the vocabulary to remember more, or I will look up the dictionary to know about the word." "I read the sentence coming before to guess the meaning of the words." "I look up the dictionary to understand the meaning of the words and sentences." Overall, one surprising result is that many of the participants in the interview suggested that there should look up the dictionary.

Pertaining to the fifth question, "Do you know strategies that are mentioned in the questionnaire? Do you know when and why to apply these strategies when reading?". Interviewee one in the group of more-proficient readers "know them, but just a little. I have not taught these strategies. I learn by myself". Similarly, Interviewee 2 said he knew some of them, and he uses these strategies mentally and naturally. Interviewee 3 also knows a little bit. And she learns by herself, and he explained, "When I want to read efficiently, faster and understand better." In a group of less proficient readers, Interviewee 8 knew some of them, and his teacher taught him these strategies at school. He also explains, "when I met long passages, I should use these strategies. It will help me to do the read quickly." Interviewee 5 knew "just a few," and he said when he wanted to improve his reading skill, he should use these strategies. It will help him to do the test quickly and effectively. Interviewee 6 revealed, "I was not taught, but I know just some of them." However, Interviewee 7 claimed, "I know these strategies. I were not taught these strategies, but I self-study." It can be referred to as the interview data that some of the teachers do not teach these strategies, hence, using them in their reading instruction is a need. It would be better to teach learners clearly why and how to use effective strategies and to use strategies in appropriate contexts (Oxford, 1989). As discussed earlier, students need to be taught how, when, and why to use these strategies to direct their comprehension of any reading texts and become independent learners. Because this is infrequently done by most teachers in Vietnam, which might have caused students of any level of competence to have no direction in applying such strategies.

Concerning the sixth question, "Do you usually use these strategies? If yes, Do you find these strategies effective?" In the group of more proficient readers, Interviewee 1 "sometimes or occasionally use". Interviewee 2 "I often use them", Interviewee 3 often applies these strategies, and she found it is more effective to use these strategies to guess the meaning of the texts. I4 thinks that "if you apply some of these strategies, reading is more effective". On the contrary, in a group of low proficient readers, Interviewee 5 did not use these strategies. Interviewee 6 "usually does not apply these strategies when reading. I just apply some of these strategies." And she said it is effective. Interviewee 7 sometimes applies these strategies, and "it has some effectiveness." I8 explained, "when I met long passages, I should use these strategies. It will help me to do the read quickly." It can be concluded that there seemed to be a noticeable gap between more-proficient readers and less-proficient readers, especially in terms how often they apply these strategies and how well they understand them.

Regarding the last question, "What are the problems hindering your use of Metacognitive Strategies (strategies that are mentioned in the questionnaire)?" Interviewee 1 in the group of more proficient readers argued that theory and practice are different. It's difficult to apply these strategies. Interviewee 2 said, "if I have an aim, I will try my best." In other words, he mentions motivation. Interviewee 3 mentioned two things. Firstly, "in the application, you were taught these strategies, but you need to be practiced, to understand how strategies are applied." Secondly, they "need more motivation for our students because many of us are still not really enjoying reading, as well as English in general." Interviewee 4 finds learning English useful, but she is not motivated. And it is a compulsory subject, so she must learn. In contrast, in a group of low proficient readers, Interviewee 5 thought because of not applying these strategies regularly. And he wants to get high grades on the reading test. I6 does not feel interested in learning English. And English is a compulsory subject. She just wants to pass this subject. Interviewee 7 lacks motivation because I read simply to complete the passages. I learn without self-motivation. Interviewee 8 said, "I lack the motivation to study English. I only want to finish the passage; because of the score." From the evidence, the results of the study argue that strategy training is not only a matter of "how many" and "how often" but also "how well". This may be constructive for students in practicing reading and for teachers in designing reading lessons and materials, stressing the importance of applying appropriate strategies where necessary rather than trying to use as many strategies as possible. One surprising result of the interview is that many participants lack motivation. They consider English as a compulsory subject and study because of the scores. Thus, teachers should motivate students by using games and challenging tasks.

5. Conclusion
As for the first purpose, the results revealed that students' metacognitive reading strategy use level is at a moderate level. The findings of the present study indicated that students are moderately aware of the metacognitive strategy used in reading comprehension. "Problem-solving strategies" was the metacognitive strategy of the highest frequency. The least frequent metacognitive reading strategies that the learners used are "Global strategies". Having the Problem-solving strategies as the most frequently used strategy means that they can deal with any difficulties they encounter in reading a text. These characteristics influence reading interest, motivation, and confidence in managing a challenging reading task.

As for the second purpose, the relationship between metacognitive reading strategy use and reading performance is shown in the fact that the students who score higher on the reading comprehension test demonstrate more frequent, more successful, and more appropriate use of metacognitive strategies and vice versa. This study confirmed the positive relationship between metacognitive strategies and reading comprehension performance. Furthermore, all three sub-metacognitive strategies were positively correlated with reading comprehension performance. The Global strategies held the highest correlation with reading achievement; Support strategies ranked second, and the Problem-solving strategies ranked the last. It was also concluded that the awareness and use of reading strategies had a positive and strong correlation with reading comprehension performance. In fact, those students who employ more strategies and use them as frequently as possible are likely to show higher success in reading comprehension.

As for the results of the interview, poor vocabulary tended to be the biggest challenge except for lacking metacognitive strategies, and the problems hindering their use of metacognitive strategies are the motivation and practicing these strategies. It would be better for students to practice reading strategies and for teachers to design reading lessons and materials, stressing the importance of applying appropriate strategies where necessary rather than trying to use as many strategies as possible. What's more, raising students' interest and motivation in the lesson by using games and warm-up activities...is a need.

5.1. Pedagogical implications and suggestions
Based on the findings of the present study, some pedagogical implications are suggested:

First and foremost, metacognitive reading strategy use relates to comprehension performance, so teaching metacognitive reading strategies in the classroom is likely to be effective and improve reading comprehension. Students should learn to recognize the metacognitive strategies they are using. Thus, effort should be put into raising their use of the potential benefits of employing these strategies, given the fact that metacognitive strategy instruction is a relatively new area in the Vietnam context. Successful language students may serve as informants for students experiencing less success in language learning regarding strategies, techniques, and study skills. Regarding teachers, the study has some suggestions for them. Teachers should become more aware of the metacognitive strategies their students are and are not using so that they can develop the metacognitive strategies learners are using and be advised to select the most appropriate techniques for teaching. Furthermore, integrating metacognitive instruction in teaching reading should be considered. Reading lessons should focus on the process, not the product. Students need to be explained about metacognitive knowledge and provided the chance to practice metacognitive reading strategies through activities such as pre-reading activities, warm up tasks to plan their reading process, and post-reading activities to evaluate their performance and share their experiences. In other words, students should definitely be taught strategic reading skills. An applied training should be given to students about the steps they have to take before, during, and after the reading activity. Students should be informed about preparing a plan before any reading activity, how to prepare a monitoring plan during the reading activity and how to prepare an evaluation plan after the reading activity. Students should be taught the steps to be taken and the strategies to be adopted in guessing the end of a text and finding its main idea.

As suggested in the present study, Problem-solving strategies are considered the best predictor of reading comprehension of the three types and are preferred by the participants, so they should be sharpened through practice exercises. Besides, some kinds of exercises may be useful, for example, setting reading goals, reviewing background knowledge, asking questions before reading, paraphrasing, identifying the meanings of graphic materials, or guessing the meanings of unknown words. It would be helpful to let learners share their reading problems and the way they resolve those difficulties.

What's more, university ESL students need to recognize more fully that developing and applying reading strategies could improve their reading performance. The use of appropriate learning strategies in general and reading strategies in particular can enable students to take responsibility for their own learning by enhancing learner autonomy, independence, and self-direction. However, university students cannot be expected to acquire and employ successful reading strategies incidentally. Students cannot come to language classes without a full understanding of what is expected of them. Therefore, language teachers should help students know not only what strategies to use but also when and how to employ them. To put it another way, the teachers should explain the characteristics, usefulness, and applications of the strategy explicitly and through several examples and illustrate his/her own

strategy use through a reading task. Learners should be explicitly taught about how the strategy is used, why it is important, and when and how it applies to the specific task. Furthermore, the preparation and planning, the selection of appropriate reading strategies, the rationale behind strategy use, monitoring of strategy selection and use, and evaluation of the usefulness of metacognitive strategies for reading comprehension should all be illustrated and exemplified.

With respect to interview data, poor vocabulary tended to be the biggest challenge and their largest difficulty in academic reading. These helped confirm that strategy use and training was not the only determinant of reading comprehension; other factors like vocabulary, grammar, and patience should be thoughtfully kept in mind as well. Besides, it should be noted that although strategy use and training might have some significant relationships with reading proficiency, it was not the only component of reading competence. To some extent, it was also affected by some other determinants like lexical and grammatical knowledge. Therefore, to keep things in perspective, other factors like vocabulary, grammar, concentration, schemata, and motivation should be taken into consideration as well. Also, there seemed to be a noticeable gap between more-proficient readers and less-proficient readers, especially in terms of how often they apply these strategies and how well they understand them. Results of the study also argue that strategy training is not only a matter of "how many" and "how often" but also "how well". It would be better for students to practice reading and for teachers to design reading lessons and materials, stressing the importance of and raising the use of applying appropriate strategies where necessary rather than trying to use as many strategies as possible. To put it in another way, language teachers should provide students with multiple and repeated opportunities to practice the new strategies on a variety of learning tasks and activities so that eventually, the strategy itself becomes part of students' procedural knowledge. The teacher also motivates students through warm-up activities and games...

The results showed that there was a strong positive relationship between MARSI and scores on the reading comprehension test. As explained earlier, the use of strategies can depend on students' reading ability and age, and the type of material read (Mokhtari & Reichard, 2002). Perhaps the participants in this study knew such reading strategies, but they did not monitor the use of their strategies or apply them to aid comprehension. In other words, they needed to understand the application of those strategies in real situations to achieve better reading comprehension. As stated by Paris et al. (1984), although learners are aware of the strategies, they may not understand the benefits or rules for the application of these strategies. It is not enough for the learners to merely know the appropriate reading strategies; they must be capable of successfully applying and monitoring the use of the strategies to develop their reading comprehension (Mokhtari & Reichard, 2002). Therefore, teachers, especially in the Vietnam context, are encouraged to offer explicit instruction to students on why and how to use comprehension strategies while reading. Consequently, teachers should make greater efforts to teach either explicitly or implicitly the use of reading strategies such as those identified in the MARSI to help students to enhance their performance. It is also suggested from the research findings that the information from the MARSI can assist teachers in investigating, assessing, and monitoring the reading strategies used by the students. Reading strategies can also be used as teaching methods to train poor readers.

Overall, this study has emphasized that reading strategies play an important role in helping students to improve their reading performance. It implies raising the use of teaching reading strategies in the classroom to improve the student's proficiency in the English language.

5.2. Limitation of the study
Despite its contributions, the study certainly has some limitations. First of all, due to the restricted number of participants and the short period of time, it is unable to take a random sampling. Secondly, due to the constraint of research conditions, the research site is restricted to a single university. Thus, the results cannot be generalized to all Vietnamese students but just applicable in the research site and similar settings. As it is a self-report questionnaire and small-scale interview, it should have been supported by another qualitative method such as class observation, focus group, and case study so that the results could be more accurate and reliable. The Vietnamese translation of the questionnaire MARSI could also be a limitation in obtaining information because the translation version cannot truly convey the same meaning as the original one does. Additionally, this research may be subject to the risk of biased results, as the surveyed sample was male-dominated, with 40 males versus 30 females. This shortcoming might reduce the generalizability of the whole sample and thus should be thoughtfully considered (Kemper et al., 2003). What is more, the researcher could not control the other individual factor which may affect the results and the findings, such as age, gender, attitudes, and motivation...Last but not least, the question in the interview, "What do you do to solve these reading problems?" did not seem to elicit as many useful responses as expected. Although it provided some interesting qualitative data about the solutions to several reading difficulties (lack of concentration or insufficient background knowledge...), these results did not contribute much to clarifying the two research questions or confirming the findings in quantitative analysis. To wrap up, the study has some drawbacks which should be overcome in future research.

5.3. Recommendations for further study

Notwithstanding the limitations, the study does offer some insights into the research issue. Future studies can, thus, focus on and explore the correlation between reading comprehension performance and other factors. Further research needs to be conducted to explore the reading strategies used by students from different professions and educational backgrounds to obtain a full picture of metacognitive strategies used in ESL students' reading comprehension. It is recommended that future studies should keep good control of the sampling process to ensure the homogeneity and the representation of the sample. Moreover, research sites should be extended into larger areas. Besides, the relationship between two variables can be clarified in terms of causality by conducting experimental research. Additionally, the research problems may be extended to different subjects and contexts. It would be helpful to conduct multiple data-collecting methods such as class observation, focus groups, and case studies in order to be more accurate and reliable in the results. With such findings and recommendations, the present study hopes to be informative to further studies.

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References

[1]   Anderson, N. J. (2002). The role of metacognition in second language teaching and learning. *ERIC Digest*, Retrieved from http://www.cal.org/resources/digest/0110anderson.html

[2]   Anderson, N. J. (2003). Metacognitive reading strategies increase L2 performance. *The Language Teacher, 27*, 20-22.

[3]   Baker, L. (2008). *Metacognitive development in reading: Contributors and consequences. In K. Mokhtari & R. Sheorey (Eds.), Reading strategies of first- and second-language learners: See how they read* (25–42). Norwood, MA: Christopher-Gordon.

[4]   Boekaerts, M., Pintrich, P., and Zeidner, M. (2000). Handbook of self-regulation. San Diego: Academic Press.

[5]   Bolitho, R., Carter, R., Hughes, R., Ivanic, R., Masuhara, H., and Tomlinson, B. (2003). Ten questions about language use. *ELT Journal, 57*(3), 251-260.

[6]   Cook, V. (2001). *Second language learning and language teaching*. London: Edward Arnold.

[7]   Grabe, W., & Stoller, F. (2002). *Teaching and researching reading*. Harlow: Pearson Education.

[8]   Green, J. M., & Oxford, R. L. (1995). A Closer Look at Learning Strategies, L2 Proficiency, and Gender. *TESOL Quarterly, 29*, 261-297. http://dx.doi.org/10.2307/3587625

[9]   Hong-Nam, K. & Page, L. (2014). ELL high school students' metacognitive use of reading strategy use and reading proficiency. Teaching English as a Second or Foreign Language: *The Electronic Journal for English as a Second Language, 18*(1). Retrieved from http://www.tesl-ej.org/wordpress/issues/volume18/ ej69/ej69a4/

[10] Ilustre, C. A. (2011). Beliefs about reading, metacognitive reading strategies, and text comprehension among college students in a private university. *Philippine ESL Journal, 7*, 28-47.

[11] Jafari, D., & Ketabi, S. (2012). Metacognitive strategies and reading comprehension enhancement in Iranian intermediate EFL setting. *International Journal of Linguistics, 4*(3).

[12] Macaro, E. (2001). Learning strategies in the foreign and second language classroom. London: *Continuum International*.

[13] Mokhtari, K. & Sheorey, R. (2001). Differences in the metacognitive use of reading strategies among native and non-native readers. *System, 29* (4), 431-449.

[14] Mokhtari, K., & Sheorey, R. (2002). Measuring ESL students' use of reading strategies. *Journal of Developmental Education, 25(*3), 2-10.

[15] Mokhtari, K., & Reichard, C. (2002). Assessing students' metacognitive use of reading strategies. *Journal of Educational Psychology, 94* (2), 249-259.

[16] Monos, K. (2003). Learner strategies of Hungarian secondary grammar school students. *Budapest*: Akademiai Kiado.

[17] Nguyen T. M. T & Trinh Q. L. (2011). Learners metacognitive use and reading comprehension: insights from Vietnamese contexts. *Journal on English Language Teaching, 1*(1), 9-19.

[18] O'Malley, J. M., Chamot, A. U., Stewner-Manzanares, G., Russo, R. P., & Küpper, L. (1985). Learning strategy applications with students of English as a second language. *TESOL Quarterly, 19*, 557–584.

[19] Oxford, R. L. (1990). *Language learning strategies: What every teacher should know. New York*: Newbury House/Harper & Row.

[20] Oxford, R.L. (1996). *Language learning strategies around the world: cross-cultural perspectives.Honolulu:* University of Hawaii Press.

[21] Paris, S. G., & Winograd, P. (1990). *Promoting metacognition & motivationofex ceptional children*. Remedial & Special Education, 11, 7-15. http://dx.doi.org/10.1177/074193259001100604

[22] Paris, S. G., Cross, D. R., & Lipson, M. Y. (1984). Informed strategies for learning: A program to improve children's reading use and comprehension. *Journal of Educational Psychology, 76*(6), 1239–1252.

[23] Salataki, R., & Akyel, A. (2002). Possible effects of strategy instruction on L1 and L2 reading. *Reading in a Foreign Language, 14,* 1-17.

[24] Sheorey, R., & Mokhtari, K. (2001). Differences in the metacognitive use of reading strategies among native and non-native readers. *The system, 29*, 431–449. List the reference here