Guild of Educators in TESOL International

METACOGNITIVE READING STRATEGIES AND READING COMPREHENSION OF GRADE 11 TECHNICAL-VOCATIONAL-LIVELIHOOD MODULAR DISTANCE LEARNERS

Jonathan F. Batac

[1]Polytechnic University of the Philippines - Sta. Mesa Campus, Manila, Philippines

Corresponding Email: jonathan.batac@deped.gov.ph

Abstract

This study set out to look into the relationship between metacognitive reading strategies and reading comprehension of Grade 11 Technical-Vocational-Livelihood modular distance learners of Pasay City East. A correlational research design was employed. The Metacognitive reading strategies served as the dependent variable while reading comprehension served as an independent variable. Random sampling was used to select the 116 respondents and MARSI R and McCall Crabbs Reading Proficiech test were the instruments. The findings of this study show a weak relationship between metacognitive awareness of reading strategies and reading comprehension and the unachieved grade level which failed to reject the hypothesis that there was no significant relationship of metacognitive reading strategies and reading comprehension for Global and Problem-Solving reading strategies. It recommended that future researchers should employ other reading comprehension proficiency tests to validate the result of the existing study and include intervention through the utilization of metacognitive reading strategies as the appropriate strategy to address reading comprehension.

Keywords: Metacognition, Reading Comprehension, Reading Strategies

INTRODUCTION

Reading is a purposeful action to learn information, confirm current knowledge, or criticize a writer's ideas or writing style. Reading can influence and approach reading comprehension (Sheeba & Ahmad, 2022). Also, Alfah (2022) emphasized that reading is an essential skill for EFL students to develop and succeed not just in studying English but also in any situation where reading in English is necessary. Unfortunately, in the Philippines reading skills lag. In the Philippine context, such problems in reading have been very evident as reflected by the low scores obtained in the National Achievement Test by the Filipino students (Ordinario, 2013) as well as the deteriorating performance in reading and language classes. Moreover, Imam et al. (2014) revealed that students in high schools in the Philippines have low vocabulary mastery and noted details, considered first-level (easiest) reading skills. Additionally, Cabardo (2015) affirmed that most students belonged to the frustration level of reading proficiency in silent reading while in the instructional level for oral reading. This proves that Dolba (2022) has stated that there are ample reasons for learners' low or high vocabulary levels.

Furthermore, the Programme for International Student Assessment PISA (2019) reported that the Philippines had poor performance in reading and was second-lowest for both Mathematics and Science (Mocon-Ciriaco, 2019). The findings made it necessary to identify the challenges Filipino students face in terms of their reading performance. For 2018, the students' scientific and mathematical literacy were evaluated as minor domains, while reading literacy was evaluated as a significant domain. As a novel assessment, competence was also added. The OECD average of 487 points was found to be significantly higher than the average score of 340 points achieved by Filipino students in whole reading literacy. Additionally, the data shows that just one student (19.4%) out of every five Filipino students attained Level 2, the minimal proficiency level. According to Philippine Department of Education (2018), Filipino students fared the closest to Indonesian students among the participating ASEAN nations, but they still fell short by 31 points in overall reading literacy. These results were focused on face-to-face instruction.

However, in the grip of the pandemic in its early years, formal education has been hindered. Countries like the Philippines did not have the hi-tech opportunities to equip the schools with adequate equipment nor did most of the parents have the capacity to provide gadgets for their children to use in online learning. Therefore, the use of modular instruction as an alternative delivery mode was implemented during the two years of pandemic-induced lockdown. Modular distance learning (MDL) is an unconventional mode of learning especially in rural areas, both at elementary and high school levels. Apprehensively, there was also a discrepancy in the perceived effectiveness of modular distance learning in relation to teaching reading. Teaching beginning reading has been a challenging task in normal face-to-face instruction, and it is even more non-achievable with the use of modular distance learning because of the absence of teachers' assistance and facilitation. So, learning independently is a must. Thus, modular distance learners should employ strategic competence for reading comprehension as asserted by Zhang et al. (2017) that skilled readers are better comprehenders and efficient strategy users. Enhancing reading comprehension is made easier when readers are aware of metacognitive reading stategies. This awareness also helps students focus on the process while they are reading. As per Zhang et al. (2017), this awareness serves as a sign of possessing metacognition knowledge and the capability to apply that knowledge and approach. Furthermore, according to Villanueva and Aguilera (2014), readers who employ metacognitive reading strategies are able to recognize potential solutions for a variety of reading comprehension-related issues. Through reading comprehension exercises, thinking critically about what you've read, keeping an eye on the process, and taking control of it all (Soto et al. 2019), skilled

readers can handle these issues by implementing multiple strategies. Also, the insufficiency of students' metacognitive strategies for reading comprehension is a significant factor in this challenge (McHardy et al., 2021; Mokhtari & Reichard, 2002).

Several studies have proven that metacognitive reading strategies play a vital role reading comprehension. It is clear from numerous studies using PISA data that metacognitive strategies are one of the most crucial factors that predict reading performance (e.g., Callan et al., 2016; Koyuncu & Frat, 2020; Lau & Ho, 2016; Lim & Jung, 2019; Mikk, 2015; Miyamoto et al., 2019). This is due to the fact that reading comprehension requires metacognition.

The research by Ahmadi et al. (2013) claimed that metacognitive reading strategies stand out as a crucial component of successful reading, making reading meaningful, and realizing the benefits of reading and learning. Metacognitive reading strategies aid comprehension and are useful in structuring instruction. According to Firat & Kocak (2019), Güner, & Erbay (2021), and Hwang et al. (2021), by using metacognitive reading strategies, teachers may create reading and learning activities and make sense of what learners read. Because of this, metacognitive strategies play a bigger role in selecting and executing the steps needed to complete the comprehension process, making sense of what is being read, and achieving the intended outcome. In addition, metacognitive strategies appear to have a good impact on learners' understanding and learning processes. Thus, through organizing learning, metacognition may effectively maximize and control learning (Jou, 2015) and benefit the individual in meaningful reading (Daguay-James & Bulusan, 2020).

In the educational process, metacognitive reading strategies play a significant role. Reading and interpreting what is read is the first step in the learning process for learners. These procedures will work better and be more effective if they are healthy. In this way, metacognitive reading strategies must have a beneficial impact on learning procedures. Furthermore, because they allow reading to be done intentionally and with awareness, metacognitive reading strategies have a positive impact on the success of reading comprehension. In this regard, teachers must incorporate metacognitive reading strategies into their lesson plans (Thongwichit & Buripakdi, 2021). Consequently, it is important to consider that teachers should, before beginning their career, be familiar with metacognitive reading strategies and impart these strategies to learners when they practice their vocation in the future. Metacognitive strategies should be used to underline the fact that reading is one of the most effective learning methods (Cetinkaya Edizer & Ozbilgin, 2019). Also, text comprehension at school, at home during homework, and at work is increasingly based on an increasing number of digital reading devices (computers and laptops, e-books, and tablet devices) that can become fundamental support to improve traditional reading comprehension and learning skills (Dolba, et al, 2023).

Furthermore, studies revealed that metacognitive strategies differentiated from other modes of learning strategies and disclosed a more crucial role in language learning and reading comprehension. For instance, the existing literature on quasi-experimental studies supported the effect of metacognitive instruction on EFL learners' performance (Ahmadi, Ismail, & Muhammad Abdullah, 2013; Al-Ghazo, 2016; Chumworatayee, 2012; Habibian, 2015; Huang & Newbern, 2012; Ismail & Tawalbeh, 2015). These reveal that comprehensive teaching of metacognitive strategies amplifies reading comprehension. Thus, metacognitive instruction must be a component of the language classes as it increases the levels of comprehension. Metacognitive strategy studies (Beirovi, Eljo, and Sinanovi, 2017; Nazri, 2016; Nguyen & Trinh, 2011; Zhan & Seepho, 2013) concentrated on the relationship between

knowledge of metacognition and its relationship to students' achievement in various subjects, as well as the impact of explicitly teaching metacognitive and comprehension strategies. Also, a study conducted by Fitfriani (2022) focused on teaching reading comprehension using the metacognitive strategy in eighth grade. Little research has been done on the relationship between gender conducted by Do and Phan (2021) at the EFL Vietnamese undergraduates, grade level, and study field/discipline and the awareness of ELL readers' metacognitive processes in GEC (General English Course).

Miller (2017) looked at the correlation between English reading accomplishment scores and students' reported metacognitive reading strategy preference (i.e., whether global, support, or problem-solving). The preferred metacognitive reading, it was discovered, problem-based reading strategies came first, then support reading strategies, and finally global reading strategies.

Meniado (2016) discovered a link between reading motivation and metacognitive reading methods, but she did not discover one between reading success and these strategies. Meniado concluded that although metacognitive reading methods may be crucial for students in intermediate-level classrooms, they may not be the only ones affecting the reading comprehension of these students. Also, there were no substantial differences between students in the humanities and sciences concerning metacognitive awareness of reading strategies for academic materials (Kazi, Moghal & Asad, 2020).

Given how technology and the COVID-19 pandemic have altered how students learn, the scenario described above drew the researchers' attention and motivated them to look into the strategies used by the students when reading online. According to Coiro (2011), traditional notions of reading comprehension might not be adequate in situations involving online reading. Reading successfully on the Internet requires new and more complex skills and strategies that are entwined with the skills and strategies needed to comprehend printed text Regretfully, there is a dearth of statistical data highlighting the attributes of readers that support successful reading comprehension in public Internet environments. The majority of reading strategy research has been limited to comparing very specific proficiency levels.

There is evidence of a fairly robust relationship between reading proficiency and strategy use in numerous studies on L2 readers' reading strategies (Aggraini and Cahyono, 2020). However, the literature reveals erratic correlation between each reading strategy and reading comprehension. Thus, more research is required to determine which type of reading strategy enhances reading comprehension the most (Sun et al., 2021).

To provide an insightful and newest study from previous ones, therefore, the current study focused on Grade 11 senior high school Modular Distance Learners from Home Economics (HE), and Industrial Arts (IA) strands under the Technical-Vocational Livelihood Track. Additionally, the study utilized the latest revised Metacognitive Awareness Reading Strategies Inventory (MARSI R) to provide evidence for valid and reliable results for Filipino senior high school learners while assessing their awareness and perceptions of metacognitive reading comprehension strategies.

Objectives

This study was conducted to determine the relationship between the metacognitive awareness reading strategies levels and reading comprehension levels of Grade 11 Technical-Vocational Livelihood (TVL) Modular Distance learners at Pasay City East High School.

Specifically, it sought to answer the following research questions:

1. What are the levels of metacognitive awareness of reading strategies of Grade 11 Technical-Vocational Livelihood (TVL) modular distance learners based on the Metacognitive Awareness of Reading Strategies Inventory-Revised (MARSI-R)?

2. What are the respondents' reading comprehension levels based on the McCall Crabs Reading Comprehension Test?

3. Is there any significant relationship between the levels of metacognitive awareness of reading strategies and the levels of reading comprehension of the Grade 11 modular distance learners?

METHODS

Method of Research

The descriptive correlational method was employed because the goals of this study were to describe the traits and circumstances of a particular group at a particular time and explore the correlations between various factors (Mitchel & Jolley, 2013; Key, 1997). Statistically, it was the precise objective of the study because of a particular group the TechVoc Livelihood learners in modular modality were the respondents and focused on the two variables for relationship target: the metacognitive reading strategies using the standardized MARSI R and the reading comprehension levels using standardized MC CALLCRAB to identify correlations between the two primary variables using appropriate statistical tools.

Population, Sample Size, and Sampling Technique

The researcher has drawn the sample size of 116 Grade 11 senior high school learners from the Home Economics (HE) and Industrial Arts (IA) strands under the Technical-Vocational- Livelihood Track (TVL) with a population of 343 in Pasay City East High School under the modular modality. The populations were from seven sections which were composed of Mercury, Platinum, Magnesium, Silver, Manganese, Actinium, and Titanium. The sample size was computed using Cochran. In connection, the selection of respondents was done using the random sampling technique, the procedure was initiated by encoding the names of the learners in the Excel form and running the random sampling selection.

The explicit presentation of the population and sample size using random sampling is demonstrated on Table 1.

Table 1

Population and Sample Size

Section	Population	Sample Size
Actinium	41	16
Manganese	55	18
Magnesium	56	15
Mercury	45	16
Platinum	66	22
Silver	43	17
Titanium	37	11

	Total	343	116

Description of Respondents

The study's participants were Grade 11 senior high school who underwent modular modality, ages 17 to 20 and enrolled in Bread and Pastry Production, Shielded Metal Arc Welding, and Barbering Strands under the TechVoc Livelihood Track at Pasay City East High School. These modular distance learners were provided self-learning modules on a weekly basis given by the adviser and retrieved the answers after a week throughout the whole semester. However, senior high school academic and specialized subjects were unfamiliar or unaccustomed to them. Moreover, teachers were not present to facilitate learning and guide them. In other words, they were on their learning styles and approaches as independent learners.

Research Instruments

The researcher employed two (2) standardized instruments to answer, what *metacognitive reading strategies do the respondents employ when reading academic texts? What are some frequent metacognitive reading strategies?* First, Kouider Mokhtari's (2013) Metacognitive Survey of Reading Strategies Inventory-Revised 2018 (MARSI R) was carried out because it is a standardized survey normally used in metacognition studies. The inventory consists of 15 questions, with a scale of 1 to 5, with 5 being the most frequently used strategy and 1 being the least frequently used strategy. Specifically, it is a 15-item, self-report questionnaire that evaluates how readers behave and approach academic or school-related texts in English, particularly by answering the provided Self-learning modules from the Department of Education of Pasay City. Three strategic categories are used to group the MARSI R questions. These three strategies are Global Reading, Problem-solving Reading, and Support Reading. Every category has its reading strategy indicator.

The Global Reading Strategies (GRS) learners can control or direct their reading through intentional, well-considered methods known as global reading strategies. Having a purpose in mind, assessing the text's length and organization beforehand, and utilizing typographical aids, tables, and figures are a few examples.

The five questions in the Global Reading Strategy are specifically aimed at testing comprehension and getting ready to read such as:

Global Reading Strategies Indicators

Having a purpose in mind when I read.

Previewing the text to see what it is about before reading it.

Checking to see if the content of the text fits my purpose for reading.

Using typographical aids like boldface and italics to pick out key information.

Critically analyzing and evaluating the information read.

With a scoring interpretation:

Score	Awareness Level
3.5 or higher	High level of awareness
2.5 -3.4	Medium level of awareness
2.4 or lower	Low Level of awareness

Problem-Solving Strategies (PSS). Problem-solving strategies are the methods and techniques that readers employ while interacting directly with the text. These are targeted, localized strategies used when reading comprehension issues arise. Examples include varying reading speed according to how challenging or simple the text is, speculating on the meaning of words that aren't clear, and revisiting the text to increase comprehension. The five questions in problem-solving techniques are intended to control reading speed, text concentration, and awareness such as:

Problem-Solving Strategies Indicators

Getting back on track when getting sidetracked or distracted.

Adjusting my reading pace or speed based on what I'm reading.

Stopping from time to time to think about what I'm reading.

Re-reading to make sure I understand what I'm reading.

Guessing the meaning of unknown words or phrases.

With a scoring interpretation:

Score	Awareness Level
3.5 or higher	High level of awareness
2.5 -3.4	Medium level of awareness
2.4 or lower	Low Level of awareneness

Support Reading Strategies (SRP). Support Reading Strategies are fundamental aids to reading comprehension that include things like utilizing a dictionary, making notes, underlining, and highlighting textual material.

The Support Reading Strategies contain five questions that include strategies like taking notes, underlining material, and consulting a dictionary such as:

Support Reading Strategies Indicators

Taking notes while reading.

Reading aloud helps me understand what I'm reading.

Discussing what I read with others to check my understanding.

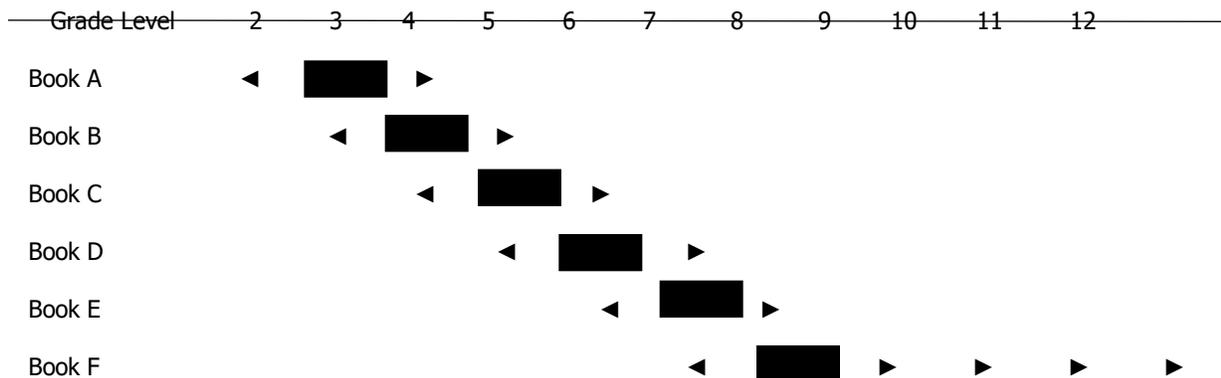Underlining or circling important information in the text.

Using reference materials such as dictionaries to support my reading.

With a score interpretation:

Score	Awareness Level
3.5 or higher	High level of awareness
2.5 -3.4	Medium level of awareness
2.4 or lower	Low Level of awareness

Second, to answer the question, *What were the respondents' levels of reading comprehension based on the reading comprehension test?* was answered by reading comprehension test designed and developed by MC Call Crab Book F by William A McCall and Lelah C. Schroeder. This standardized test was administered to Grades 8 to 12 respondents since it was implemented in all schools in Pasay City by the Schools Division of Pasay. Thus, the Pasay City East High School implemented the same test for reading comprehension level. Three (3) excerpt reading materials from materials 64, 65, and 71 in which each material has eight (8) multiple choice questions and each correct answer has equivalent G-score were utilized. The test objective is to find the sequence, understand the main idea, figure out facts, and draw conclusions.

The McCall-Crabbs series consists of six reading levels. For instance, Book F is designed for Grades 8-12, and so on as demonstrated below:

Grade Level	2	3	4	5	6	7	8	9	10	11	12
Book A	◄	▮	►								
Book B		◄	▮	►							
Book C			◄	▮	►						
Book D				◄	▮	►					
Book E					◄	▮	►				
Book F						◄	▮	►	►	►	►

To compute the Reading Comprehension level, each reading material has a corresponding certain G Score in every total correct answer. All the corresponding G score from each material is added and divided by tnumber of materials. For instance,

Reading Material 64 Raw Score and G Score

Score	0	1	2	3	4	5	6	7	8
G Score	2.00	3.30	5.20	5.80	6.30	6.80	7.60	8.20	9.00

Reading Material 65 Raw Score and G Score

Score	0	1	2	3	4	5	6	7	8
G Score	2.00	2.90	3.60	4.40	5.30	6.20	7.20	8.20	9.3

Reading Material 71 Raw Score and G Score

Score	0	1	2	3	4	5	6	7	8
G Score	4.40	4.90	5.40	5.90	6.40	7.00	7.80	8.60	9.80

Sample Conversion from raw score to G Score

Material no.	64	65	71
No. Right	4	7	6
G Score	6.30	8.20	7.80

To calculate the G level, the total G Scores from 3 reading materials are added and divided number of reading materials. The explicit formula and sample are presented below.

Formula:

$$\frac{G\ Scores}{Total\ Reading\ materials} = G\ Level$$

Sample Computation:

$$\frac{6.30 + 8.20 + 7.60}{3} = 7.37 \textbf{ G level}$$

Data-Gathering Procedure

To proceed with the study, strict compliance of protocols has been earnestly followed. Firstly in a school setting, a permission letter was handed to the concerned school head to carry out the purpose of this study.

The respondents' parents or guardians were also contacted to request parental consent and to inform them that their children would be study participants. A letter was also sent to the aforementioned individuals explaining that

the researcher would ensure proper health protocols, privacy, and confidentiality throughout the entire data collection process.

Moreover, a letter of approval for MC CALLCRABB reading comprehension was submitted to the Schools Division of Pasay.

Secondly, the affiliated master's school filled out all the forms for the University Research Ethics Center (UREC) for approval and applied for statistical service.

Finally, the questionnaires were distributed to their parents and informed the respondents to answer the survey and the reading comprehension test. After, the parents handed over the answered research instruments, the answers were encoded and tabulated, and the raw data were forwarded to the analyst/statistician for treatment and interpretation.

Statistical Treatment of Data

The following statistical tools were used to analyze the data and support the findings:

1. **Weighted Mean.** The weighted mean was used to determine the extent of metacognitive reading strategies awareness because it is very useful when calculating a theoretically expected outcome where each outcome has a different probability of occurring. This is the key feature that distinguishes the weighted mean from the arithmetic mean.

   The formula for the weighted mean is as follows:

   $fx = (f)(x)$

Where:

   fx = weighted mean

   f = frequency

   x = scale

Where:

   $\bar{x}$ = average weighted mean

   F = frequency

   $\sum f$ = total number of respondents

   $\sum fx$ = summation of weighted mean

2. **McCall-Crabbs Test Formula.** This was utilized to gauge the degree of understanding of the learners using the McCall-Crabbs Test official data outcomes. The total number of right G-scores for each choice was added together to determine the total average as the ultimate foundation for the respondents 'degree of comprehension.

3. To calculate the G level, the explicit formula is presented below.

Formula:

$$\frac{\text{G Scores}}{\text{Total Reading materials}} = \text{G Level}$$

3. Spearman Rank Correlation. It ranks the significant relationship between the level of metacognitive awareness of reading strategies and the level of reading comprehension. The Spearman's rank correlation coefficient, or simply Spearman's, is a statistical dependency between the rankings of two variables and a nonparametric measure of rank correlation. Symbolized by the Greek letter rho (rho), it bears Charles Spearman's name. It assesses the degree to which a monotonic function can accurately depict the connection between two variables. The formula is presented as:

$$r_s = 1 - \frac{6 \sum d_i^2}{n(n^2 - 1)}$$

The explanation of the Spearman's rank correlation coefficient, which was used in Akoglu's (2018) study, is provided below.

Correlation Coefficient	Interpretation
$\rho = 0$	No Correlation
$0 < |\rho| < 0.19$	Very Weak Correlation
$0.20 < |\rho| < 0.39$	Weak Correlation
$0.40 < |\rho| < 0.59$	Moderate Correlation
$0.60 < |\rho| < 0.79$	Strong Correlation
$0.80 < |\rho| < 1.00$	Very Strong Correlation

RESULTS and DISCUSSION

This chapter presents, examines, and interprets the gathered information. Tables and narratives were used for presentation and analysis to give the reader a thorough grasp of the study. To explain the results, data were statistically analyzed and interpreted.

1. Level of Three Metacognitive Reading Strategies Awareness Categories

Table 2

Respondents' Assessment on the Level of Metacognitive Awareness of Reading Strategies in Terms of Global Reading Strategies

Indicators	Mean	Verbal Interpretation
Having Purpose in mind when I read.	2.76	Medium
Previewing the test to see what is about before reading it.	3.47	Medium
Checking to see if the context of the test fits my purpose for reading.	3.38	Medium
Using typographical aids like boldface and italics to pick out key information.	3.47	Medium
Critically analyzing and evaluating the information read.	3.25	Medium

Overall Mean	**3.27**	**Medium**

Note. Scale: Low level of awareness (2.4 or lower); Medium level of awareness (2.5 – 3.4); High level of awareness (3.5 or higher)

Table 2 generally dispenses the metacognitive reading strategies employed by the learners in the highlights of Global Reading Strategies. It is obtainable through the table that out of 5 strategies with an overall mean of **3.27** with a verbal interpretation of **Medium Level**, all indicators fell into medium level where no strategy was reported under the low level. It is clearly stated that the most frequent strategies were "Previewing the text to see what it is about before reading it." and "Using typographical aids like boldface and italics to pick out key information." both with a mean of **3.47** and verbal interpretation of **Medium Level.** These strategies ranked 1st or the most frequent employed strategies which revealed that learners are more interested on what they are going to read. "Checking to see if the content of the text fits my purpose for reading." with a mean of **3.38** and a verbal interpretation of **Medium level** ranked as the 2nd most frequent employed strategy; "Critically analyzing and evaluating the information read." with a mean of **3.25** and a verbal interpretation of **Medium level** ranked as 3rd most frequent employed strategy; "Having a purpose in mind when I read." with a mean of **2.76** and a verbal interpretation of **medium level** ranked as 4th which is the least employed strategy.

The results above supported the assertion of Ali & Razali (2019) that through predicting, evaluating, summarizing, and employing other reading methods, the learner engaged in active interaction with the author of the text through reading. Learners tried to consider whether the reading material matched their goals.

Furthermore, an investigation conducted by Ramli et al. (2011) who looked into adult ESL students in Malaysia reported slightly different findings, indicating that the global reading strategy was preferred to both the support strategies and problem-solving strategy. They were also described as the "monitoring and regulative mechanism that readers consciously use to enhance comprehension.

Table 3

*Respondents' Assessment on the Level of Metacognitive Awareness
of Reading Strategies in Terms of Problem-Solving Strategies*

Indicators	Mean	Verbal Interpretation
Getting back on track when getting sidetracked or distracted.	3.16	Medium
Adjusting my reading pace or speed based on what I'm reading.	2.78	Medium
Stopping from time to time to think about what I'm reading.	3.38	Medium
Re-reading to make sure I understand what I'm reading.	3.34	Medium
Guessing the meaning of unknown words or phrases.	2.82	Medium
Overall Mean	**3.10**	**Medium**

Note. Scale: Low level of awareness (2.4 or lower); Medium level of awareness (2.5 – 3.4); High level of awareness (3.5 or higher)

Table 3 presents the respondents' metacognitive awareness of reading strategies in terms of problem-solving. It can be validated that problem-solving strategies garnered the overall mean of **3.10** with a verbal interpretation of **Medium Level** and the least frequent strategy among the strategies employed by the participants. All indicators fell into a medium level where no strategy was reported under the low level. In detail,

the following strategies: *"Stopping from time to time to think about what I'm reading"* with a mean of **3.38** and a verbal interpretation of **Medium level** ranked *1st or most frequently employed strategy*; "*Re-reading to make sure I understand what I'm reading."* with a mean of **3.34** and a verbal interpretation of **Medium level** ranked the 2nd most frequent employed strategy**;** *"Getting back on track when getting sidetracked or distracted."* with a mean of **3.16** and a verbal interpretation of **Medium level** ranked 3rd as the most employed strategy; "*Guessing the meaning of unknown words or phrases."* with a mean of **2.82** or **Medium level** *ranked 4th as the most frequent strategy employed;* lastly, *"Adjusting my reading pace or speed based on what I'm reading."* with a mean of **2.78** or **Medium level** ranked 5th as the least frequent employed strategy. The strategies are extremely revealing of their usage, especially of re-reading that topped it all and supported by other research findings.

This finding suggested that when performing a metacognitive reading review, learners are most likely to employ problem-solving techniques. Although, as Dumlao (2019) pointed out, it was primarily important for comprehension, most of the respondents used strategies like "re-reading for better understanding," "adjusting the reading rate," and "paying attention to what was being read" when they were reading academic text. According to Ozturk (2019), it was crucial to incorporate metacognition into reading activities by designing situations that allowed for the use of higher-order thinking. Metacognition was therefore more significant and crucial when evaluating what has been read.

Table 4

Respondents' Assessment on the Level of Metacognitive Awareness
of Reading Strategies Terms of Support Reading Strategies

Indicators	Mean	Verbal Interpretation
Taking notes while reading.	3.49	Medium
Reading aloud to help me understand what I'm reading.	2.75	Medium
Discussing what I read with others to check my understanding.	3.08	Medium
Underlining or circling important information in the text.	3.98	Medium
Using reference materials such as dictionaries to support my reading.	3.21	Medium
Overall Mean	**3.30**	**Medium**

Note. Scale: Low level of awareness (2.4 or lower); Medium level of awareness (2.5 – 3.4).
High level of awareness (3.5 or higher)

Table 4 explains the result of support reading strategy, consists of fundamental aids designed to assist the reader in understanding the using a dictionary, making notes, highlighting, or underlining textual content. These are the methods that readers or students employ to absorb, build, and reconstruct the text's meaning. The statistical tabulation on support reading strategies with an overall mean of **3.30** and verbal interpretation of **Medium level** topped the most frequently employed strategies among the three. The majority of the indicators fell into a medium level where one strategy was reported under the high level. At length, "Underlining or circling important information in the text." with a mean of **3.98** or a verbal interpretation of **High level** ranked 1st as the most frequently employed strategy; "Taking notes while reading." with a mean of **3.49** and a verbal interpretation of **Medium level** ranked 2nd as the most frequent employed strategy; "Using reference materials such as dictionaries to support my reading." with a mean of **3.21** or **Medium level** ranked 3rd as the most frequent

employed strategy; "Discussing what I read with others to check my understanding."

with a mean of **3.08** and verbal interpretation of **medium level** ranked 4th as the most frequent employed strategy; and " Reading aloud to help me understand what I'm reading." with a mean of **2.75** and a verbal interpretation of **medium level** ranked 5th and the least frequent employed strategy.

The result suggested that learners are more aware of monitoring through highlighting or encircling significant information for better understanding and comprehension along with taking notes while reading. The students who did not use these support techniques most likely contributed to the support strategies' lack of a meaningful relationship with reading comprehension proficiency. Putting these strategies into practice was crucial because they worked as a fundamental support system for aiding students in understanding the text through exercises like underlining key phrases, taking notes, and translating into the mother language while reading (Mokhtari & Sheorey, 2018).

The prime results of the metacognitive reading strategies disclose and claim that the grade 11 on modular modality were aware of and employed various strategies without facilitator or guidance support from the teachers. These prove that modular distance learners are strategic in terms of planning, monitoring, and evaluating.

Furthermore, the results confirm that Support Reading strategies are the most preferred strategy followed by Global Reading and Problem-Solving which disintegrates some findings where the Problem-Solving strategy is the most preferred. Conclusively, the following Support Reading strategies "Underlining or circling important information in the text." and "Taking notes while reading." are the most frequent employed strategy, followed by Global Reading Strategies "Using typographical aids like boldface and italics to pick out key information." and "Previewing the text to see what it is about before reading it." correspondingly, were reliable from the studies of with the studies of İyüksel and Yüksel (2011); Sariçobanand Mohammadi (2017); Meniado (2016); Khoshsima and Samani (2015) and Azizah Rajab et al. (2017). Metacognitive reading strategy awareness was emphasized as a key element in the field of reading comprehension and interpreting texts.

Consequently, success is assured by the extensive use of reading strategies. These findings inferred that participants read academic materials in English extensively using reading strategies.

2. Reading Comprehension Level

Table 5

Respondents' Reading Comprehension Level for Reading Material 64

Reading Material	G Score Average	Average Reading Grade Level
64	**7.43**	**6.80**

Table 5 explicates the reading comprehension level of the Reading Material 64 of 118 respondents. The Reading Material 64 has a **G score Average** of **7.43** which clarifies that the **Average Reading Grade level** is **6.80**. This means that the average reading grade level does not meet the expected appropriate reading level for the Grade 11 learners. This is supposed to be Grade level 8 onwards which means that their reading Grade level is for 7th graders.

This result rationalized the findings from the study of Mendoza et al. (2021), Social Network Exposure and Students' Vocabulary Proficiency of Second Language: Basis for Reading Enrichment Method using the McCall-Crabbs Reading Proficiency Test. The results showed that the reading proficiency of the Grade 7 students was comparable to that of the Grade 6 students because students today do not take advantage of the abundance of information that is being bombarded in society, the study concluded that reading can be compared to a muscle that needed to be worked out. Alternatively, the study may show that although learners were reading, there were significant distractions in their reading environments that were preventing them from improving their comprehension skills which disrupted their ability to focus. In light of this, a reading enhancement program was required.

Table 6 shown on the next page specifies the reading comprehension level of the Reading Material 65 of 118 respondents. Reading Material 65 has a **G score Average** of **5.99** which presents the **Average Reading Grade level** as **5.30.**

Table 6

Respondents' Reading Comprehension Level for Reading Material 65

Reading Material	G Score Average	Average Reading Grade Level
65	**5.99**	**5.30**

The result means that the average reading grade level does not meet the expected appropriate reading level for the Grade 11 learners which is supposed to be Grade level 8 onwards which means that their reading grade level is for 5th graders.

This result is supported by the study conducted by Villajuan (2021), Reading Proficiency, Comprehension Level of Grade 8 Students, and Readability of Afro Asian Learning Module using McCall-Crabbs reading comprehension. According to the comprehension level results, the respondents' low level of comprehension of texts that included short stories, poetry, and drama was significantly influenced by their limited vocabulary and the difficulty of the text. The students went straight to the source of the meaning instead of assuming anything from the context.

Table 7

Respondents' Reading Comprehension Level for Reading Material 71

Reading Material	G Score Average	Average Reading Grade Level
71	**6.96**	**6.40**

Table 7 illustrates the reading comprehension level of Reading Material 71 of 118 respondents. Reading Material 71 has a **G score Average** of **6.96** which extends that the **Average Reading Grade level** is **6.40.** This interprets that the average reading grade level does not meet the expected appropriate reading level for the Grade 11 learners which is supposed to be reading grade level onwards. This implies that their reading grade 11 level is for 6th graders.

Tables 6, 7, and 8 display the reading comprehension level using the raw score converts to G Score and interprets for Grade level (G Level). Moreover, the results show that in every reading material, learners achieve corresponding reading grade levels which demonstrates differences. The final and overall result in every reading material implies that the majority of learners did not achieve the Grade 8 to Grade 12 levels which is intended for senior high school on the specific reading materials.

This was proven by the study of Vilog (2018) which affirmed the use of MC CallCrabbs to determine the reading comprehension of Grade 8 learners of Holy Spirit National High School for the Development of Strategic Instructional Materials in the Philippines. The results showed that there were different reading grade levels among the respondents.

3. Relationship between the Level of Metacognitive Awareness of Reading Strategies and Level of Reading Comprehension

Table 8

Spearman Rank: Significant Relationship between the Levels of Metacognitive
Awareness of Reading Strategies and Level of Reading Comprehension
(Material 64)

Reading Strategies	Correlation Coefficient	Interpretation	p-value	Decision	Remarks
Global Reading	0.125	Very Weak	0.183	Fail to Reject	Not Significant
Problem Solving	0.130	Very Weak	0.166	Fail to Reject	Not Significant
Support Reading	0.172	Very Weak	0.065	Fail to Reject	Not Significant

Table 8 interprets the Global Reading Strategies, Problem-Solving Strategies, and Support Reading Strategies and Reading Comprehension Levels using Reading Material 64. On statistical interpretation and analysis, the Global Reading Strategies had a correlation coefficient of **0.125** which is interpreted as **"very weak"** at a p-value of **0.183.** This led to the decision "**Fail to Reject Ho"** and formidably remarked as **Not Significant.**

The Problem-Solving Strategies got a correlation coefficient of **0.130** which is interpreted as **"very weak"** at a p-value of **0.166**. This led to the decision "**Fail to Reject Ho"** and formidably remarked as **Not Significant.**

Support Reading Strategies received a correlation coefficient of 0.172 which is interpreted as **"very weak"** at a p-value of 0.065. This led to the decision "**Fail to Reject Ho"** and formidably remarked as **Not Significant.**

The result justified that the use of Global Reading Strategies, Problem-Solving Strategies, and Support Reading Strategies did not correlate with the reading comprehension of Reading Material 64. This was proved by Alsamadani (2009), who looked at the kinds and frequency of metacognitive reading strategies used by Saudi EFL

college students and connected them to their EFL reading ability. He discovered that Saudis employed planning techniques more frequently than attending and evaluating tactics. Additionally, he discovered that the students' use of metacognitive reading techniques had little bearing on the depth of their knowledge. Additionally, Pei's study (2014) found that Chinese students did not do any better in reading comprehension after receiving metacognitive reading instruction.

Table 9

Spearman Rank: Significant Relationship between the Level of Metacognitive Awareness of Reading Strategies and Level of Reading Comprehension
(Material 65)

Reading Strategies	Correlation Coefficient	Interpretation	p-value	Decision	Remarks
Global Reading	0.053	Very Weak	0.574	Fail to Reject	Not Significant
Problem Solving	0.082	Very Weak	0.379	Fail to Reject	Not Significant
Support Reading	0.089	Very Weak	0.340	Fail to Reject	Not Significant

Table 9 exhibits the Global Reading Strategies, Problem-Solving Strategies, and Support Reading Strategies and Reading Comprehension Levels using Reading Material 65. It can be observed that the Global Reading Strategies obtained a correlation coefficient of **0.053** which is interpreted as **"very weak"** at a p-value of 0.574. This led to the decision "**Fail to Reject Ho"** and statistically be remarked as **Not Significant.**

While the Problem-Solving Strategies attained a correlation coefficient of **0.082** which is interpreted as **"very weak"** at a p-value of **0.379.** This led to the decision **"Fail to Reject Ho"** and statistically remarked as **Not Significant**.

The Support Reading Strategies acquired a correlation coefficient of 0.089 which is interpreted as "very weak" at p value of **0.340**. This led to the decision "**Reject Ho"** and statistically remarked as **Not Significant.**

The result disclosed that the use of Global Reading Strategies and Problem-Solving Strategies had a very weak correlation on the reading comprehension in reading material 65. According to a 2015 study by Fitrisia, Tan, and Yusuf, there was a marginally positive correlation between metacognitive awareness of reading strategies (MARS) and reading comprehension test results. According to Fitrisia, Tan, and Yusuf's (2015) research, there was no discernible difference between good and poor readers in terms of their mean level of metacognitive awareness of their reading methods. Although, there was a weak correlation between some reading strategies it still proved that metacognitive reading strategies had an impact on the learners' reading comprehension as claimed by Hieu Manh Do and Huong Le Thu Phan (2021) with the title "Metacognitive Awareness of Reading Strategies on Second Language Vietnamese Undergraduate". The research revealed there was a relationship between reading comprehension and metacognitive awareness in reading.

Table 10 displayed on the next page elucidates Global Reading Strategies, Problem-Solving Strategies, and Support Reading Strategies and Reading Comprehension Level using Reading Material 71.

Table 10

Spearman Rank: Significant Relationship between the Level of Metacognitive Awareness of Reading Strategies and Level of Reading Comprehension
(Material 71)

Reading Strategies	Correlation Coefficient	Interpretation	p-value	Decision	Remarks
Global Reading	0.097	Very Weak	0.301	Fail to Reject	Not Significant
Problem Solving	0.124	Very Weak	0.184	Fail to Reject	Not Significant
Support Reading	0.143	Very Weak	0.127	Fail to Reject	Not Significant

On statistical interpretation and analysis, the Global Reading Strategies had a correlation coefficient of **0.097** which is interpreted as **"very weak"** at a p-value of **0.301.** This led to the decision "**Fail to Reject Ho"** and statistically remarked as **Not Significant.**

Problem-Solving Strategies got a correlation coefficient of **0.124** which is interpreted as "**very weak"** at a p-value of **0.184.** This led to the decision "**Fail to Reject Ho"** and formidably remarked as **Significant.**

The Support Reading Strategies earned a correlation coefficient of **0.143** which is interpreted as **"very weak" a**t a p-value of **0.127.** This led to the decision "**Fail to Reject Ho"** and statistically remarked as **Not Significant.**

The result pointed out that the use of Global Reading Strategies, Problem-Solving Strategies, and Support Reading Strategies had a very weak correlation with the reading comprehension of Reading Material 71. According to Indah Rif'ah Dianti (2021), adopting metacognitive reading strategies in reading learning activities had a beneficial impact on increasing students' reading comprehension. Also, Meniado (2016) posited that reading motivation and metacognitive reading techniques greatly improved comprehension.

Furthermore, it has been demonstrated that metacognitive reading strategies aid in and advance comprehension of text affirmed by Ahmadi et al. (2013).

Table 11

Spearman Rank: Significant Relationship between the Level of Metacognitive Awareness of Reading Strategies and Grade Level of Reading
Comprehension (G-Level)

Reading Strategies	Correlation Coefficient	Interpretation	p-value	Decision	Remarks
Global Reading	0.076	Very Weak	0.417	Fail to Reject	Not Significant
Problem Solving	0.133	Very Weak	0.153	Fail to Reject	Not Significant
Support Reading	0.193	Very Weak	0.038	Reject Ho	Signifiicant

Table 11 exhibits the Global Reading Strategies, Problem-Solving Strategies, and Support Reading Strategies and Reading Comprehension Level using G Level. On statistical interpretation and analysis**,** the Global

Reading Strategies attained a correlation coefficient of **0.076** which is interpreted as "**very weak**" at a p-value of **0.417.** This led to the decision **"Fail to Reject Ho"** and statistically remarked as **Not Significant.**

Problem-Solving strategies obtained a correlation coefficient of **0.133** which is interpreted as "**very weak**" at a p-value of **0.153.** This led to the decision **"Fail to Reject Ho"** and formidably remarked as **Not Significant**

Support reading strategies received a correlation coefficient of **0.193** which is interpreted as "**very weak**" at p-value **0.038.** This led to the decision **"Reject Ho"** and formidably remarked as **Significant.**

The result justified that the use of Global Reading Strategies and Problem-solving Strategies had a very weak correlation on reading comprehension at the G Level. Although, there was a weak correlation on some reading strategies, but it still affirmed that Support Reading Strategies had a significant impact on the learners' reading comprehension as claimed by Hieu Manh Do and Huong Le Thu Phan (2021) with the title "Metacognitive Awareness of Reading Strategies on Second Language Vietnamese Undergraduate". Moreover, Al Seyabi and Tuzlukova's (2015) investigated the challenges with reading in English that Omani EFL students encounter reading techniques they employed. In this quantitative investigation, more than 1,000 people who participated in a survey representing two educational contexts—post-basic schools and university foundation—were sent the questionnaire. The findings demonstrated that foundation program participants compared to students from post-basic schools, more strategies were used. However, it should be made clear that both groups' members demonstrated a preference for support reading strategies and problem-solving reading strategies above global reading strategies.

The study showed there is a relationship between reading comprehension and metacognitive awareness in reading.

The overall tabulated numerical values on the metacognitive reading strategies and reading comprehension level showed an immense relationship. These findings concluded that learners were strategic and cognizant of what they were doing in comprehending the English text. A fairly strong correlation between reading proficiency and strategy use has been observed in numerous studies on the reading strategies employed by L2 readers (Aggraini and Cahyono, 2020). However, the literature showed inconsistent associations between each reading strategy and reading comprehension. Consequently, additional research was required to determine which type of reading strategy enhances reading comprehension the most (Sun et al., 2021).

CONCLUSION

The researcher reached the following conclusions based on the existing findings.

1. Insomuch as metacognitive reading strategies awareness, modular distance learners were aware of their comprehension because they applied strategies like rereading for clarity, focusing on what they were reading, controlling reading speed, visualizing information, and guessing the meaning of unfamiliar words when they were faced with reading difficulty. The most preferred strategy for providing support was underlining key information in the text to aid in memory under the Support Reading. Although students' self-reported metacognitive awareness indicated a variety of usage, Problem–solving strategies appeared to be the least preferred, however, stopping from time to time to think about what "I am reading and Re-reading" had strong significance to reading comprehension. Learners strongly observe global strategies, which require planning. As

reading was planned; previewing the text before reading and using typographical aids were the most employed strategies. On the bright side, it shows that they are deliberate learners who were aware of the strategies for regulating their cognitions towards this modular modality setting.

2. The result of the present study demonstrated that the Grade 11 TVL modular learners in terms of reading comprehension level were considered weak. Mainly, each reading material showed different reading grade levels where the standard reading grade level for Grade 11 was not achieved. This indicated that modular distance learners may find the passages very difficult at their level, considering unfamiliar vocabulary, and poor reading comprehension in reading English texts. The result can draw that modular distance modality was not providing effective and well-fortified learning due to a lack of facilitation from teachers.

3. In light of metacognitive reading strategies awareness levels and reading comprehension level, there was no significant relationship between the metacognitive reading awareness strategies levels and reading comprehension level in terms of the Global Reading and Problem-Solving Reading which were supported based on results in every reading material. In addition, the result contrasted the majority of the studies where Problem-Solving Reading was significant in reading comprehension.

Moreover, despite the employed metacognitive reading strategies awareness, modular distance learners of TVL were still weak in reading comprehension. The findings proved that modular distance learning can trigger the possibility of uncertain and insubstantial reading comprehension despite average short passages given and the grade level. On the bright side, the Support Reading Strategies affirmed a positive correlation. This proved that applying the support reading strategies could lead to conclusive and indisputable effectiveness and efficiency in reading comprehension.

REFERENCES

Alfah, A. (2022). Reading Strategies Used By Lecturer In Teaching Extensive Reading At English Language Education Study Program Of FKIP UIR (Doctoral dissertation, Universitas Islam Riau).

Anggraini, M. P. & Cahyono, B. Y. (2020). Scrutinizing EFL learners' online reading strategy use across proficiency levels. XLinguae, 13(4), 190–200. https://doi.org/10.18355/XL.2020.13.04.14

Ahmadi, R. A., Ismail, H. N., & Abdullah, M. K. (2013). The importance of metacognitive reading strategy awareness in reading comprehension. English Language Teaching, 6(10), 235-249.

http://dx.doi.org/10.5539/elt.v6n10p235

Ahmadi, M.R., Nizam, H., and Kabilan, MK (2013). The Importance of metacognitive reading strategy awareness in reading comprehension. English Language Teaching, 6(10), 235-24

Aktar, T. & Ahmed, I. (2018). Metacognitive awareness of strategy use in EFL reading comprehension in Bangladesh. Journal of ELT Research, 3(2), 205- 222.

Ahmadi, M. R., Ismail, H. N., & Abdullah, M. K. (2013). The importance of metacognitive reading strategy awareness in reading comprehension. English Language Teaching, 6, 235-244.

Bulusan, F. (2019). College ESL learners' politeness in using linguistic taboos and euphemisms: Looking through the socio-pragmatic lens. International Journal of English Linguistics 9(3), 148-158.

Cabardo, J. R. (2015). Reading proficiency level of students: Basis for reading intervention program.

https://doi.org/10.2139/ssrn.2712237

Cahyani, A. N. (2022). A Correlation Study Between Students' Language Awareness, Vocabulary Mastery, and Reading Skill at the Tenth Grade of High School in Indonesia in the Academic Year of 2021/2022. Surakarta.

Chumworatayee, T. (2012). Thai adult EFL learners' metacognitive awareness of reading strategies. The International Journal of Interdisciplinary Social Sciences, 6 (9), 83-96

Ciriaco, C. (2019). DepEd vows to improve quality of education after PISA showing. Manila, Philippines.

https://businessmirror.com.ph/2019/12/06/deped-vows-to-improve-quality-of-education-after-pisa-

Do, H. M. & Phan, H. L. (2021). Metacognitive Awareness of Reading Strategies on Second Language Vietnamese Undergraduates. Arab World English Journal, 12, 90-112.

Dolba, S. Q. (2022). Technical Terms Used in General English Textbooks Across Disciplines. Universal Journal of Educational Research, 1(3), 164-170

Dolba, S.Q., Gula, L.P., & Nunez, J. L. (2022). The Reading Teachers: Reading Strategies Employed in Teaching Reading in Grade School. JOLLS Journal of Language and Literature Studies, 2(2), 62-74. Doi: https://doi.org/10.36312/jolls.v2i2.874

Ediger, A. M. (2006). Developing strategic L2 readers…by reading for authentic purposes. In E. Usó Juan & A. Martínez Flor (Eds.), Current trends in the development and teaching of the four language skills (pp. 303–328). Berlin: Mouton de Gruyter.

Education, D. O. (2020). Adoption of the basic education learning continuity plan for the school year 2020–2021 in light of the covid-19 public health emergency. Manila, Philippines. https://authdocs.deped.gov.ph/

Estacio, J. M. (2013). Bilingual readers' metacognitive strategies as predictors of reading comprehension. Philippine ESL Journal, 10, 179-199.

Fitriani. (2022). The Use of Metacognitive Strategy to Improve the Students' Reading Comprehension at Eight Grade of SMP Muhammadiyah 6 Makassar. Ma

Fırat, T., & Kocak, D. (2019). Başarılı okuyucular ile öğrenme güçlüğü olan öğrencilerin metni anlamak için kullandıkları bilişsel ve üstbilişsel stratejiler. Kastamonu Eğitim Dergisi, 27(2), 669-681.

Gatcho, A. R. G. & Hajan, B.H. (2019). Augmenting ESL Learners' Reading Skills

Habibian, M. (2015). The impact of training metacognitive strategies on reading comprehension among ESL learners. Journal of Education and Practice, 6(28), 61-69

Imam, O. A., Mastura, M. A., Jamil, H., & Ismail, Z. (2014). Reading comprehension skills and performance in science among high school students in the Philippines. Asia Pacific Journal of Educators and Education, 29(1), 81-94.

Meniado, J. C. (2016). Metacognitive reading strategies, motivation and reading comprehension performance of Saudi EFL students. English Language Teaching, 9 (3), 117–129. https://doi.org/10.5539/elt.v9n3p117

Mikk, J. (2015). Explaining the difference between PISA 2009 reading scores in Finland and Estonia. Educational Research and Evaluation, 21(4), 324-342.

Miller, G. (2017). Metacognitive awareness and reading strategy use: Investigating the intermediate level ESL students' awareness of metacognitive reading strategies. St. Cloud State UNiversity. https://repository.stcloudstate.edu/cgi/viewcontent.cgi?article

Miyamoto, A., Pfost, M., & Artelt, C. (2019). The relationship between intrinsic motivation and reading comprehension: Mediating effects of reading amount and metacognitive knowledge of strategy use. Scientific Studies of Reading, 23(6), 445-460.

Mokhtari, K., Dimitrov, D. M., & Reichard, C. A. (2018). Revising the metacognitive awareness of reading strategies inventory (MARSI) and testing for factorial invariance. Studies in Second Language Learning and Teaching, 8(2), 219-246

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

Nazri, M. (2016). Through the lens of good language learners: what are their strategies? Advances in Language and Literary Studies, 7(1), 195-202.

Nguyen, T. M., & Trinh, L. Q. (2011). Learners' Metacognitive Strategy Use and Reading Comprehension: Insights from a Vietnamese Context. Journal on English Language Teaching, 1(1), 9-19.

Phan, H. L. T. (2023). Vietnamese undergraduate English-majored students' beliefs about English language learning. English as a Foreign Language International Journal, 27(2).

Sun, Y., Wang, J., Dong, Y., Zheng, H., Yang, J., Zhao, Y., & Dong, W. (2021). The Relationship Between Reading Strategy and Reading Comprehension: A Meta-Analysis. Frontiers in Psychology, 12, 635289. https://doi.org/10.3389/fpsyg.2021.635289

Trinh, L. & Nguyen, T. (2011). Learners' metacognitive strategy use and reading comprehension: insights from a Vietnamese context. Journal on English Language Teaching, 1 (1), 9-19.

Zhang, L. (2018). Metacognitive and cognitive strategy use in reading comprehension. Springer

Zhang, D., and Goh, C. (2006). Strategy knowledge and perceived strategy use: Singaporean students' awareness of listening and speaking strategies. Language Awareness, 15,199-219.

Zhang L.J, (2009) & Wu, A. (2009). Chinese senior high school EFL students' metacognitive awareness and reading-strategy use. Reading in a Foreign Language, 21(1), 37–59.

Zhang, L. & Seepho, S. (2013). Metacognitive strategy use and academic reading achievement: insights from a Chinese context, Electronic Journal of Foreign Language Teaching, 10(1), 54–69.