Metacognitive Strategies on Reading English Texts of ESL Freshmen: A Sequential Explanatory Mixed Design

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Abstract
The application of metacognitive strategies has been found to play a crucial role in reading comprehension. Hence, a sequential explanatory design method was undertaken on the use of metacognitive strategies among 403 Filipino ESL freshman students taking up General English Course. Findings revealed that the participants demonstrated a high metacognitive awareness of reading strategies while reading academic texts in English with problem solving strategies as their prime choice, followed by support strategies, and global strategies. Among the different metacognitive reading strategies, reading to increase understanding and highlighting to help them remember important information from the text were of high usage. There is a significant difference in the freshman students' use of metacognitive strategies when they are grouped according to field of study. Among the eight groups of participants, six groups of students use metacognitive strategies on a *high* level. Students enrolled in Medical Laboratory Science used the MARSI extensively while students in the field of criminology use metacognitive strategies on a significantly lower frequency level when compared to the other fields. Drawing upon the findings of this study, further research on the factors influencing the differences on the employment of metacognitive reading strategies among readers be undertaken.

Keywords: Metacognitive Reading Strategy, General Education, English texts, ESL Students

Introduction

Reading is a crucial skill in college. In fact, all courses demand a lot of reading—be it academic or vocational courses. It a skill crucial for one to succeed not only in the academe but also life beyond. Unfortunately, in the Philippines, reading as a skill lags behind. This is strongly evident in the outcome of the National Achievement Test (NAT) in the past years. Students got a mean percentage score of 54.42% English test specifically in reading and comprehension. This only shows that Filipino EFL learners hardly comprehend texts written in English. Apparently, teaching the English language demands a lot of effort from teachers. This may be due to lack of exposure to Reading in English texts and poor motivation (Alsamadani, 2001). In addition, inefficient instruction results to poor development of learner's cognition (Al-Jarf, 2007).

Strategies facilitate comprehension (Rupley et al., 2009). Studies show that good readers employ strategies that help them understand written texts both before and during reading as compared to less proficient readers although they may benefit from explicit instruction of strategies. Nunan (1991) posited that learning becomes more effective when one is conscious about the operation behind what one is doing. Higher and stronger motivation results if learners are taught of the strategies in learning. Since not everyone is aware of what strategy fits them, explicit instruction is necessary.

Moreover, Oxford (1990) explained why strategies are critical to language learning. First, strategies are an instrument that allows learners to become self-directed. Second, strategies bring about better self-confidence, which contributes to more effective learning and enhancement of communicative competence. Moreover, strategies are teachable and that they support learning.

The following are classified as: cognitive strategies, metacognitive strategies, mnemonic or memory related strategies, compensatory strategies, affective strategies, social strategies, and self-motivating strategies (Anderson, 2003). Other researchers like O'Malley and Chamot (1990) classified language learning strategy into only two: cognitive and metacognitive strategies. These two, according to Brown et al. (1983), fall under a bigger term metacognition.

Studies show that metacognitive strategies compared to other forms of learning strategies exhibit a more significant role in language learning. Anderson (2003) claimed that acquiring language seems more effective when one is equipped with strategies. If students become strategic learners, they would be able to use strategies that enable them to meet the demands of their tasks.

The roles of metacognitive knowledge in language teaching have been investigated. Zhang (2009) found that among Chinese senior high school students in their English as a foreign language (EFL) class, a significant relationship between the use of strategies and one's proficiency in English exists. The participants' usage of strategy was correlated to their general achievement in English as a Foreign Language.

Exploratory studies (Campos, 2012; Ghafournia1 & Afghari1, 2013; Kay Hong-Nam, 2014; Nazri, 2016; Saricoban & Behjoo, 2017; Nguyen & Trinh, 2011; Zhan & Seepho, 2013) sought the effects of metacognitive awareness of reading strategies on reading comprehension skills. Results revealed there are significant positive relationships between the components of MARS (Global, PSS, and SRS) and EFL students reading achievement. This means that when EFL students' metacognitive strategy awareness increases, their success increases, too.

Existing literature on the effect of metacognitive instruction on EFL students' performance is further supported by some quasi-experimental studies (see Ahmadi, Ismail, & Muhammad Abdullah, 2013; Al-Ghazo, 2016; Chumworatayee, 2012; Habibian, 2015; Huang & Newbern, 2012; Ismail & Tawalbeh, 2015). A significant difference between the controlled group and experimental group was revealed after the post test was given. This means that explicit teaching of metacognitive strategies enhances reading comprehension. Hence, if explicit instruction increases levels of comprehension, then, metacognitive instruction should be a part of the language classes.

The relationship of metacognitive strategies to some variables such as gender, grade level and study field, have likewise been conducted. Apparently, differences emerge in terms of the strategies used in metacognition among university students (Khoshsima & Samani, 2015), undergraduate students in Malaysia (Rajab, et al., 2017), and secondary students in Vietnam. Among the metacognitive strategies employed, PROB strategies were often used, followed by SUP and GLOB strategies (Zakaria, Zahidah Rajim, 2017). However, among various levels of advanced EFL learners in Oman (Al- Mekhlafi, 2018), the use of the varied types of strategies in reading does not vary.

Based on the above research findings, learners are made to realize about metacognition. Using strategies brings about favorable result, since learners are knowledgeable about their own thinking. They can make choices and practice their knowledge on metacognition, hence, enabling them to monitor their own performance, make adjustments to some challenges encountered, and make assessments in their own competence (Zhang & Goh, 2006). Therefore, it seems imperative that explicit teaching of strategies in metacognition be taught.

This study is helpful because it helps students in familiarizing reading strategies in metacognition. It will result to favorable experience in reading English texts and help learners manage their own learning. In terms of ESL pedagogy, it may suggest teaching strategies in metacognition that will familiarize students about the strategies they use in reading. Findings in this study may also provide information and insights to decision makers in universities, colleges, and in the Department of Education. Finally, findings of this research can help instructors, professors, and learners be informed of reading strategies that are effective.

Research Problems

Most of the researches in metacognitive strategies focus on the relationship between familiarity with metacognition and its relation to students' achievement in different subjects, the influence of explicit teaching of strategies in metacognition and comprehension (Bećirović, Čeljo, & Sinanović, 2017; Nazri, 2016; Nguyen & Trinh, 2011; Zhan & Seepho, 2013). One recent study along this topic was that of Pascual (2019), but she only statistically explored awareness of these metacognitive strategies. Her respondents, too, were only limited to prospective ESL teachers. Moreover, little research, to date, has been done on ELL readers' metacognitive strategies awareness enrolled in General English Course (GEC) and its relationship to gender, grade level and study field/discipline. To bridge this gap, the current study aimed to ascertain EFL freshmen's use of metacognitive strategies. It also aimed to look into the probable differences among students enrolled in different disciples as regards the use of metacognitive strategies.

To meet the objectives of this study, the following research questions were put forward:

1. What metacognitive strategies are frequently employed by EFL freshman students in reading English texts?
2. Does the use of metacognitive reading strategies of ESL freshmen taking up GEC courses differ according to their field of study?

Methodology

Research Design

This study made use of sequential explanatory mixed method design (Creswell & Clark, 2014:9; Creswell, 2003). Bulusan (2019) mentioned that sequential explanatory approach is used in collecting and analyzing quantitative and then qualitative data in two consecutive phases in one study. In this study, the first phase of the research gathered information on the metacognitive strategies used by the respondents through a cross-sectional survey. Causal comparative research was used to examine possible differences among ESL freshmen's use of metacognitive strategies enrolled in different fields of study. Since the second phase aimed to better understand the result of the first phase, the researchers employed the basic qualitative study design postulated by Merriam and Tisdell (2016).

Participants of the study

The subjects of this study were freshman students, ages ranging from 19-20, and enrolled in General English Courses of the School of Education and Humanities, School of Health and Natural Sciences, School of Accountancy and Business, and School of Engineering, Architecture and Information Technology in one Private Higher Education Institution in the Philippines. For the first part of this study, total enumeration was employed. Purposive sampling technique was used to determine the participants for the second phase of this study.

Instrumentation

There were two instruments used in this study. The first is the Metacognitive Awareness of Reading Strategies Inventory or MARSI (Mokhtari & Reichard, 2002). It is a 30-item, self-report questionnaire that measures the strategies and behavior of students in reading English texts and other references. There are three groups of questions included in the MARSI. These are Global, Problem Solving, and Support strategies. Each of these categories includes specific reading strategies. Global reading strategies (13) are purposeful schemes used in reading such as checking for understanding and preparing for reading. Problem solving strategies (13) comprise those that directly refer to the text like regulating pace in reading, thinking about and focusing one's attention on the text. Support reading strategies (9) include fundamental strategies such as highlighting information, taking down notes and consulting the dictionary.

The second instrument is a researcher-made interview protocol, composed of four questions that aim to find out the familiarity of the participants on the metacognitive strategies they employ before reading, during reading, and after reading.

Procedure

Permission protocol followed by Bulusan, Antonio, and Dumaga (2019) was followed. A letter of request was addressed to the Dean of the School of Teacher Education and Humanities and the Department Head of Languages. Upon approval, another letter was addressed to the University Registrar to secure the record of freshman students enrolled for the first semester, SY 2018-2019. The total population of first year students was taken as respondents.

The MARSI questionnaire (2002) was used in this study. Questions about their course of study were asked. The respondents were provided some guidelines in completing the questionnaire and that they were assured of the confidentiality of their answers. They were instructed to check one option for each statement and were informed that all answers are acceptable. They were given 15 minutes to answer the questionnaire and were not allowed to review their answers. After the quantitative data was analyzed, the researchers randomly interviewed 30 participants upon their consent. Member checking was likewise done to ensure the correctness of the transcription of the respondents' statements.

Data Analysis

The Statistical Package for Social Sciences (SPSS) version 20 was used to analyze the data.

Data obtained from the MARSI Questionnaire was further examined using descriptive statistics. The mean scores of the participants were compared via ANOVA to determine the variations in the use of metacognitive strategy across

fields of study. On the other hand, the qualitative data was treated using some interpreting strategies suggested by Braun & Clarke (2013).

Results and Discussion

Metacognitive Strategies Used by ESL Freshman Students in Reading English Texts

Table 1 presents the frequency distribution of the ESL Freshman students when grouped according to how frequent they use each of the three categories of strategies in reading English texts. Findings show that out of the 403 freshman students included in this study, majority of them claimed using the available reading strategies at a *high* frequency level (F=268, 66.50%); 130 or 32.26% reported using the available strategies at a *medium* frequency level and only 5 or 1.24% reported using the available strategies as a *low* frequency level.

Table 1. ***Metacognitive Strategies Employed by ESL Freshman students***

Frequency	Global Strategies		Problem-solving Strategies		Support Strategies		MARSI (Overall)	
	f	**%**	**f**	**%**	**f**	**%**	**F**	**%**
High	239	59.31%	304	75.43%	245	60.79%	268	66.50%
Medium	160	39.70%	89	22.08%	144	35.73%	130	32.26%
Low	4	0.99%	10	2.48%	14	3.47%	5	1.24%
Total	**403**	100.00%	**403**	100.00%	**403**	100.00%	**403**	100.00%

This result indicates that generally the participants are aware of the metacognitive strategies in reading. It can be inferred that the participants are strategic learners, as they use a wide range of metacognitive strategies in reading English texts. The use of metacognitive strategies where problem solving strategy is most frequent followed by support strategies and global strategies, respectively, is consistent with the studies of İyüksel and Yüksel (2011); *Sariçoban* and Mohammadi (2017); Meniado (2016); Khoshsima and Samani (2015) and Azizah Rajab et al., (2017). The area of reading comprehension emphasizes the importance of metacognitive reading strategy awareness as a crucial factor in understanding texts. Thus, the extensive use of reading strategies warrants success.

A closer scrutiny on the table shows that most of the students use problem-solving strategies on a high level (75.43%); 22.08% on a *medium* level and 2.48% on a *low* level. On the use of global strategies, 59.31% of the students have *high* level, 39.70% have *medium* level and 0.99% have *low* level. Finally, on the use of support strategies, 60.79% have high level, 35.73% have medium level and 3.47% have low level.

Table 2 presents the descriptive statistical results for the ESL freshmen's self-reported use of the three identified metacognitive strategies in reading English texts. Findings revealed that freshman students on the whole reported using the available reading strategies at a high-frequency level (M = 3.70, SD = 0.492). Among the 30 strategies, 24 strategies (80%) fell into the high-usage level (M ≥ 3.5), and 6 strategies (20%) went to the medium level (M ≥ 2.5). No strategy was reported at the low-usage level (M =2.5). As regards the use of the three strategies, there is a high to medium usage of problem-solving strategies (M = 3.90, SD = 0.576) as their primary choice, followed by support strategies (M = 3.63, SD = 0.589) and global strategies (M = 3.62, SD = 0.504). Of the top five strategies mostly employed by students, four are under the problem-solving category (items 27,16,11 & 8), one from the SUP category (item 12), while the least five categories used are from the GLOB category (items 10, 17 & 26).

Re-reading is progressive; it is a process of re-visiting sections of a text two or three times. Re-current encounters with the text allows for re-thinking; focusing on features not previously noticed during the initial phase of reading such as how information is presented or arranged in that text, how it is sequenced and weighted. Hence, understanding is more likely to take place (Austin, 2010).

The following respondents' answer clearly support this finding by mentioning that *"Ah, when I don't understand something, I read it all over again and understand [it]in my own words. If a word is difficult, I usually look it up in the dictionary or sometimes I just gonna figure out from reading because I can't understand the meaning of words."* (Student A). Student E also answered that *"Pauit ulit ko po siyang binabasa hanggang sa maunawaan ko po…* (I repeat reading it until such time that I will be able to understand.)"

Interestingly, the participants' self- reported use of metacognitive strategies as revealed in their MARSI was high; problem solving and support strategies respectively as most often used. These metacognitive strategies are

regulatory strategies by which they monitor their reading comprehension. Monitoring, an essential factor in regulating reading, refers to the individuals' recognition of their understanding of a text. It guides them to work on their reading, directing them to work as they have planned. Engaging in self-regulation is a good example of monitoring. Azevedo and Cromley (2004) also indicated the following ways on how readers monitor comprehension during reading: making connections, predictions, inferences; using context clues, text features, and identifying text structures; using graphic organizers to identify specific kinds of text information, and making annotations or writing questions in the margins of the text. Among these monitoring strategies, the participants seem to frequently observe the following support strategies: use of context clues (M=3.65, SD=0.912, VD=high), or write comments or questions in the margins of the material (M=3.67, SD=0.960, VD=high), discussing with others (M=3.13, SD=1.052, VD=medium).

Table 2. ***ESL Freshman Students' Perceived Use of Metacognitive Strategies (N=403)***

	Item	Mean	SD	VD
Global Strategies				
1	I have a purpose in mind when I read.	3.91	0.852	High
3	I think about what I know to help me understand what I read.	3.96	0.759	High
4	I preview the text to see what it's about before reading it.	3.77	0.939	High
7	I think about whether the content of the text fits my reading purpose.	3.57	0.888	High
10	I skim the text first by noting characteristics like length and organization.	3.17	0.917	Medium
14	I decide what to read closely and what to ignore.	3.55	0.915	High
17	I use tables, figures, and pictures in text to increase my understanding.	3.36	1.041	Medium
19	I use context clues to help me better understand what I'm reading.	3.65	0.912	High
22	I use typographical aids like bold face and italics to identify key information.	3.68	1.025	High
23	I critically analyze and evaluate the information presented in the text.	3.60	0.856	High
25	I check my understanding when I come across conflicting information.	3.74	0.858	High
26	I try to guess what the material is about when I read.	3.41	0.890	Medium
29	I check to see if my guesses about the text are right or wrong.	3.70	0.963	High
	Overall	**3.62**	**0.504**	**High**
Problem-solving strategies				
8	I read slowly but carefully to be sure I understand what I'm reading.	4.00	0.852	High
11	I try to get back on track when I lose concentration.	4.08	0.831	High
13	I adjust my reading speed according to what I'm reading.	3.84	0.953	High
16	When text becomes difficult, I pay closer attention to what I'm reading.	4.10	0.819	High
18	I stop from time to time and think about what I'm reading.	3.39	0.972	Medium
21	I try to picture or visualize information to help remember what I read.	3.97	0.934	High
27	When text becomes difficult, I re-read to increase my understanding.	4.14	0.891	High
30	I try to guess the meaning of unknown words or phrases.	3.68	0.992	High
	Overall	**3.90**	**0.576**	**High**

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	Overall	**3.90**	**0.576**	**High**
Support strategies				
2	I take notes while reading to help me understand what I read.	3.43	1.027	Medium
5	When text becomes difficult, I read aloud to help me understand what I read.	3.51	1.182	High
6	I summarize what I read to reflect on important information in the text.	3.51	1.022	High
9	I discuss what I read with others to check my understanding.	3.13	1.052	Medium
12	I underline or circle information in the text to help me remember it.	4.15	1.060	High
15	I use reference materials such as dictionaries to help me understand what I read.	3.95	0.949	High
20	I paraphrase (restate ideas in my own words) to better understand what I read.	3.67	0.960	High
24	I go back and forth in the text to find relationships among ideas in it.	3.73	0.907	High
28	I ask myself questions I like to have answered in the text.	3.60	0.974	High
	Overall	**3.63**	**0.589**	**High**
	MARSI Grand Mean	**3.70**	**0.492**	**High**

Student F mentioned, "…*para intindihin ko yung word kung paano nagamit or yung position nya sa sentence, ma'am (* **I will understand the word based on how it is used in the sentence or consider the position of the word in the sentence.)." Student H also opined, "Minsan** *po sa word kasi, nasa surrounding word na 'yung meaning niya parang 'pag wala ng time mag-search, nagtatanong na lang ako…search, context clues, based din sa choices. (***Sometimes the meaning of the word can be found within the surrounding word. So, I will have to consider those words. I also examine the choices. Or sometimes if I do not have time to search, I just ask from the others)."**

Some websites, considered as "virtual others," are often sought by the participants when they hardly understand what they read. Student L explained, *'Pag may hindi ako maintindihan, ginogoogle ko po pag mahirap yung word. Yung iba po is kung ano po yung Pagkakaintindi ng iba like yung comments sa google. Consult ko yung kasama ko kung magparehas kami ng intindi. (*If I do not understand something, I usually google it. I usually examine the comments of others in the Google's search engine. I also consult my classmate if we have the same understanding.)."

Support strategies like underlining or encircling information in the text to help them remember (Item 12, M = 4.15, SD = 1.060); using reference materials like dictionaries to enhance understanding (Item 15, M = 3.95, SD = 0.949); and re-reading to find relationships among ideas (Item 24, M = 3.73, SD = 0.907) were also evident. This shows their capacity to make use of resources in increasing understanding. Selective highlighting through encircling or underling helps students to organize what they have read by selecting what is important. This strategy teaches students to highlight only the key words, phrases, vocabulary and ideas that are central to understanding the reading. Student K said, "I usually do a research first like the background so that I will be able to understand the topic more easily." Student C, on the other hand, mentioned, "The dictionary on my phone helps me in understanding what I read. Sometimes, there are a lot of words in the book but those in the internet are better simplified."

Summarizing as a support strategy is also highly observed by the participants (M=3.51 SD =1.022). Mokhtari and Sheorey, (2002) also found that among the Turkish EFL learners, summarizing was found to be the most frequently

used strategy. As a strategy, it teaches students how to take a large selection of a text and reduce it to the main points for more concise understanding; hence, ensuring productive study sessions. It also helps learners see connections within the text by allowing the reader to see how all parts are related to one another (Mc Cormick, 2010).

The participants did not only demonstrate the ability to detect difficulty in comprehension but also displayed the ability to plan for reading. This is evident in their regular use of global strategies like "thinking about what they know to understand what they read" (Item 3, M = 3.96, SD = 0.759), "having a purpose in mind" (Item 1, M = 3.91, SD = 0.852), and "previewing text before reading" (Item 4, M = 3.77, SD = 0.939). Other global strategies like skimming the text first by noting its length and organization (Item 10, M = 3.17, SD = 0.917), using tables, figures, and pictures to increase their understanding (Item 17, M = 3.36, SD = 1.041), and predicting what the material is all about (Item 26, M = 3.41, SD = 0.890) were among the least favored on the list. The following participants have these to say:

Student I: Before I read, I make a survey of the material page by page. I look at the length, the photos and the images. *(Titignan ko po muna kung marami-rami babasahin ko…page by page. Survey ko in terms of length. Tinitignan ko 'yung photos or images.)*

Student B**:** I have to find out what should I read. First, I decide if I will read this or not…like if I look on the stuff that gives me interest, something that is interesting.

Planning refers to the ability to think ahead and organize activities to attain one's objectives (Zare-ee, 2008). Often called forethought, it is a basic aspect of a perceptive behavior. Miller (1995) describes planning as a combination of anticipating improvement of situations and how to handle them. This includes the appropriate choices and use of strategies that will contribute to performance like knowing how to use strategies appropriately, making predictions before reading, and being mindful of time and attention before beginning a task. Researches revealed that planning as a regulatory skill is crucial in the facilitation of comprehension (Baker, 1989). Hence, if students know how to plan well in reading and apply these skills in classroom activities, it will definitely improve tests comprehension (Brown & Palincsar, 1989; Cross & Paris, 1988). As Swanson (1994) suggested, if regulator processes are employed and utilized well, learners are better motivated; thus, comprehension is improved.

ESL Freshman Students' Metacognitive Strategies and their Fields of Study

To answer the second research question "Do ESL freshman students taking up GEC courses enrolled in different fields of study differ in terms of the use of metacognitive strategies?", one-way ANOVA was utilized. Table 3 presents the participants' self-reported use of metacognitive strategies and their field of study.

Global Strategies. As reflected on the table, among the eight groups of freshman students, the highest mean of 3.86 has been recorded by students taking up Electronics and Communications Engineering (BSECE), followed by those enrolled in Medical Laboratory Science (M=3.70), Psychology (M=3.70), Electrical Engineering (M=3.67), Political Science (M=3.63) and Civil Engineering (M=3.59). All seven groups of students use global strategies on a *high* level. The lowest mean of 3.32 was recorded by students in the field of Criminology. This group revealed that they use global strategies on a *medium* level. When ANOVA I was run, the calculated F-value of 2.761 ($p<0.008$) was much higher than the critical F-value of 2.033 at 7 and 395 degrees of freedom. This indicates a very significant difference in the freshman students' use of global strategies when they are grouped according to field of study. Considering the calculated means, it could be deduced that students in the field of criminology use global strategy on a significantly lower frequency level when compared to the other fields.

Problem-solving Strategies. The highest mean of 4.05 has been recorded again by students taking up Electronics and Communications Engineering (BSECE), followed by those enrolled in Psychology (M=4.01), Medical Laboratory Science and Tourism Management (M=3.93), Civil Engineering (M=3.92), Electrical Engineering (M=3.89), Political Science (M=3.76) and Criminology with the lowest mean of 3.57. Although all eight groups of students use global strategies on a *high* level, when ANOVA I was administered on the gathered data, the calculated F-value of 1.965 ($p<0.059$) was lower than the critical F-value of 2.033 at 7 and 395 degrees of freedom. This means that there is no significant difference in the freshman students' use of problem-solving strategies when they are grouped according to field of study. The findings suggest that the students' field of study does not relate to their frequency of employing problem-solving strategy in reading English texts.

Support Strategies. Among the eight groups of freshman students, the highest mean of 3.85 has been recorded by students taking up Medical Laboratory Science, followed by those taking-up Tourism Management (M=3.68),

Political Science (M=3.67), Psychology (M=3.63), Electrical Engineering (M=3.58), and Civil Engineering (M=3.59).

Table 3. ***Freshman Students' Self-reported Use of Metacognitive Strategies and their Field of Study***

Field of Study	n	Mean	Var	F (7/395)	p-value
Global Strategies					
Medical Laboratory Science (BSMLS)	71	3.70	0.259		
Civil Eng. (BSCE)	119	3.59	0.254		
Electrical Eng. (BSEE)	32	3.67	0.167		
Electronics & Comm. Eng. (BSECE)	22	3.86	0.144	2.761**	0.008
Psychology (BS Psych)	35	3.70	0.304		
Political Science (BAPS) / BA Com	26	3.63	0.465		
Criminology (BS Crim)	27	3.32	0.230		
Tourism Management (Business Dept)	71	3.57	0.189		
Problem-solving Strategies					
Medical Laboratory Science (BSMLS)	71	3.93	0.445		
Civil Eng. (BSCE)	119	3.92	0.293		
Electrical Eng. (BSEE)	32	3.89	0.132	1.965^{NS}	0.059
Electronics & Comm. Eng. (BSECE)	22	4.05	0.173		
Psychology (BS Psych)	35	4.01	0.254		
Political Science (BAPS) / BA Com	26	3.76	0.742		
Criminology (BS Crim)	27	3.57	0.330		
Tourism Management (Business Dept)	71	3.93	0.285		
Support Strategies					
Medical Laboratory Science (BSMLS)	71	3.85	0.349		
Civil Eng. (BSCE)	119	3.56	0.301		
Electrical Eng. (BSEE)	32	3.58	0.199		
Electronics & Comm. Eng. (BSECE)	22	3.47	0.538	2.820**	0.007
Psychology (BS Psych)	35	3.63	0.452		
Political Science (BAPS) / BA Com	26	3.67	0.578		
Criminology (BS Crim)	27	3.38	0.241		
Tourism Management (Business Dept)	71	3.68	0.281		
MARSI (Overall)					
Medical Laboratory Science (BSMLS)	71	3.81	0.276		
Civil Eng. (BSCE)	119	3.67	0.222		
Electrical Eng. (BSEE)	32	3.70	0.121		
Electronics & Comm. Eng. (BSECE)	22	3.79	0.183	2.199*	0.034
Psychology (BS Psych)	35	3.76	0.278		
Political Science (BAPS) / BA Com	26	3.68	0.487		
Criminology (BS Crim)	27	3.40	0.225		
Tourism Management (Business Dept)	71	3.70	0.190		

F-crit. = 2.033; df 7/395

All six groups of students use support strategies on a *high* level. The lowest means of 3.38 and 3.37 were recorded by students in the fields of Criminology and Electronics and Communication Engineering, respectively. These two groups revealed that they use global strategies on a *medium* level. When ANOVA I was run, the calculated F-value of 2.820 ($p<0.007$) is much higher than the critical F-value of 2.033 at 7 and 395 degrees of freedom. This means that there is a very significant difference in the freshman students' use of support strategies when they are grouped according to field of study. Considering the calculated means, it could also be deduced that students in the

field of criminology and Electronics and Communications Engineering use support strategy on a significantly lower frequency level when compared to the other fields.

MARSI (Overall). among the eight groups of freshman students, the highest mean of 3.81 has been recorded by students taking up Medical Laboratory Science, followed by those taking-up Electronics and Communication Engineering (M=3.79), Psychology (M=3.76), Electrical Engineering (M=3.70), Tourism Management (M=3.70), Political Science (M=3.68), and Civil Engineering (M=3.67). All six groups of students use metacognitive strategies on a *high* level. The lowest mean of 3.40 was recorded by students in the field of Criminology which revealed that they use the available strategies on a *medium* level. When ANOVA I was run, the calculated F-value of 2.199 ($p<0.034$) was higher than the critical F-value of 2.033 at 7 and 395 degrees of freedom. This means that there is a significant difference in the freshman students' use of metacognitive strategies when they are grouped according to field of study. Considering the calculated means, it could also be deduced that students in the field of criminology use metacognitive strategies on a significantly lower frequency level when compared to the other fields.

Zhang and Seepho (2013) pointed out that vital for reading achievement is the students' ability to monitor during reading or students' metacognitive awareness and applying the strategies. The important effect of MARS is that, students can recognize when and where to use specific strategy according to the text they are reading (Takallou, 2011). Readers with metacognitive strategies are able to read efficiently and metacognitive strategies constitute an important factor of efficiency in reading.

As far as the three categories of strategies are concerned, students exhibited a medium to high usage with problem solving strategies as their prime choice, followed by support strategies and global strategies. The results indicating the predominant use of problem-solving strategies in this study was consistent with Mokhtari and Reichard (2004), Sheorey and Mokhtari (2001), İyüksel and Yüksel (2011), Sariçoban and Mohammadi (2017), Meniado (2016), Khoshsima and Samani (2015), and Azizah Rajab et al., (2017). These scholars are in agreement that problem-solving strategies were mostly used by non-native readers since these strategies were critical for comprehension.

Four out of the five strategies that were most favored by the participants were under the PROB category (items 27,16,11,18) and one from the SUP category while the lowest three mainly went to the GLOB category (items 10, 17 & 26). Each of the other two are from PROB (item 18) and SUP (item 9) categories. These findings imply that the participants extensively employ reading strategies when reading academic texts in English.

Conclusion and Pedagogical Implications

This study aimed to ascertain the use of metacognitive strategies of ESL freshmen enrolled in general English Course (GEC). It also looked into the probable differences among students enrolled in different disciplines as regards the use of metacognitive strategies. Moreover, it tried to find out the specific metacognitive strategies used by the participants.

Generally, students are conscious of their comprehension since they utilize strategies when confronted with reading difficulty such as re-reading for better understanding, focusing on what they are reading, regulating reading speed, visualizing information, and guessing meaning of unfamiliar words. Highlighting information in the text in order to help them remember information is the most favored support strategy. Although the self-reported metacognitive awareness of students revealed a wide array of usage; global strategies seemed to be the least favored. Global strategies which basically involves planning is seldom observed by the students. Since planning to read is important, it is imperative that teachers demonstrate and instruct students to prepare for reading by setting goals for reading, survey the text in terms of length and organization, decide which ones to read and what to ignore, use tables, graphs, and pictures to increase understanding for reading.

Among the different study fields, a significant difference was found in the use of metacognitive strategies. These differences are probably due to the need, nature, and types of texts that are used in each discipline. However, all metacognitive strategies are important in the development of comprehension. Familiarity of metacognitive reading strategy is emphasized in the field of reading comprehension process, which has been indicated as an important factor for reading comprehension while reading. Hence, an extensive employment of metacognitive strategies in reading would ensure success in reading.

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