

# Reading Strategy Awareness of English Major Students

Hsin-Yi Lien

**Abstract**—The study explored the role of metacognition in foreign language anxiety on a sample of 411 Taiwanese students of English as a Foreign Language. The reading strategy inventory was employed to evaluate the tertiary learners' level of metacognitive awareness and a semi-structured background questionnaire was also used to examine the learners' perceptions of their English proficiency and satisfaction of their current English learning. In addition, gender and academic level differences in employment of reading strategies were investigated. The results showed the frequency of reading strategy use increase slightly along with academic years and males and females actually employ different reading strategies. The EFL tertiary learners in the present study utilized cognitive strategies more frequently than metacognitive strategies or support strategies. Male students use metacognitive strategy more often while female students use cognitive and support strategy more frequently.

**Keywords**—Cognitive strategy, gender differences, metacognitive strategy, support strategy.

## 1. INTRODUCTION

IN recent years, researches on reading tend to explore the utilization of reading strategies to enhance learners' reading performance and believe successful use of reading strategies will benefit learners' reading comprehension [1]. Language learning strategies have been emphasizing over the past two decades and researches mainly aim to investigate the benefits of training students' utilization of those beneficial strategies and believe that with mastering those strategies, language learners will improve their English proficiency. Research in L2 reading has explored strategy use, reading comprehension, and reading proficiency and has focused on examining the correlation between EFL readers' strategy use and reading comprehension [2], reading proficiency [3] and reading anxiety [4]. Reading strategies are categorized into cognitive strategies, which enable readers to construct meaning from text and metacognitive strategies, enhance readers to assess their reading process [5].

Cohen [6] proposed that utilization of metacognitive strategies, including planning, monitoring and evaluating, lent to effective reading and successful performance [6]. More skilled and confident readers employ more metacognitive strategies referring to planning, monitoring and evaluating their reading path than their unsuccessful learners [7], [8]. Additionally, a number of researchers have confirmed positive correlation between metacognition and reading comprehension [9]-[12] and Park [13] also conducted a meta-analysis study to examine eighteen research and found reading strategy use is significantly correlated to reading comprehension. Keskin [14]

claimed that L1 readers' use of metacognitive strategies was associated with academic and general reading attitudes, which have some impact on learners' school success. Confident reading attitudes resulted from the use of metacognitive strategies. Knowledge and utilization of metacognitive strategies is one of the factors contributing to individuals' success [15]. In addition, Gelen [16] indicates that learners' cognitive awareness skills enhance their reading comprehension success and change their attitudes toward learning. Hamdan [17] explored the metacognitive and cognitive strategies used by English majoring students and found that the most frequently used metacognitive strategies were problem solving strategies, and followed by rereading, guessing, contextualizing, visualizing and using dictionary. Studies on gender difference in reading strategy use showed female learners used more reading strategies than male counterparts in some particular strategies [18]-[20].

Studies on correlation between reading strategies and self-rated report of reading ability have shown that ESL or EFL learners with higher self-rated proficiency employed reading strategy more frequently and high proficiency group utilized more strategies than low proficiency one [7], [20], [21]. L2 reading research has continually analyzed the correlation between strategy use and reading comprehension, reading proficiency, and perceptions of their reading ability at high school level, intensive English program for preparation of entering professional field. However, few researches have been conducted to investigate English major L2 readers' strategy use, especially metacognitive strategy regarded as an important skill to master for high proficient and successful learner. Therefore, this study is intended to explore EFL tertiary learners' metacognitive awareness at different academic levels and between male and female students. The following research questions were proposed:

1. Are there differences in the utilization of academic reading strategies among EFL tertiary learners at various academic levels?
2. Are there gender differences in the reading strategy use of EFL tertiary learners?

## II. METHODOLOGY

### A. Participants

Participants of the research were from English department in a Northern university in Taiwan. A total of 411 students were randomly selected on a voluntary basis in the beginning of the fall semester. 150 freshmen, 85 sophomores, 92 juniors and 84 seniors participated in the present study. Most required and elective courses in the English department are instructed in English and students are required to take one of the benchmark tests, such as TOEFL, IELTS, TOEIC or GEPT

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Hsin-Yi Lien is with the Department of Applied English, Ming Chuan University, Taiwan (e-mail: maggieli61@hotmail.com).

(General English Proficiency Test) which is developed by The Language Training and Testing Center in Taiwan.

### B. Research Instrument

The instruments utilized in the present study include two questionnaires- the Metacognitive Awareness of Reading Strategies Inventory (MARSİ), and the semi-structured background questionnaire, which investigated the participants' perception of their English reading proficiency and their satisfaction of current English learning. The adapted scale was validated by Mokhtari and Sheorey [7] with school students in the US ( $n=825$ ) with reliability coefficients of .92, .79 and .87 for Global/Metacognitive Reading Strategies, Problem-Solving/Cognitive Reading Strategies, and Support Reading Strategies respectively. The MARSİ is a 30-item Likert-type scale consists of five choices between "I always do it" to "I never do it". The Chinese version utilized Back-translation was employed to reduce language barrier caused by English version, and the 30 items were rearranged. Thus, the internal consistency of revised version was examined. The reliability coefficient of overall reliability was ( $\alpha = .90$ ) high while metacognitive subscale ( $\alpha = .84$ ), cognitive subscale ( $\alpha = .79$ ) and support subscale ( $\alpha = .76$ ) was good as well.

### C. Procedure

A total of 1040 students enrolled in the English department in a university in northern Taiwan and 443 voluntary participants were requested to complete the questionnaires within thirty minutes. All the data was collected in the first two weeks of a new semester. Nevertheless, finally 411 questionnaires were analyzed after incomplete data was eliminated.

## III. RESULTS

### A. Findings on Metacognition

The present study examined the differences in the utilization of academic reading strategies among EFL tertiary learners at different academic levels. Frequency of strategy use was classified as high (3.5-5), medium (2.5-3.4), or low (1.1-2.4) suggested by Mokhtari and Sheorey [7]. Overall, the most frequently used strategies were all metacognitive strategies *using context clues* ( $M = 3.87$ ,  $SD = .872$ ), *trying to stay focused* ( $M = 3.85$ ,  $SD = .901$ ) and *guessing the content of the text* ( $M = 3.81$ ,  $SD = .925$ ), and the least utilized strategies included two support strategies *asking myself questions* ( $M = 2.59$ ,  $SD = 1.11$ ), *taking notes* ( $M = 2.80$ ,  $SD = 1.054$ ) and one metacognitive strategy *critical evaluating* ( $M = 2.70$ ,  $SD = .122$ ). The results of descriptive statistics indicated that the participants use more cognitive strategies ( $M = 3.65$ ,  $SD = 0.600$ ) than metacognitive strategies ( $M = 3.41$ ,  $SD = 0.599$ ) and support strategy ( $M = 3.21$ ,  $SD = 0.63$ ). Table I has shown there was no significant difference of EFL learners' utilization of MARSİ at the  $p < .05$  for four academic levels [ $F(3, 407) = 1.785$ ,  $p = .149$ ], cognitive [ $F(3, 407) = .209$ ,  $p = .890$ ] and Support [ $F(3, 407) = 2.237$ ,  $p = .085$ ], while difference of use of metacognitive [ $F(3, 407) = 2.918$ ,  $p = .034$ ] was significant.

TABLE I  
DIFFERENCES IN READING STRATEGY USE OF TERTIARY LEARNERS AT VARIOUS ACADEMIC LEVELS

Strategy	Year One <i>N</i> =150		Year Two <i>N</i> =85		Year Three <i>N</i> =92		Year Four <i>N</i> =84		<i>F</i>	<i>p</i> -Value
	Mean	SD	Mean	SD	Mean	SD	Mean	SD		
Meta	3.30	0.63	3.40	0.56	3.50	0.57	3.51	0.60	2.918*	.034
Cog	3.62	0.65	3.65	0.53	3.67	0.55	3.65	0.64	.209	.890
Sup	3.11	0.67	3.29	0.58	3.20	0.62	3.30	0.61	2.237	.085
Overall	3.33	0.60	3.42	0.51	3.46	0.50	3.48	0.54	1.785	.149

$P < .05$

As shown in Table II significant differences among academic levels were found in five of thirteen metacognitive reading strategies *checking if text fits purpose* [ $F(3, 407) = 4.572$ ,  $p = .004$ ], *deciding what to read* [ $F(3, 407) = 3.272$ ,  $p = .021$ ], *using typographical features* [ $F(3, 407) = 3.460$ ,  $p = .016$ ], *critically analyzing* [ $F(3, 407) = 5.069$ ,  $p = .002$ ] and *confirming predictions* [ $F(3, 407) = 3.383$ ,  $p = .018$ ] and in three of support reading strategies *taking notes* [ $F(3, 407) = 3.909$ ,  $p = .009$ ], *reading aloud difficult text* [ $F(3, 407) = 2.938$ ,  $p = .033$ ] and *translating English into Chinese* [ $F(3, 407) = 2.634$ ,  $p = .050$ ]. Except one sup strategy *translating English into Chinese*, the frequency of reading strategy use increases along with academic level.

TABLE II  
DIFFERENCE IN INDIVIDUAL READING STRATEGY USE OF TERTIARY LEARNERS AT VARIOUS LEVELS

No	Strategy	Year 1		Year 2		Year 3		Year 4		F	Sig
		M	SD	M	SD	M	SD	M	SD		
Meta4	Checking if text fits purpose	2.92	1.04	3.26	.861	3.07	.912	3.36	.940	4.572	.004
Meta6	Deciding what to read	2.87	1.09	3.16	.961	3.14	1.00	3.26	.946	3.272	.021
Meta9	Using typographical feature	3.21	1.16	3.36	.949	3.60	1.06	3.57	1.04	3.460	.016
Meta10	Critically analyzing	2.49	.988	2.82	1.00	2.66	1.01	2.99	1.01	5.069	.002
Meta13	Confirming predictions	3.47	.994	3.47	.853	3.68	.811	3.80	.898	3.383	.018
Sup1	Taking notes	2.67	1.09	3.00	.976	2.64	1.03	3.04	1.03	3.909	.009
Sup2	Reading aloud difficult text	2.89	1.29	3.12	1.06	3.20	1.13	3.33	1.18	2.938	.033
Sup8	Translating into Chinese	3.68	1.09	3.47	.933	3.34	1.06	3.37	1.11	2.634	.050

### B. Findings on Gender Differences

Using an alpha level of .05, an independent-samples *t* test was conducted to evaluate whether reading strategy use, learners' perceptions and satisfaction differed significantly between males and females. The earlier researches have studied differences in strategy use between male and female students [17], [20]-[22]. In the present study, although no significant difference was found in the MARS, metacognitive and cognitive reading strategy use, male and female students were reported to have significant difference [ $t(409)=-2.121$ ,

$p<.05$ ] in the use of support reading strategy. An examination of the group means indicate that male students use support and cognitive strategies less frequently than female students do, but use metacognitive strategies more frequently than male students. In addition, the satisfaction in English learning between male students and female ones was significantly different [ $t(409)=-3.571$ ,  $p=.000$ ]. Male students ( $M=3.14$ ,  $SD=.837$ ) tended to have higher satisfaction in English learning than female ones ( $M=2.85$ ,  $SD=.652$ ).

TABLE III  
RESULTS OF T-TEST AND DESCRIPTIVE STATISTICS OF READING STRATEGIES AND LEARNER'S PERCEPTIONS BY GENDER

Strategy	Group				95% CI for Mean Difference		
	Male (N=101)		Female (N=310)		t	Sig.	
	M	SD	M	SD			
Meta	3.45	.703	3.39	.561	-.0804, .1894	.794	.428
Cog	3.54	.675	3.67	.571	-.2685, .0010	-1.951	.052
Sup	3.09	.697	3.24	.604	-.2941, -.0111	-2.121*	.035
MARS	3.37	.632	3.43	.520	-.18136, .0661	-1.915	.361
Perception	2.85	.753	2.85	.500	-.1290, .1287	-.002	.998
Satisfaction	3.14	.837	2.85	.652	-.097, .4449	-3.571*	.000

\*  $p<.05$

Table IV presents the results of different reading strategy use by gender and shows that male students use more metacognitive strategies *deciding what to read* [ $t(409)=2.435$ ,  $p<.05$ ] and *critical analyzing* [ $t(409)=2.784$ ,  $p<.05$ ] than female students. On the other hand, female students employ

cognitive strategy *trying to stay focused* [ $t(409)=2.853$ ,  $p<.05$ ] and *re-reading difficulty text* [ $t(409)=2.842$ ,  $p<.05$ ] and support strategy such as *underlining information*, *reading out to help understanding*, *using dictionary*, and *translating English into Chinese* more frequently than male students.

TABLE IV  
DIFFERENCES IN INDIVIDUAL READING STRATEGY USE OF TERTIARY LEARNERS BY GENDER

DIFFERENCES IN INDIVIDUAL READING STRATEGY USE OF TERTIARY LEARNERS BY GENDER							
Strategy		Male N=101		Female N=310		<i>t</i>	<i>p</i> -Value
		Mean	SD	Mean	SD		
Meta6	Deciding what to read	3.29	1.08	3.00	0.99	2.435	.015
Meta10	Critical analyzing	2.94	1.08	2.62	0.98	2.784	.006
Cog2	Trying to stay focused	3.63	0.98	3.93	0.87	-2.853	.005
Cog7	Re-reading difficulty text	3.50	0.96	3.80	0.93	-2.842	.005
Sup3	Underlining information	2.96	1.26	3.64	1.14	-5.053	.000
Sup2	Reading out difficult text	2.87	1.29	3.17	1.16	-2.194	.029
Sup4	Using dictionary	3.40	1.18	3.70	0.93	-2.967	.003
Sup8	Translating English to Chinese	3.25	1.18	3.58	1.01	-2.732	.007

### IV. DISCUSSION

The aim of this study was to examine the differences in the utilization of academic reading strategies among EFL tertiary

learners at various academic levels and gender differences in reading strategy use. The findings revealed that the EFL tertiary students' overall reading strategy was at medium level

( $M= 3.41$ ,  $SD= .549$ ). This result was similar to previous studies conducted in Asia, such as the study of Hamzah & Abdullah ([23] in Malaysia, the research of Wu [24], and Lien [4] in Taiwan, the study of Lee [25] in Korea. However, in several studies, EFL learners reported a high frequency of using reading strategies [26], [27], [21], [28], [13]. Unexpectedly, the English major students make use of less reading strategies than those non-English major students in the earlier studies. However, their frequency of using reading strategies, as expected, increased along with academic year. Regarding to the more frequent use of three subscales, the EFL tertiary learners in the present study utilized cognitive strategies ( $M= 3.65$ ,  $SD= .600$ ) more frequently than metacognitive strategies ( $M= 3.41$ ,  $SD = .599$ ) or support strategies ( $M= 3.21$ ,  $SD = .631$ ). The findings lent to support the previous research on the tertiary level students' preference of using cognitive strategy the most [4], [17], [18], [21], [29]. However, the findings in some studies showed that EFL tertiary level students reported using support strategies more frequently than metacognitive or cognitive strategies [7], [20], [30]. Therefore, in regard to more frequently used strategy by the participants, the results revealed that the three most used strategies are all metacognitive including *using context clues*, *trying to stay focused*, and *guessing the content of the text*. Actually, these three metacognitive strategies are often emphasized in EFL college reading textbooks. As Koda [31] pointed out explicit reading strategy instruction such as understanding context clues can benefit EFL learners' reading comprehension. One metacognitive strategy *critical evaluating* was used less was because this strategy is difficult for students to master, even though this metacognitive strategy was focused in the textbook. The two least used support strategies *asking myself questions* and *taking notes* which required the participants to involve themselves in interaction between readers and texts in oral or written format. Nevertheless, the interaction between readers and texts seem to be important for better understanding of the texts. Thus, explicit instruction especially, on the interactive reading strategies is beneficial and essential to improve readers' comprehension.

In the present study, the results of gender differences in reading strategy use revealed that no significant difference was found in MARS and the finding is similar to previous studies [7]; However, some research showed that females reported using significantly more strategies than males overall [20], [29], [32], [33]. The results of gender differences in the participants' metacognitive and cognitive reading strategy use showed no significant difference between males and females but females tended to use support reading strategy significantly more than males. In comparison with female students, male students use metacognitive strategy more often than female ones but cognitive and support strategy less frequently than female counterparts. Male students use more metacognitive strategies *deciding what to read* and *critical analyzing* while female students employ cognitive strategy *trying to stay focused* and *re-reading difficulty text* and support strategy such as *underlining information*, *reading out to help understanding*, *using dictionary*, and *translating*

*English into Chinese* more frequently. Females naturally are inclined to pay attention to specific details even in reading, so they prefer specific reading skills or strategies to enhance their reading comprehension while males seem not to care about the details.

This study intends to investigate the differences in the utilization of academic reading strategies among EFL tertiary learners at various academic levels and gender differences in the reading strategy use. The results indeed showed the frequency of reading strategy use increase slightly along with academic years and males and females actually employ different reading strategies. It seems explicit reading strategy instruction should be given to students depending on their prior experiences of using reading strategies. As the research done by Dabarera, et al. [10] showed the implementation of explicit instruction in metacognitive reading strategies enhances readers' reading comprehension, the EFL tertiary teachers might consider giving a survey of reading strategy use before giving explicit reading instruction. This might meet the students' reading needs and benefit them more.

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