

A cognitive-based study of Thai EFL graduate students' reading strategy use

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Abstract

The present study investigates the nature of reading strategies used by Thai graduate students enrolled in U.S. universities when they interacted with different English texts. The study aims to answer three main questions, a) What reading strategies are used by Thai graduate students enrolled in U.S. universities when they interact with English texts? b) What are the effects of text genre (Academic Text or Literature in English Text) and English reading proficiency level (High and Low) on the reading strategies employed by Thai graduate students enrolled in U.S. universities? c) To what extent are these effects mediated by gender/academic major/duration of study in the U.S. /and English proficiency level? The participants consisted of 253 Thai students enrolled in graduate programs in universities across the U.S. The data came from the 35-item Reading Strategies Questionnaire for Thai (RSQ-Thai), the Background Information Sheet, an Academic Text and four reading comprehension questions and a Literature in English Text and four reading comprehension questions.

The results showed that participants' strategy use across both text conditions fell in the level of medium-usage (Oxford & Burry-Stock, 1995). Second, there were significant differences in the frequency of strategy use between the two task conditions (Academic Text and Literature in English Text) for only three individual RSQ-Thai items. Third, there were no significant differences in the types of strategies (Metacognitive, Cognitive and Support) reported used on the two task conditions (Academic Text and Literature in English Text). Fourth, the participants who were categorized as having high reading proficiency reported more frequent use of Metacognitive, Cognitive and Support strategies on both text conditions. Finally, there was no significant difference in the frequency of strategy use across the variables gender, academic major, duration of study in the U.S, and English proficiency level in either the Academic Text or the Literature in English Text conditions.

The findings of research studies on the English reading performance of Thai EFL college students studying in the U.S. have revealed that their skills are not good enough to make effective use of

print resources (Adunyarittigun, 1998, Setthapun, 1992). Findings such as these point to critical needs for Thai EFL teachers to find out what factors contribute to Thai college students' higher English reading achievement (Adunyarittigun, 1998; Setthapun, 1992; Wisaijorn, 2005). Previous studies have come to the consensus that reading strategies can help EFL students improve reading comprehension. These strategies will help students comprehend the text and they also help them become independent readers. A large body of research has become to focus on readers' reading strategies. Much research on the field of reading strategy suggested that good readers use a wide variety of strategies to facilitate them in reading comprehension (Carrell, 1988; Sizoo, Malhotra & Bearson, 2003). However, reading research needs first to find which reading strategies Thai EFL graduate students use while they interact with the texts. Apart from the issue of what reading strategies are used or should be used, researchers need to explore the factors that actually affect the students' reading strategy use. There is still a diversity of results in the study of factors that truly affect the EFL students' reading strategy use.

In order to help Thai EFL college students to pursue their studies in the U.S. it is necessary for Thai EFL teachers to understand how reading strategies are used and the factors that affect reading strategy use by EFL graduate students studying in the U.S. Therefore, the study aims to answer three main questions:

- 1) What reading strategies are used by Thai graduate students enrolled in U.S. universities when they interact with English texts?
- 2) What are the effects of text genre (Academic Text or Literature in English Text) and English reading proficiency level (High and Low) on the reading strategies employed by Thai graduate students enrolled in U.S. universities?

- 3) To what extent are these effects mediated by gender/academic major/duration of study in the U.S. / and English proficiency level?

Reading Strategies

Garner (1987) described reading strategies as a sequence of actions readers use while reading in order to construct meaning. Paris, Lipson & Wixson (1983) define reading strategies as deliberate, cognitive steps that learners can take to assist in acquiring, storing and retrieving new information, and which can therefore be accessed for conscious use. Reading strategies involve schema, cognition, and metacognition. Therefore, I will discuss these domains in detail in the next sections, followed by factors affecting reading strategy use.

Schema

The concept of schema was originally suggested by Bartlett (1932) to explain how information is stored in memory for future recall. Bartlett believed that understanding and recall take place mainly in the context of past experience. He then used the term “schema” to refer to the organization of such past experience. New information must be integrated with prior knowledge or existing schemas, for learning to occur. When new knowledge contradicts old knowledge, the learner’s prior knowledge must undergo a transformation in order for the new knowledge to fit into the existing frameworks or schemas (Rumelhart, 1980).

Cognitive Strategies

Cognitive strategies are important to reading comprehension because they are directly related to readers’ cognitive development and are necessary for success in school. According to Paris, Wasik and Turner

(1991), there are many reasons why cognitive strategies are fundamental to the development of readers. First, cognitive strategies allow readers to organize and evaluate information gained from text. Second, cognitive strategies are cognitive tools that could be used by readers in different reading tasks. Third, cognitive strategies that help reading and thinking can be taught. Fourth, they can increase learning throughout the curriculum.

Metacognition

Flavell, (1981) described metacognition as an awareness of how one learns; an awareness of when one does or does not understand something; knowledge of how to use available resources to achieve a goal; and knowledge of what strategies to use for what purposes before, during and after reading performance. In addition to Flavell, Carrell (1987) concluded that while ESL/EFL readers in particular need a variety of strategies to complete academic reading tasks, metacognitive strategies are essential to ESL/EFL reading comprehension.

Researchers have found that readers who are metacognitively aware are conscious of both their own cognitive characteristics and the task demands. They are able to select, employ, monitor and evaluate their use of strategies, and are able to recognize and repair comprehension failures. Palincsar and Brown (1984) identified six metacognitive strategies that monitor and foster comprehension: (1) clarifying the purpose of reading to determine the appropriate reading strategy, (2) activating relevant background knowledge and linking it to the text, (3) allocating attention to the important ideas, (4) evaluating content for internal consistency and compatibility with prior knowledge, (5) self-monitoring to verify comprehension, and (6) drawing and testing inferences.

Factors Affecting Strategy Use

Reading Proficiency Level

The first factor known to affect readers' strategy use is their reading proficiency level. A study by Oxford, Cho, Leung, & Hae-Jin (2004) comprised of 14 male and 22 female students, enrolled in ESL classes in the U.S. The results indicated that the two proficiency groups were different in terms of the overall mean reported frequency of strategy use across the three task conditions (No Task, Easy Task and Difficult Task). Results also showed that the proficiency groups differed in their reported overall mean frequency of strategy use only in the Difficult Task condition. In the Difficult Task condition, high-proficiency participants reported a lower mean frequency of strategy use than low-proficiency students.

Gender

Young and Oxford (1997) explored gender difference in native language and foreign language learners' use of cognitive and metacognitive reading strategies, and in their reading recall score. Even though there were no significant differences between male and female students in their reported use of cognitive and metacognitive strategies, certain strategies were reported to be used more frequently by male and female participants. Female students were found to report using vocabulary cognitive strategies, and to acknowledge lack of background knowledge more often. On the other hand, reading monitoring strategies, paraphrasing, and stating understanding of words were found to be used by male students more frequently.

In addition, another study by Sheorey and Mokhtari (2001) aimed to investigate reading strategies used by both monolingual and ESL students enrolled in U.S universities. The results revealed that U.S.

monolingual female participants used reading strategies significantly more often than male students whereas there was no difference in the means between ESL male and ESL female students.

Academic Majors

Dreyer and Oxford (1996) investigated language learning strategies and other predictors of ESL proficiency among Afrikaans speakers in South Africa. The participants consisted of 179 female and 126 male Afrikaan first-year students at the university taking English as a second language. Dreyer and Oxford found that career orientations had a significant effect on students' reading strategy use. They concluded that students with different majors used reading strategies differently. All three majors (B.A., B. Juris., and B. Proc.) differed significantly from each other in terms of strategy use, with B.A. students having a higher mean than B. Juris. students who had a higher mean than B. Proc. students.

Duration of Study in the Target Language

The research literature is also sparse with regard to the connection between the duration of study in the U.S. and reading strategy use. Therefore, I will discuss studies that are related to target language experience and strategy use.

Baily (1996) found that students with less than two years of second language experience had higher use of compensation strategies than those who had more than two years of second language experience. The participants in the Baily study were 21 adult foreign language learners enrolled in nonacademic, conversational French classes. Baily concluded that those with less experience in the foreign language demonstrated a differential change in strategy use, but there was a dramatic change downward in absolute numbers of strategies used (Baily, 1996) as

proficiency in the new language increased. As the students with less experience in the language gained experience with the materials used, they demonstrated fewer compensation strategies.

English Language Proficiency Level (TOEFL Score)

In general, it is agreed that the use of reading strategies is positively related to language proficiency (Shmais, 2003). It appears that good language learners organize and combine their use of particular types of strategies in effective ways (O'Malley & Chamot, 1990; Shmais, 2003). Research has indicated that good language learners seem to employ a variety of strategies in many situations. Rossi-Li (1989, as cited in Shmais, 2003) for example, found that good EFL language learners used metacognitive strategies more often than poor language learners.

Shmais (2003) studied 99 EFL English-major university students in Palestine and results showed that there was no significant difference for English language proficiency. In the Shmais study, she used the participants' university cumulative average of the English courses (GPA), instead of the TOEFL scores, to categorize the students into two groups, less proficient and more proficient. Even though there was no significant difference, Shmais concluded that the results of her study indicated that there was a positive relationship between strategy use and language proficiency with the high proficiency students using more cognitive strategies than less proficient students.

Summary

The previous discussion has attempted to account for ESL/EFL students in terms of strategy use. The conclusions drawn from the literature conclude cognitive and metacognitive reading strategies are important. There is evidence that metacognitive readers use a wide variety

of reading strategies flexibly, monitor their own reading and notice their reading failure. Also, other factors such as gender, major, duration of study the target language and English language proficiency level play a role in reading strategy use.

What is missing in this literature is the issue of reading strategies assessment across task conditions. Researchers, such as Barnett (1988); Ikeda and Takeuchi (2000); and Oxford et al. (2004), suggested that future research should investigate how actual strategies are used in different contexts or in different task conditions. Therefore, a list of good readers' strategies may not be of much help in investigating the reading process unless relationship among the strategies is taken into consideration, as well as the individual readers and the contexts where reading takes place.

Due to certain beliefs about the importance of reading strategies, numerous studies have been undertaken to understand what ESL/EFL readers do during reading; however, only a few studies have been done with Thai students. More research is needed to provide a deeper understanding about reading strategies used specifically by Thai graduate students enrolled in a U.S setting. The purpose of this study was to examine how the interactions of text genre, reading proficiency level and other related factors affect reading strategy use of Thai EFL graduate students.

Methodology

Participants

I used survey research methodology to answer my research questions and 139 male and 114 female Thai graduate students with an age range from 23 to 42 years completed the study. Their majors were Science and Engineering, Business, and Social science.

Instrumentation

The on-line Reading Strategies Questionnaire for Thai (RSQ-Thai) is an adaptation of a paper and pencil Questionnaire for EFL Reading (Version 3.2) written by Ikeda and Takeuchi (2000), and adapted by Oxford et al. (2004) as the Reading Strategies Questionnaire (RSQ). The reliability of the Ikeda and Takeuchi's questionnaire was at .86 on Cronbach's alpha and the reliability of the Oxford et al.'s questionnaire was at .78 on Cronbach's alpha. Ikeda and Takeuchi, and Oxford et al. did not report the validity of their questionnaires in their articles.

Background Information Sheet

In addition to the questionnaire, each participant was asked to complete the Background Information Sheet (Oxford et al., 2004). The Background Information Sheet was designed to elicit general information about the participants' personal background such as age, gender, academic major, and TOEFL scores.

Texts

The two texts were from the on-line practice book of the Graduate Record Examination (GRE). I requested and received permission from the Education Testing Service to use two selected passages. The texts selected were based on the criteria suggested by Oxford et al. (2004) and my own additional criteria. According to Oxford et al., the passages should be unfamiliar to the participants, thought-provoking, appropriate for college students, and each text should come with multiple-choice comprehension questions. In addition to Oxford's criteria, I added two other criteria for selecting each text: the texts must be standardized and unbiased.

The reason I chose an Academic Text (ETS, 2003) and a Literature in English text (ETS, 2003) for the comparison in the study was due to my

personal experience as an English teacher in Thailand. Part of my job was to prepare students for studying in U.S. universities. The reading selections that Thai students read to learn English were generally academic. However, much research on strategy instruction involves the narrative genre so I added another genre, Literature in English, to see whether it had an effect on their perceived use of reading strategies.

Data Collection

Data collection was conducted in two different sequences. For the first week, half of the participants were emailed a link to either the Academic or Literature in English questionnaire website and asked to read the given passage and answer the four reading comprehension questions following the text. They were asked to spend no more than 20 minutes completing the task. Then, the participants were asked to complete the RSQ-Thai. For the second week, the participants were emailed the web address of the other passage and questionnaire and completed the same procedures.

RSQ-Thai Strategy Items

The RSQ-Thai reading strategy items were examined individually and were also grouped into three categories for analysis: Metacognitive, Cognitive and Support based on theoretical foundations (Oxford, 1990; Pressley, 2000; Sheorey & Mokhtari, 2001).

Data Analysis

Means and standard deviation were examined to see which strategy items were reported as used most frequently or least frequently by the participants. Also, paired-sample *t*-tests were used to see whether there were significant differences in the reported use of the individual strategies

for each individual item between the two text conditions. The significance level was set at $p \leq .05$ for this study. I also used a repeated measure multivariate analysis of variance (MANOVA) followed by post-hoc Sheffe Test analysis.

Level of strategy use

To examine the frequency of strategies used by the participants on the RSQ-Thai, which were reported using a Likert scale with a range of 1-6, I grouped the responses into three levels of usage as suggested by Oxford and Burry-Stock (1995): high (mean of 4.20 or higher), medium (mean of 2.89-4.19), and low (2.88 or lower). These levels are useful as they provided a convenient benchmark for determining frequency of use that enabled me to make comparison of the participants' responses.

Results

The mean frequency of strategy use across both text conditions and the low end score fell in the level of medium-usage. The participants' overall identified frequency of strategy use ranged from a high of 4.84 to a low of 2.92, with a mean of 4.19 (Table 1). The low end score and the mean fell in the level of medium-usage whereas the upper end score fell in the level of high-usage (Oxford & Burry-Stock, 1995). This indicated that overall, the participants reported using the reading strategies at a medium level.

Table 1***Overall Strategy Use for Each Task Condition***

	<i>M</i>	<i>SD</i>	Max.	Min.
Overall (combined condition)	4.19	.43	4.84	2.92
Academic Text	4.20	.49	4.94	2.90
Literature in English Text	4.17	.57	4.79	2.94

Individual Strategy Items

Table 2 presents an overview of the results of the analysis of the use of individual strategy items.

Table 2
RSQ-Thai Strategy Items

Item No.	Stra Cat.	Stage	Overall			AT			LT			T-test p<.05
			M	SD	Level	M	SD	Level	M	SD	Level	
1	Met	B	4.40	.85	H	4.51	1.10	H	4.29	1.13	H	.018*
2	Met	B	4.37	.80	H	4.38	1.05	H	4.35	1.06	H	.748
3	Met	B	4.21	.83	H	4.19	1.02	M	4.22	1.05	H	.684
4	Cog	D	3.59	.97	M	3.59	1.34	M	3.59	1.26	M	1.00
5	Met	D	3.91	.86	M	3.99	1.21	M	3.83	1.17	M	.117
6	Cog	D	4.05	.80	M	4.07	1.11	M	4.03	1.08	M	.704
7	Cog	D	3.97	.73	M	3.99	.99	M	3.95	.99	M	.646
8	Cog	D	3.70	.93	M	3.69	1.23	M	3.71	1.20	M	.808
9	Sup	D	3.91	.85	M	3.96	1.10	M	3.85	1.19	M	.268
10	Cog	D	4.28	.72	H	4.30	.98	H	4.26	.92	H	.652
11	Cog	D	4.54	.68	H	4.53	.087	H	4.54	.86	H	.812
12	Cog	D	4.60	.75	H	4.58	.95	H	4.62	.93	H	.542
13	Cog	D	3.90	1.03	M	3.84	1.37	M	3.96	1.34	M	.274
14	Cog	D	4.47	.67	H	4.44	.86	H	4.50	.86	H	.388
15	Met	D	4.86	.70	H	4.93	.87	H	4.79	1.01	H	.073
16	Cog	D	4.07	.77	M	4.12	1.14	M	4.01	1.06	M	.303
17	Met	D	4.84	.69	H	4.94	.84	H	4.74	.99	H	.010*
18	Met	D	4.82	.74	H	4.87	.97	H	4.78	1.01	H	.271
19	Cog	D	4.47	.79	H	4.60	.93	H	4.33	1.18	H	.002*
20	Sup	D	4.32	.77	H	4.37	.95	H	4.27	.98	H	.179
21	Sup	D	4.13	.80	M	4.21	1.04	H	4.04	1.07	M	.060
22	Cog	D	4.34	.69	H	4.39	.98	H	4.29	.95	H	.243
23	Cog	D	2.92	.95	M	2.90	1.33	M	2.94	1.25	M	.718
24	Cog	D	4.35	.63	H	4.38	.84	H	4.32	.86	H	.408
25	Met	D	4.45	.71	H	4.44	.93	H	4.45	.98	H	.846
26	Cog	D	4.48	.66	H	4.49	.90	H	4.48	.89	H	.918
27	Sup	D	4.00	.83	M	3.95	1.06	M	4.05	1.06	M	.205
28	Sup	D	3.46	.96	M	3.40	1.32	M	3.52	1.28	M	.283
29	Met	D	4.30	.75	H	4.30	.93	H	4.30	1.07	H	.925
30	Met	D	4.24	.80	H	4.21	.99	H	4.26	1.04	H	.548
31	Sup	D	3.82	.91	M	3.79	1.21	M	3.86	1.16	M	.485
32	Sup	D	4.16	.85	M	4.12	1.06	M	4.20	1.05	H	.267
33	Sup	D	4.41	.69	H	4.35	.97	H	4.47	.95	H	.191
34	Sup	D	4.18	.78	M	4.16	.98	M	4.19	1.04	M	.691
35	Cog	A	3.99	.69	M	3.95	.85	M	4.02	.97	M	.317

Note. AT = Academic Text condition; LT = Literature in English Text condition; B = Before reading; D = During reading; and A = After reading; L= Low level; M = Medium level; and H = High level

Table 3***Five Highest Reported Reading Strategies across the Text Conditions***

Overall Condition					
Strategy Categories No.	Strategy Name		<i>M</i>	<i>SD</i>	<i>Max.</i> <i>Min.</i>
15	Met	I link the content with what I already know	4.86	.70	6.00 1.50
17	Met	I guess its meaning using clues	4.84	.69	6.00 2.00
18	Met	I guess its meaning using information I know about the topic	4.82	.74	6.00 1.00
12	Cog	I change reading speed	4.60	.75	6.00 1.00
11	Cog	I continue reading even if I have difficulty	4.54	.68	6.00 1.00

Note. Met = Metacognitive Strategies; Cog = Cognitive Strategies

Significant Differences between the Two Task Conditions on Individual Strategy Items

Results from paired-samples *t*-tests revealed significant differences for strategy item numbers 1 (“I use the title to help predict the content”), 17 (“If I don’t understand something such as a word or phrases, I guess its meaning using clues from the text”) and 19 (“I check what each pronoun refers to). The strategy item numbers 1 and 17 were from the Metacognitive strategy category whereas the strategy item number 19 was from the Cognitive strategy category. All of the three strategies were used

significantly more in the Academic Text condition than in the Literature in English condition (Table 2).

Table 4

Multivariate Analysis of Variance Source Table for Text Genre and Proficiency Level

Source	<i>df</i>	<i>F</i>	η	<i>p</i>
Between subjects				
Proficiency	1	25.974	.238	.000 *
Error	251			
Within subjects				
Text Genre	1	1.730	.020	.167
Genre x proficiency	1	.433	.005	.730
Error	251			

Note. Wilk's Lambda is the technique used with $p \leq .05$.

Effects of Reading Proficiency on Strategy Use

The results of the repeated measures MANOVA on the mean frequency of strategy use indicated no significant interaction effects between task condition and proficiency level in all the three strategy categories: Metacognitive, Cognitive and Support. However, the repeated measures MANOVA revealed significant main effects for the proficiency level in all the three strategy categories (Table 4).

Effects of Gender, Major, Duration of Study in U.S. and English Language Proficiency

The results showed that there were no significant differences in the mean frequency of strategy use across the variables: gender, academic major, duration of study in the U.S, and English proficiency level on the participants' reported strategy use in either the Academic Text condition or in the Literature in English Text condition.

Discussion

I will discuss the results of my investigation of Thai EFL reading strategy use as they compare with other studies on ESL/EFL reading strategies. I discuss usage levels, task conditions, reading proficiency level, gender, major, duration of study in the U.S and English proficiency level.

Usage Levels

The results of this study are slightly different from those of Shoerey and Mokhtari's (2001) study in terms of the usage levels. Shoerey and Mokhtari found that ESL students mean frequency of strategy use fell in the high-usage level whereas the low end score fell in the level of medium-usage. The observed difference in the means of the two usage levels was statistically significant. Unlike the results of the Shoerey and Mokhtari, in this study, the means frequency of strategy use across both text conditions and within the Literature in English Text condition fell in the level of medium-usage whereas the mean frequency of strategy use within the Academic Text condition fell into the level of high-usage (Table 1). Despite the previously mentioned difference, the results of this study and those of Shoerey and Mokhtari are quite similar in terms of the usage levels. None of the strategy items, either in the Shoerey and Mokhtari study or in this study was reported to be used with low

frequency. In addition, Shoerey and Mokhtari' study and my study used the same established usage criteria as suggested by Oxford and Burry-Stock (1995).

Task Conditions

I will discuss the results in terms of the greater strategy use between the two task conditions. Results of my study showed that the participants reported using only three strategy items significantly more often in the Academic Text condition than they did in the Literature in English Text condition. Two of the three strategy items were Metacognitive, planned-related strategy item numbers 1 ("I use the title to help predict the content"), and 17 ("If I don't understand something such as a word or phrase, I guess its meaning using clues from the text"). Another strategy item was a problem-solving, Cognitive strategy item number 19 ("I check what each pronoun refers to"). This can be explained by the Thai students' cultural background. Because the participants would have participated in the preparation program before coming to the U.S., they most likely were familiar with academic texts and could use that knowledge to assist their reading of the Academic Text condition.

Reading Proficiency Level

The results are consistent with Sheorey and Mokhtari's (2001) conclusion that good readers use Metacognitive and Cognitive strategies significantly higher than the poor readers. However, in this present study, students in the high reading proficiency group reported using strategies higher than those in low proficiency level group in all the three strategy categories (Metacognitive, Cognitive and Support).

The results showed that students in both reading proficiency groups reported using background knowledge and linking the content to

what they already knew most frequently. These were good signs that they were strategic in reading as, those are two of the six strategies to monitor and foster reading comprehension suggested by Palincsar and Brown (1984). These two strategies were grouped as the Metacognitive strategies in this study and it supported Carrell's (1987) statement that it is metacognitive strategies that are essential to reading comprehension. The students in both groups activated background knowledge but students in the high group significantly possessed a higher degree of Metacognitive strategies.

Gender

The results are similar to the findings of Sheorey and Mokhtari (2001) that stated ESL male and female learners did not significantly differ in their use of reading strategies. However, Sheorey and Mokhtari found that U.S English monolingual male and female means were significantly different, with a higher mean for the female students. Again, this present study is different from Sheorey and Mokhtari because Sheorey and Mokhtari explored the strategy use of ESL and English monolingual college students using only the reading strategies questionnaire. They did not include the actual task for the participants to do.

Academic Major

The results of this study are not consistent with those of Dreyer and Oxford (1996) which found that career orientations had a significant effect on students' strategy use. Dreyer and Oxford noted that students with different majors used strategies differently. A follow-up Tukey multiple comparison test showed that all three majors (B.A., B. Juris., and B. Proc.) differed significantly from each other in terms of strategy use, with B.A. students having a higher mean than B. Juris. students, who had a

higher mean than B. Proc. students. However, this study is different from the Dreyer and Oxford study as their participants were ESL Afrikaans first-year college students whereas the participants of this study were EFL Thai graduate students. In addition, the participants of this present study were divided into three main groups: Science and Engineering, Business and Social science according to their academic majors and these differences may contribute to different conclusions. Further studies should be explored to find out whether academic major affects the way students' use of strategies.

Duration of Study in the U.S.

The findings of this study showed that duration of study in the U.S. did not affect the way the participants used strategies. However, the results are not in accordance with a previous study conducted by Baily (1996) that found that students with less than two years of second language experience had higher use of compensation strategies than those who had more than two years of second language experience. Also, Bailey concluded that those with less experience demonstrated a differential change in strategy use, but it was a remarkable change downward in total numbers of strategies used (Baily, 1996) as would be expected with compensation strategies. As the students with less experience in the language gained experience with the materials used, they demonstrated fewer strategies. However, this study is different from the Bailey study in that the participants in the Bailey were native speakers of English studying French as a foreign language in nonacademic conversational French classes. Further studies should be conducted to find out whether duration of study in the target language influences the EFL graduate students' use of strategies.

English Language Proficiency Level (TOEFL Score)

The findings of this study are consistent with those of Shmais (2003). Shmais studied 99 EFL English-major university students in Palestine and found that there was no significant difference for the variable English proficiency. However, the nature of the Shmais study was different from that of this study. In the Shmais study, proficiency is reflected by the participants' learning level (i.e., sophomore, junior), self-reported proficiency in English (i.e., the participants GPA in English courses) and language self-efficacy (i.e. how good the participants perceived themselves as English learners) instead of the TOEFL scores, to categorize the students into two groups: less proficient and more proficient. Also, the participants were all English major college students whose native language is Arabic. Even though the results of Shmais's study revealed no significant difference, Shmais concluded that there was a positive relationship between strategy use and language proficiency with the high proficiency students used more Cognitive strategies than less proficient students.

Conclusions

The main findings of my examination of the reading strategies used by Thai graduate students in the U.S. can be summarized as follows: First, schema or background knowledge plays an important role in reading comprehension. The strategies that the participants reported using most frequently regardless of the text conditions were, analytical strategies; namely, linking the content to what they already know, guessing the meaning using context clues, guessing the meaning using information they know about the topic, adjusting reading speed and continue reading even though they have reading difficulty. Also, results suggested that learning

contexts and social situations may have influenced the Thai graduate students' reading strategy use.

Second, there was a significant difference among the mean frequency of strategy use between the two task conditions for three strategy items. The participants reported using the title to help predict the content, guessing the meaning of unknown words using context clues and checking what each pronoun refers to significantly more often in the Academic Text condition.

Third, significant difference was found between the students in the high proficiency group and those in the low proficiency group with students in the high group reported using higher use of Metacognitive, Cognitive and Support strategies. Reading proficiency significantly affected students' use of strategies. However, there was no interaction effect between the task condition and reading proficiency level on the three strategy categories.

Fourth, gender, major, duration of study in the U.S. and English proficiency level (TOEFL) did not influence the participants' reported use of reading strategies.

Implications

The findings in this study have implications for teaching and research. From an instructional perspective, this study indicated that reading proficiency level influences the way the participants used strategies with good readers reporting a higher use of Metacognitive, Cognitive and Support strategies. Therefore, Thai EFL teachers should encourage Thai EFL students to use more strategies while reading both in terms of numbers of strategies and amount of time the strategies are used.

The findings showed that the participants in both reading proficiency levels reported using schema or background knowledge most

frequently. Thai EFL teachers, therefore, should have a sound understanding that schema is a factor of reading comprehension. Thai EFL teachers should also help Thai college students build background knowledge they will need in U.S. academic settings, and teach them that reading is a process of activating prior knowledge with textual input in the building of new knowledge.

Although the high reading proficiency group reported using schema most frequently, the low reading proficiency group also reported using the same strategy in similar amounts. Therefore, there might be possible limitations in the use of schema and that using schema alone might not be enough in reading comprehension. As a consequence, Thai EFL teachers should encourage Thai EFL students to use other reading strategies especially Metacognitive strategies to foster their reading comprehension. Also, Thai EFL teachers should be concerned with the importance of the learning contexts. Thai EFL college students might use different strategies when they read English texts in Thailand than when they read English texts in the U.S. In addition, Thai EFL teachers should help Thai EFL students understand that within different learning contexts, different amounts of knowledge and strategies are needed when reading English texts.

Smith (1967); Strang and Rogers (1965) found that good readers adjust their strategies to the type of text they are reading and to the purpose for which they are reading. The results of this study demonstrated that the students reported using the title to help predict the content, using clues from the context to guess meaning of unknown words and checking pronouns more often in the Academic Text condition. Therefore, Thai EFL teachers can teach Thai EFL students to be aware of the different types of text they are reading by teaching them a repertoire of reading

strategies so that they can adjust their strategies to the different types of texts they are reading.

Furthermore, the findings may help Thai EFL teachers to realize that reading proficiency level is the factor that affect Thai EFL graduate students' strategy use not gender, major, duration of study in the U.S, or English proficiency level. Therefore, Thai EFL teachers should focus on teaching reading strategies that good readers use, especially Metacognitive strategies. Also, Thai EFL students should be taught that no matter what gender or major, they can be successful readers if they use effective reading strategies that good readers use.

These findings also have implications for research. Researchers might wish to extend the study, comparing different types of text such as Expository versus Narrative; Academic versus Functional literacy or different reading situations such as English text versus students' own native language text. Also, information about cultural and linguistic issues, as well as the most effective reading strategies to use with second language students, is critical to educators and teachers as more of these students enter U.S. colleges and universities. This study was conducted with only Thai students and researchers who wish to extend the study by examining students from other cultures should be aware of their cultural and linguistic differences. However, future research should also study students who are from other sub-groups so that we may have more insight about specific ESL and EFL students.

Identifying reading strategies the students use to comprehend texts and understanding factors that might affect students' reading strategy use is one of the many possible ways ESL/EFL teachers use to help students become successful readers. The present study is from a researcher's interest in what reading strategies were used as well as what factors influence Thai graduate students reading strategy use, specifically in an

authentic reading process. The findings revealed that reading proficiency level significantly affect the students' use of strategies. It is hoped that these insights about reading strategy use among Thai graduate students will be helpful for ESL/EFL teachers, educators, and researchers who wish to improve their students' reading.

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Appendix A

Background Information Sheet

Direction: Please complete this form.

1. Your gender: Male ____ Female ____
2. Your age: ____
3. Your school, college or university: ____
4. Your major: ____
5. How many years have you studied English? ____ years
6. How long have you studied in the U.S? ____ years ____ months
7. Why are you learning English? (Check all that apply):
 - I need to use English in my work.
 - English will help me earn a higher salary.
 - I want to make friends with native English speakers.
 - I am interested in understanding cultures where English is spoken.
 - Knowing English will bring me prestige or status.
 - I am interested in learning languages.
 - I am taking English to pass a language requirement.
 - I must know English to apply for admission to universities.
 - English is an interesting language.
8. How important is it for you to become proficient in English?
 Very important important not so important
9. What are your most recent TOEFL scores? ____ Date taken: ____
10. What are your most recent TOEFL reading scores?
 ____ Date taken: ____
11. How would you rate your own overall English proficiency?
 Poor fair good excellent
12. How would you rate your own proficiency in each of these skills?

Listening	poor	fair	good	excellent
Speaking	poor	fair	good	excellent
Reading	poor	fair	good	excellent
Writing	poor	fair	good	excellent

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Appendix B

Reading Strategies Questionnaire for Thai (RSQ-Thai)

Direction: Depending on your reading strategy experience and needs, you may use different types of strategies. The reading strategies presented here are general. Not everyone needs the same kind of strategies. A low score does not mean you are a bad reader.

Before I read a text,

1. I use the title to help predict the contents.

Almost never 1 2 3 4 5 6 Almost always

2. I consider what type of text it is, such as a newspaper article, a scientific paper, or a novel.

Almost never 1 2 3 4 5 6 Almost always

3. I skim it first, and later I read for details.

Almost never 1 2 3 4 5 6 Almost always

While I am reading a text,

4. I pay attention to parts of sentences such as phrases and clauses.

Almost never 1 2 3 4 5 6 Almost always

5. I pay attention to the beginning and the end of each paragraph.

Almost never 1 2 3 4 5 6 Almost always

6. I focus on the tense of a verb, such as present tense and past tense.

Almost never 1 2 3 4 5 6 Almost always

7. I try to understand the meaning of every word in a text.

Almost never 1 2 3 4 5 6 Almost always

8. I translate each sentence into Thai.

Almost never 1 2 3 4 5 6 Almost always

9. I start reading from the first paragraph and read all the way through to the last paragraph.

Almost never 1 2 3 4 5 6 Almost always

10. I pay attention to sentence structure, such as subjects and objects.

Almost never 1 2 3 4 5 6 Almost always

11. I continue reading even if I have difficulty.

Almost never 1 2 3 4 5 6 Almost always

12. I change reading speed depending on the difficulty of a text.

Almost never 1 2 3 4 5 6 Almost always

13. I read aloud the difficult parts of a text.

Almost never 1 2 3 4 5 6 Almost always

14. I skip unknown words.

Almost never 1 2 3 4 5 6 Almost always

15. I link the content with what I already know.

Almost never 1 2 3 4 5 6 Almost always

16. I try to understand the meaning of an unknown word by dividing it into parts.

Almost never 1 2 3 4 5 6 Almost always

17. If I don't understand something such as a word or phrases, I guess its meaning using clues from the text.

Almost never 1 2 3 4 5 6 Almost always

18. If I don't understand something such as a word or phrases, I guess its meaning using information I know about the topic.

Almost never 1 2 3 4 5 6 Almost always

19. I check what each pronoun refers to.

Almost never 1 2 3 4 5 6 Almost always

20. I underline important parts.

Almost never 1 2 3 4 5 6 Almost always

21. I mark important parts, using colored pens or drawing stars.

Almost never 1 2 3 4 5 6 Almost always

22. I go over difficult parts several times

Almost never 1 2 3 4 5 6 Almost always

23. I read aloud the entire text.

Almost never 1 2 3 4 5 6 Almost always

24. I make a picture in my mind about what the text is saying.

Almost never 1 2 3 4 5 6 Almost always

25. I try to understand the meaning without translating the text into Thai.

Almost never 1 2 3 4 5 6 Almost always

26. If I'm having trouble, I go back to previous sentences.

Almost never 1 2 3 4 5 6 Almost always

27. I follow the line I am reading with my finger or my pen.

Almost never 1 2 3 4 5 6 Almost always

28. I use slashes to divide a sentence grammatically.

Almost never 1 2 3 4 5 6 Almost always

29. When I cannot understand a sentence even if I know every word, I skip that sentence.

Almost never 1 2 3 4 5 6 Almost always

30. I predict what will come next.

Almost never 1 2 3 4 5 6 Almost always

31. I pay attention to linking words such as 'however' and 'besides' so that I can understand the structure.

Almost never 1 2 3 4 5 6 Almost always

32. I write down key words.

Almost never 1 2 3 4 5 6 Almost always

33. I try to figure out the main idea of each paragraph.

Almost never 1 2 3 4 5 6 Almost always

34. I read the comprehension questions first and then read the text.

Almost never 1 2 3 4 5 6 Almost always

After I read a text,

35. I summarize it in my own words.

Almost never 1 2 3 4 5 6 Almost always

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Appendix C Academic Text

Direction: Read the passage below and choose the best answer.

NO LANGUAGE IS PERFECT

The common belief of some linguists that each language is a perfect vehicle for the thoughts of the nation speaking it is in some ways the exact counterpart of the conviction of the Manchester school of economics that supply and demand will regulate everything for the best. Just as economists were blind to the numerous cases in which the law of supply and demand left actual wants unsatisfied, so also many linguists are deaf to those instances in which the very nature of a language class forth misunderstandings in everyday conversation, and in which, consequently, a word has to be modified or defined in order to present the idea intended by the speaker: "He took his stick- no, not John's, but his own." No language is perfect, and if we admit his truth, we must also admit that it is not unreasonable to investigate the relative merits of different language or of different details in languages.

1. The primary purpose of the passage is to
 - a. analyze an interesting feature of the English language
 - b. refute a belief held by some linguists
 - c. show that economic theory is relevant to linguistic study
 - d. illustrate the confusion that can result from the improper use of language
 - e. suggest a way in which language can be made more nearly perfect
2. The misunderstanding presented by the author in lines 13-14 is similar to which of the following?
 - I. X uses the word "you" to refer to a group, but Y thinks that X is referring to one person only.
 - II. X mistakenly uses the word "anomaly" to refer to a typical example, but Y knows that "anomaly" means "exception."
 - III. X uses the word "bachelor" to mean "unmarried man," but Y mistakenly thinks that bachelor means "unmarried woman."
 - a. I only
 - b. II only
 - c. III only
 - d. I and II only

e. II and III only

3. In presenting the argument, the author does all of the following EXCEPT

- a. give an example
- b. draw a conclusion
- c. make a generalization
- d. make a comparison
- e. present a paradox

4. Which of the following contributes to the misunderstanding described by the author in lines 13-14?

- a. It is unclear whom the speaker of the sentence is addressing
- b. It is unclear to whom the word "his" refers the first time it is used.
- c. It is unclear to whom the word "his" refers the second time it is used.
- d. It is unclear to whom "He" refers.

Source: Graduate Record Examination (GRE)
Educational Testing Service (ETS, 2003): GRE On-line Practice
Book (used with permission from ETS)

Appendix D

Literature in English Text

Direction: Read the passage below and choose the best answer.

WAITING

Tom Bertram had of late spent so little of his time at home, that he could be only nominally missed; and Lady Bertram was soon astonished to find how very well they did even without his father, how well Edmund could supply his place in carving, talking to the steward, writing to the attorney, settling with the servants, and equally saving her from all possible fatigue or exertion in every particular, but that of directing her letters.

The earliest intelligence of the travelers' safe arrival in Antigua after a favorable voyage, was received; though not before Mr. Norris had been indulging in very dreadful fears, and trying to make Edmund participate them whenever she could get him alone; and as she depended on being the first person made acquainted with any fatal catastrophe, she had already arranged the manner of breaking it to all the others, when Sir Thomas's assurances of their both being alive and well, made it necessary to lay by her agitation and affectionate preparatory speeches for a while.

1. Of the five persons mentioned in the passage, which have traveled to Antigua?
 - a. Mrs. Norris and Edmund
 - b. Tom Bertram and Sir Thomas
 - c. Lady Bertram and Edmund
 - d. Mrs. Norris and Tom Bertram
 - e. Lady Bertram and Sir Thomas
2. The modern equivalent of the word "intelligence," as it is used in line 10, is
 - a. awareness
 - b. ability
 - c. wit
 - d. news
 - e. intuition

3. Which of the following verbs is used in the passage in a way that is no longer idiomatic?
- a. “received” (line 12)
 - b. “trying” (line 13)
 - c. “participate” (line 14)
 - d. “depended” (line 15)
 - e. “arranged” (line 17)
4. The passage contrasts
- f. Lady Bertram’s complacency with Mrs. Norris’ apprehensiveness and officiousness
 - g. Tom Bertram’s goodness and dependability with Edmund’s erratic behavior
 - h. Sir Thomas’s profligacy with Mrs. Norris’ parsimoniousness
 - i. Edmund’s scholarliness with Mrs. Norris’ pedantry
 - j. Lady Bertram’s intelligence and insight with Edmund’s obtuseness and stubbornness

Source: Graduate Record Examination (GRE)
Educational Testing Service (ETS, 2003): GRE On-line Practice
Book (used with permission from ETS)