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ผลของการใช้กลวิธีการอ่านของนิสิตนักศึกษาระดับบัณฑิตศึกษาไทยและต่างชาติที่มีผลต่อความเข้าใจในการอ่าน

Effects of Thai and International Graduate Students' Use of Reading Strategies on Reading Comprehension

นางสาวสาริศา ไมหวาด *

Sarisa Maiward

รองศาสตราจารย์ดร.สุมาลี ชีโนกุล **

Associate Professor Sumalee Chinokul, Ph.D.

บทคัดย่อ

การศึกษาค้นคว้าครั้งนี้สำรวจการใช้กลวิธีการอ่านของนิสิตนักศึกษาระดับบัณฑิตศึกษาไทยและต่างชาติและผลของการใช้กลวิธีการอ่านของนิสิตนักศึกษาระดับบัณฑิตศึกษาไทยและต่างชาติที่มีผลต่อความเข้าใจในการอ่าน การศึกษาค้นคว้านี้ได้ใช้การวิเคราะห์ผลข้อมูลทั้งเชิงปริมาณการใช้และเชิงคุณภาพ กลุ่มตัวอย่างของการศึกษาประกอบด้วยนิสิตนักศึกษาระดับบัณฑิตศึกษาไทยและต่างชาติ 66 คน ที่กำลังศึกษาอยู่ในระดับบัณฑิตศึกษา หลักสูตรนานาชาติในมหาวิทยาลัยสองแห่งในประเทศไทย เครื่องมือวิจัยที่ใช้เก็บข้อมูลได้แก่ แบบสอบถามด้านการใช้กลวิธีการอ่านซึ่งแบ่งออกเป็นสามหมวดคือ กลวิธีในการอ่านแบบองค์รวม กลวิธีแบบแก้ปัญหาและกลวิธีแบบสนับสนุน นิสิตนักศึกษานานาชาติถูกเลือกให้ทำข้อสอบปรนัยจำนวนแปดข้อเพื่อวัดความเข้าใจทางด้านการอ่าน ข้อสอบอัตนัยเกี่ยวกับการเขียนสรุป และการระลึกข้อมูลย้อนหลัง เพื่อการสำรวจการใช้กลวิธีการอ่านและความสัมพันธ์ของการใช้กลวิธีที่มีต่อความเข้าใจในการอ่าน ผลการวิจัยพบว่านิสิตนักศึกษาระดับบัณฑิตศึกษาทั้งชาวไทยและต่างชาติใช้กลวิธีการอ่านอยู่ในระดับสูง แต่นิสิตนักศึกษาระดับบัณฑิตศึกษาชาวไทยใช้กลวิธีทางการอ่านมากกว่า นิสิตนักศึกษาระดับบัณฑิตศึกษาต่างชาติทั้งในเชิงปริมาณการใช้และเชิงคุณภาพ กลวิธีแบบแก้ปัญหาถูกเลือกใช้ในระดับสูงสุด ตามด้วย กลวิธีการอ่านแบบองค์รวม และกลวิธีแบบสนับสนุน นิสิตนักศึกษาระดับบัณฑิตศึกษาที่ใช้กลวิธีการอ่านจำนวนที่เยอะกว่าและถี่กว่าจะส่งผลต่อคะแนนการทำข้อสอบปรนัยและข้อสอบอัตนัยส่งผลทำให้นิสิตนักศึกษาระดับบัณฑิตศึกษาที่มีความเข้าใจในการอ่านมากขึ้นและได้คะแนนเยอะกว่านิสิตนักศึกษาระดับบัณฑิตศึกษาที่ใช้กลวิธีน้อยกว่า หลักฐานจากการศึกษาค้นคว้านี้มีแนวโน้มสนับสนุนว่าการตระหนักถึงการเลือกกลวิธีการอ่านช่วยให้ผู้อ่านมีความเข้าใจในการอ่านดีขึ้น

* นิสิตมหาวิทยาลัยสาขาสอนภาษาต่างประเทศ ภาควิชาหลักสูตรและการสอน

คณะครุศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย

E-mail Address: sarisa_maiward@hotmail.com

** ประธานหลักสูตรครุศาสตรมหาบัณฑิต สาขาวิชาการสอนภาษาอังกฤษกับภาษาต่างประเทศ

คณะครุศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย

E-mail Address: csumalee@gmail.com

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Abstract

This study investigates the use of reading strategies by EFL graduate students in Thailand and the relationship of the use of reading strategies on reading comprehension. The study employed quantitative and qualitative data analyses. Sixty-six graduate students enrolled in international master programs at two public universities were the participants of this study. The reading strategies questionnaire categorized into Global Reading Strategy, Problem Solving Strategy, and Support Strategy was employed. Four of these students were selected to take an 8-item, multiple-choice reading comprehension test, followed by a summary test, and the stimulated recall interview for further investigations of the reading strategies use and its relationship to the reading comprehension. The results suggested that both groups tend to report use of reading strategies with great frequency; however, Thai graduate students employed more use of reading strategies than international graduate students quantitatively and qualitatively. The Problem Solving Strategies were the most frequently used, followed by Global Reading Strategies, and Support Strategies. Successful readers receiving high scores from both tests employed a higher frequency and variety of reading strategies. The evidence from this study tends to support the notion that being aware of reading strategies use allows readers to have better reading comprehension.

คำสำคัญ: กลวิธีการอ่าน/ นิสิตนักศึกษาระดับมหาบัณฑิต/ ความเข้าใจในการอ่าน

KEYWORDS: READING STRATEGIES/ GRADUATE STUDENTS/ READING COMPREHENSION

Introduction

Reading plays a crucial role for EFL students to access the primary source of language input for their academic studies and their careers (Chumworatayee, 2012). Because of small chance in being exposed to the language in EFL context and the complex reading process itself, EFL students have to employ reading strategies to enhance their reading comprehension.

However, when EFL students enter into higher education, reading becomes more complex, and the demands of reading tremendously surge. At the graduate level, graduate students have to deal with huge amount of reading, both assigned and on their own interest in their specific field which are full of technical terms. They also have to deal with reading published journal articles in order to conduct action research, and create one for their own

(Swaggerty & Broemmel, 2017). Reading a large volume of academic journal articles is, therefore, required for them to gather new ideas, theories, models that notify their theses and research papers, analyze and critique the theses, check the reliability and validity of the data from research, and evaluate and judge whether the paper is worthy of further attention or not. (Critical Reading for Graduate Students, n.d.). Because of their strict format: introduction, methods, results, discussion, and conclusion, graduate students need to be equipped with strong reading comprehension skills (Alghail & Mahfoodh, 2016).

EFL graduate students usually encounter difficulties in reading and comprehending English academic texts and spend a large amount of time on reading materials from which they must gain the meaning and extract relevant information in order to have deeper levels of understanding (Pimsarn, 2012). Based on previous research on EFL graduate students, numerous findings show large number of EFL graduate students who struggle in comprehending the academic texts because of several factors: their ability in reading their first language, low level in interpreting skills, lack of proper teaching materials, lack of motivation to learn, lack of exposure to suitable reading materials, lack of reading strategies use, lack of background knowledge, and poor reading instruction (Chomchaiya & Dunworth, 2008; Phakiti and Li, 2011; Alghail & Mahfoodh 2016).

In order to become self-regulated readers and to master reading skills, EFL graduate students are suggested to employ reading strategies which are the tools to help improving reading comprehension (McNamara, D. S., 2010; Farrel 2001; Zhang & Wu, 2009). Reading skills and strategies are seen as comprehension processes that allow EFL graduate students to create meaning from the text most efficiently and effectively. Being self-regulated means that they can intentionally and consciously apply the use of reading strategies to help solving reading problems when they encounter difficult texts which need deep comprehension, especially when readers have minimal knowledge of the technical terms, key conceptualization, and particular background knowledge. Therefore, it is necessary for EFL graduate students to be aware of what reading strategy they are using, when they should use it, and how and why they are using it to overcome linguistic limitations and reading problems.

Many EFL researchers have made attempts at identifying reading strategies which became the main focus in the late 1970s and early 1980s (Zhang & Wu, 2009). In the view of

literature, they began to recognize the essential role of the use of reading strategies to enhance reading comprehension which helps graduate students to understand and interact with the text when they are reading, being able to select and understand what they need, retaining and recalling the information, and linking the new information to existing information (Critical Reading for Graduate Students, n.d.).

Reading strategies are divided into two main categories known as cognitive strategies and metacognitive strategies. Cognitive strategies can be categorized into two parts including bottom-up and top-down. Mokhtari and Sheorey (2002) mentioned that students initially use bottom-up strategies to focus more on identifying the meaning and the grammar structure of a word, sentence, and text details. While the information in each sentence is being processed, students start to see how the information fits and makes sense by using top-down strategies which include background knowledge, experience, prediction, skimming, and understanding the text from the clues (Sani, Chik, Nik & Raslee, 2011).

Metacognitive skills, however, are more advanced and complicated skills that successful graduate readers acquire to help with their reading. Metacognition, which means cognition about cognition or the awareness of ones' own perceiving, understanding, and remembering, is the theory that underlies metacognitive skills. Paris and Winograd (1990, p.17) gives the clear definition of 'metacognition' that "it captures two essential features: self-appraisal and self-management of cognition". These two terms involve the reflections about their own knowledge states and abilities, knowing what they know, how they think, and when and why they apply those knowledge strategies. In response to such thoughts, they plan before doing a task, make adjustment while working, and make revisions afterwards. Butler and Winne (1995, p.245) suggest that the most effective learners are those who self-regulate and are aware of what they are reading by monitoring, regulating, and controlling their thoughts and behavior. Therefore, to become self-regulated students, EFL graduate students have to employ metacognitive strategies in their reading process.

In summary, with the revision of the literature in reading, reading strategies, and reading comprehension, the present theoretical framework, metacognition theory, has important implications for the formulation of the metacognitive strategies which play an important role in the current study. In recent decades, the field of language pedagogy research has seen a great

deal of interest in the study of metacognitive reading strategies in terms of enhancement of text comprehension. Large number of studies have focused on graduate students, but in Thailand only a few studies have been done to conduct the data on EFL graduate students who play a significant role in participating in international graduate programs. With the expectation to add the newness of valuable content knowledge about the use of reading strategies among EFL graduate students in Thailand and its effects on their reading comprehension, the findings of the study will shed light on some practical implications for EFL reading strategy instruction in the gradual level.

Research Objectives

1. To explore the use of reading strategies by Thai graduate students and international graduate students.
2. The examine whether there are differences in the use of reading strategies by Thai graduate students and international graduate students.
3. To investigate the effect of the use of reading strategies on reading comprehension among Thai graduate students and international graduate students.

Methodology

Participants

The study was carried out with 66 graduate students, including 48 Thai graduate students and 18 international EFL graduate students who currently join Master of Education Programs in Teaching English as a Foreign Language at Chulalongkorn University or Master of Arts Program in English Language Teaching at Thammasat University in the academic year of 2016. As the MA Programs are taught in English, and TOEFL, IELTS or other kinds of English proficiency is one of the prerequisites to get into these universities, the subjects were considered quite EFL-proficient readers.

Instruments

To get reliable and effective data from the samples, four instruments employed in this study including the reading strategies questionnaire, the reading comprehension test, the short

academic reading passage which is the summary test, and the simulated recall interview. All of them were validated by experts and piloted to check for the reliability.

The reading strategies questionnaire with a reliability of .860, calculated by the Cronbach alpha coefficient suggesting that items have relatively high internal consistency, was adopted from the Survey of Reading Strategies (SORS) developed by Mokhtari and Sheorey (2002). The questionnaire is divided into 2 main parts: the first part is a background information form to obtain the participants' biographical data: gender, nationality, university, and period of language learning. The second part contains 30 reading strategies concerning the use of reading strategies, each of which uses a 4-point Likert scale ranging from 1 (I never or almost never do this), 2 (I sometimes do this), 3 (I often do this), and 4 (I always or almost always do this). Each statement describes the use of one strategy. These 30 strategies were later grouped into three categories: Global (GLOB), Problem Solving (PROB), and Support (SUP).

The second instrument, the reading comprehension test with a reliability of .875, using Cronbach's Alpha, was adapted from TOEFL reading comprehension part, consisting of one text with approximately 700 words and the 8 reading comprehension multiple choice questions to explore further about how the use of reading strategies affects the participants' reading comprehension (Gallagher, Pp. 476-479, 2005).

Another instrument used to check reading comprehension is the short academic reading passage about behaviorism and language learning theory adapted from "Language & Learning. An Introduction for Teaching" written by Emmitt, Zbaracki, Komesaroff, and Pollock (2010). This summary writing test with a reliability of .973, containing specific terminology about English language teaching and learning, was used to simulate the real situation about how graduate students deal with reading academic texts and which reading strategies they adopt to help enhance reading comprehension. Lastly, the stimulated recall interview was used to investigate cognitive processes through inviting participants to recall their concurrent thinking when they had been doing both mentioned tests. In order to access cognitive processes (Ericsson & Simon, 1999). The stimuli used in the study included reading questions, context clues from the tests, and reading strategies from SORS.

Data collection

This study employed a mixed methods approach in which both quantitative and qualitative methods for data collections were used.

Quantitative method

In the first part, the hard copied reading strategy questionnaire was given to 33 graduate students from Thammasat University during the first week of April, and the other 33 graduate students from Chulalongkorn University and April were asked to complete the reading strategy questionnaire online.

Qualitative method

The reading comprehension test and a short academic reading passage about behaviorism and language learning theory were used to collect qualitative data. Four participants from two universities, two Thai and two International graduate students, were chosen upon voluntary and convenience to do the stimulated recall interview which came right after each test was done. The procedures and instructions of the stimulated recall were given to them once they arrived. With the clear given instructions, all four participants completed two reading tests within the given time: 15 minutes for the first test and 20 minutes for the second test. After each test was completed, the participants were immediately audio-recorded to recall what they had been thinking about and what reading strategies they used during the test. The researcher used the questions from both reading tests, the given context of both reading passages, and 30 reading strategies from SORS as the main stimuli to guide the participants towards stimulated recalling (e.g., “How did you come up with the answer for question one asking you to find the closest meaning of this word ‘abolish’”, and “did you lose concentration while reading, and if so, did you try to get back on track and how?”). The session lasted approximately 1 hour, and the audio recordings were subsequently transcribed using contextualization clues captured in the recording, focusing on the reading strategies from SORS. The transcripts of each session were to subject to following analysis.

Data analysis

The data analysis for the questionnaire was guided by the first two main research questions: What are the reading strategies used by Thai graduate students and international

graduate students? The answers to Likert type questions were analyzed quantitatively using SPSS to calculate means, and standard deviation of all items to gather information on the use of reading strategies by graduate students. Another research question is “How are the reading strategies used by Thai graduate students and international graduate students different?”. To answer this question, One-way ANOVA was used to find out whether or not there were differences in terms of the use of reading strategies between Thai graduate students and international graduate students.

For the second part, the qualitative data analysis was guided by the third research question: To what extent do reading strategies used by Thai graduate students and international graduate students affect their reading comprehension? With the use of two reading tests and the stimulated recall interview, the transcripts of the stimulated recall interview were analyzed with regard to each participant’s view of the use of reading strategies, and Pearson Correlation Coefficient was used to find correlation between scores from two tests and reading strategies.

The analysis for the participants’ discourse was analyzed by using qualitative content analysis called direct content analysis which uses the existing theory or research to help focus the question to determine the initial coding scheme (Potter & Levine- Donnerstein, 2009). During the analyses, the core of a recall utterance was identified, coded based on 30 reading strategies from SORS as the existing theory, and categorized into three categories including Global (GLOB), Problem Solving (PROB), and Support (SUP). To increase the reliability of the interview, interrater reliability was emphasized in this stage. Independent third party rater was trained in the categories for rating and given the information he needed about the stimulated recall procedure and events being recalled. A simple percentage agreement check on the basis of the researcher’s coding was calculated with overall 82.07% of coding analysis matches. Cohen’s kappa (k) of .651, .802, .798, and .733 show a very good strength of agreement between two coders on the reading comprehension tests of four participants, and Cohen’s kappa (k) of .738, .918, .857, and .733 show a very good strength of agreement between two coders on the short academic reading passage of four participants (Berry & Mielke, 1988). This increases the reliability of the instrument.

Results

Quantitative data results

The result obtained for the first two questions posed in the study are shown below. The results obtained for the first question: What are the reading strategies used by Thai graduate students and international graduate students? (See Table 1.) Based on the mean of the overall reading strategies ($\bar{x} = 3.10$) which is defined as high use of reading strategies, it was found that the reading strategy reported to be used the most often by Thai graduate students is (item 10) I underline or circle information in the text to help me remember it ($\bar{x} = 3.65$, S.D. = 0.64). For international graduate students, based on the mean of the overall reading strategies ($\bar{x} = 3.02$) defined as high use of reading strategies, the most preferred reading strategy is the same item ($\bar{x} = 3.61$, S.D. = 0.78) (See Table 1.).

Table1: The most often used reading strategies

Most Often Used Reading Strategies in average	
Thai Graduate Students	International Graduate Students
10. I underline or circle information in the text to help me remember it.	10. I underline or circle information in the text to help me remember it.

Table 2: The least often used reading strategies

Most Often Used Reading Strategies in average	
Thai Graduate Students	International Graduate Students
5. When text becomes difficult, I read aloud to help me understand what I read	29. When reading, I translate from English into my native language, which also belongs to the third category

Another interesting result from this study was that the least preferred reading strategy by Thai graduate students is (item 5) When text becomes difficult, I read aloud to help me understand what I read ($\bar{x} = 2.25$, S.D. = 1.08) which belongs to the category of Support Reading Strategies (SUB). This category is also the least preferred category among three categories for

Thai graduate students with the overall mean of 2.78. For international graduate students, the strategy that they prefer the least is (item 29) When reading, I translate from English into my native language, which also belongs to the third category: Support Reading Strategy (SUB) with the overall mean of 2.70 (See Table 2.).

From figure 1., Thai graduate students reported using strategies under Problem Solving Strategies category (PROB) the most frequently with the overall mean of 3.41. The most preferred strategy under this category is (item 25) When text becomes difficult, I re-read it to increase my understanding (\bar{x} = 3.65, S.D. = 0.53). Similar to the use of reading strategies among international graduate students, Problem Solving Strategies is the most preferred category for them with the overall mean of 3.19. However, the most preferable reading strategies under this category for international graduate students is (item 9) I try to get back on track when I lose concentration (\bar{x} = 3.44, S.D. = 0.70) (See Figure 2.).

Figure 1.

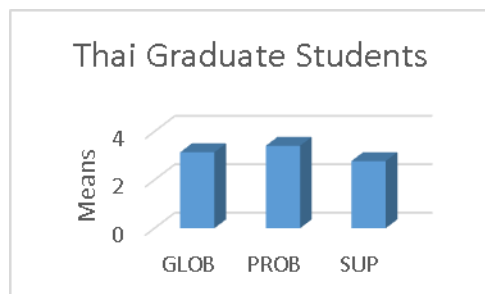


Figure 2.

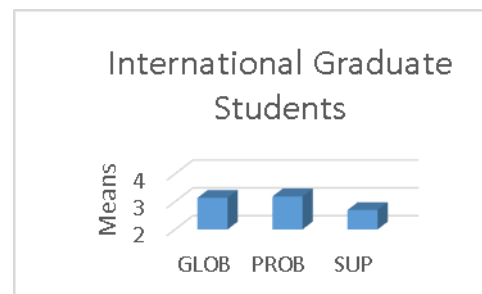


Table 3: Means and Standard Deviations for Thai Graduate Students' Averages for Reading Strategies (the most- often- used strategies)

Category	Reading Strategies	Thai		Level
		\bar{x}	S.D.	
GLOB	17. I use context clues to help me better understand what I am reading.	3.58	0.54	high
PROB	25. When text becomes difficult, I re-read it to increase my understanding.	3.65	0.53	high
SUB	10. I underline or circle information in the text to help me remember it.	3.65	0.64	high

Table 4: Means and Standard Deviations for International Graduate Students' Averages for Reading Strategies (the most- often- used strategies)

Category	Reading Strategies	International		Level
		\bar{x}	S.D.	
GLOB	17. I use context clues to help me better understand what I am reading.	3.61	0.61	high
PROB	9. I try to get back on track when I lose concentration.	3.44	0.70	high

SUB	10. I underline or circle information in the text to help me remember it.	3.61	0.78	high
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As can be seen from table 3, for the Global category, Thai graduate students indicate that they use (1) I use context clues to help me better understand what I am reading (\bar{x} = 3.58, S.D. = 0.54) the most often, while for Problem category, (1) When text becomes difficult, I re-read it to increase my understanding (\bar{x} = 3.56, S.D. = 0.65) is the most used strategy. For Support category, (1) I underline or circle information in the text to help me remember (\bar{x} = 3.65, S.D. = 0.64) is the most frequent used strategy.

For International graduate students, the results indicate that they use (1) I use context clues to help me better understand what I am reading (\bar{x} = 3.61, S.D. = 0.61) the most often in the Global category, while for Problem category, (1) I try to get back on track when I lose concentration (\bar{x} = 3.44, S.D. = 0.70) is the most used strategy. For Support category, (1) I underline or circle information in the text to help me remember (\bar{x} = 3.61, S.D. = 0.78) is the most frequent used strategy.

Moreover, another objective of this study was to determine whether Thai and international graduate students employed reading strategies differently or not. Based on the results from the ANOVA, there is a significant difference among Thai and international graduate students in their use of reading strategies with the significance value of .024, which is below 0.05. As can be seen from the figures above, the findings demonstrate that Thai graduate students reported employing reading strategies more frequently than those international graduate students.

Qualitative data results

The qualitative data were reported in response to the quantitative finding based on the third research question: To what extent do reading strategies used by Thai graduate students and international graduate students affect their reading comprehension? In order to examine possible correlations between reading strategy use and reading comprehension, the participants' responses on reading strategy questionnaire and their reading comprehension test scores were computed with a Pearson product-moment correlation. The present study showed a weak negative correlation as the correlation is not significant at the 0.05 level. Although

Pearson product-moment correlation shows a weak negative correlation, stimulated recall interview data reveal that participants employed large number of reading strategies to help enhance reading comprehension, and the reading strategies were employed differently depending on the task they accomplished. Those who employed more strategies received higher scores (See Table 5.)

Table 5: Reading strategies used by participants and their scores on Reading Comprehension Test

Participants	Reading Comprehension Test		Short Academic Reading Passage	
	Number of Reading Strategies from SORS used	Total Score (8)	Number of Reading Strategies from SORS used	Total Score (20)
Thai graduate student from CU	20	8	16	16.5
Thai graduate student from TU	17	8	22	18.50
International graduate student from CU	14	5	18	13.5
International graduate student from TU	17	7	15	12

From table 5, it can be clearly seen that the Thai graduate student from TU who employed the largest number of reading strategies from SORS for 22 strategies received highest scores among all four participants, and the one who received lowest score used the least number of reading strategies of SORS.

Moreover, the results from table 6 showed the interactive relationship between three categories of reading strategies: Global Reading Strategies, Problem Reading Strategies, and Support Reading Strategies. Many of Global Reading Strategies occurred in association with Problem Reading Strategies and Support Reading Strategies. It is, therefore, difficult to separate these three categories out of each other in the qualitative data as many of them were found to be used together relatedly to gain more reading comprehension.

Table 6: Relationships of reading strategies to reading comprehension achievement

Relationships To reading Test Performance	Sample Excerpt
Reading Strategies	- "I started reading from the previous sentence because 'the term' refers to the thing discussed before (GLOB: <i>using context clues</i>), so I actually read it twice (PROB: <i>rereading</i>) because I wasn't

sure which term ‘The Term’ refers to, but I found this one ‘Underground Railroad’ which seems like the specific term, so I thought it was this one.”

The following qualitative data were taken from the proficient students who received the highest scores from both tasks. These following excerpts show that participants are aware of their use of reading strategies and use various kinds of reading strategies to come up with the correct answers on the reading comprehension test.

Excerpt 1.

R: So, you got all the answers correct. How did you come with the answer for number 1 for the word “abolish”?

TP1¹: I went right away to the sentence with the word to *see the context* and *guess the meaning*. I actually know the word

“abolish” which means “to get rid of”, but since this answer I’m not sure which one is closer to the meaning to get rid of, so I went to the paragraph. Actually even though I read it, I wasn’t so sure, so I went to the first line and read from the beginning and *quickly skimmed through*, and I *read the sentence again* with the word “abolish”.

The excerpt 1. shows that this Thai participant employed different reading strategies: using context clues, guessing the meaning of unknown words, skimming through, and rereading in order to come up with the answer for question number one and question number three in the reading comprehension test.

For the second passage which asked the participants to write the summary about Language Learning Theory, each participant used various kinds of reading strategies to comprehend the passage.

Excerpt 2.

R: Can you tell me how you came up with this answer? How did you identify the main idea?

TP1: I *used the topic* which is behavioristic language learning theory as the basis, and then I *read through* and matched the information that goes with the topic, so the one I picked up, I was *evaluating that this one* should be related to the topic. It’s the main idea, not the details.

¹ Interview excerpts are coded as follows; the first letter “T” refers Thai graduate student; “I” refers to international graduate student; “P” refers to participant; “1” refers to Chulalongkorn University, “2” refers to Thammasat University, and “R” refers to the researcher.

It can be seen clearly that the strategies that this participant used consist of taking overall view, by using the topic and reading through the information, and evaluating the information to relate with the topic.

Excerpt 3.

R: You got the answer for question number four wrong, the one that asks you to paraphrase the highlighted sentence. Can you tell me how you came up with this answer?

IP1: Which one best expresses the highlighted part...ahh I missed this part. Maybe *I read too fast. I didn't take a look at it*

carefully. I thought 'which sentence best describes the whole paragraph.' My mind was not really functioning well. I am the one who loses concentration.

R: So what did you do when you lost concentration?

IP1: *Rereading it.*

As seen in the excerpt 3, this suggests that this participant encountered difficulties while reading because he lost concentration quite often. The data showed that he did not employ appropriate strategies for particular situations; for example, he should have read slowly and carefully to comprehend the text. Despite the rereading strategy employed to make him to get back on track, only one strategy might not be enough to make him concentrate with the reading. More strategies and correct strategies are needed to help enhance his reading comprehension.

Discussion

Reading academic texts in the graduate level is complex, causing various EFL graduate students to employ different reading strategies to enhance their reading comprehension. With the use of strategy questionnaire to examine the frequent use of reading strategies by Thai and international graduate students, Thai graduate students tend to report use of reading strategies with greater frequency than those international graduate students based on the overall means. This result shows that Thai graduate students might be more aware of reading strategies use when they recall to their experience in reading. Among three categories, Thai graduate students report to use more Problem Solving Strategies and Support Reading Strategies than international graduate students, but Support Reading Strategies remain the least preferred categories in both groups. These significant data are found to be consistent with the study of Zarrabi (2015) that

Problem Solving Strategies are the most often-used strategies when problems developed in understanding textual information, while Support Strategies are the least used strategies. Solving Strategies were used Support Reading Strategies are basic support mechanisms that students use to help in comprehending the text. This shows that both Thai and international graduate students are more used to employing Problem Solving Strategies when they encounter problems while reading; however, they might not be familiar in using Support Strategies to help improve their reading comprehension.

Moreover, it is significant to consider the particular reading strategies both groups used the least. Reading aloud is one of the least preferred reading strategies among both groups, which contradicts with the result found in the study of Zarrabi (2015) that reading aloud was commonly used to comprehend the texts among non-native graduate students. In this regard, cultural orientation can be used to explain why reading aloud is one of the least preferred reading strategies as for Thai culture, similar to other Asian cultures, people tend to keep things to themselves and do not expose their thoughts publicly. Therefore, most Thai students might prefer to read quietly as well as those international graduate students who have to adjust themselves to fit into Thai culture.

Since reading strategies questionnaire could not gain the cognitive thoughts or the thinking process related to the use of reading strategies, the qualitative stimulated recall interview data give insight in the use of reading strategies by both Thai and international graduate students while completing both tests. The results reveal that to achieve the goal of reading comprehension, both groups of students used a wide array of reading strategies, and many discovered reading strategies are congruent with the results reported in the questionnaire. However, with the careful coding based on content analysis, the findings reveal that three reading categories (GLOB, PROB, and SUB) occurred in association. Difficulties to separate each strategy from each other was found in the qualitative data. In other words, several strategies came to be used together. This shows that these EFL graduate students are aware in when to use particular reading strategies, and how to use them together to comprehend the reading more effectively.

According to the scores from both tests, the participants who received high scores tend to use more reading strategies to help with their reading comprehension in both tests. This is in

line with a number of research that the more reading strategies are used, the better reading comprehension, resulting in better reading proficiency (Lau, 2006; Zhang & Wu, 2009). The performance of the highly successful test takers seemed to result from their awareness of the reading strategies they employed as they knew which strategies they should use and when to use those strategies to help improve their reading comprehension. This evidence tends to support the notion that the graduate students who are aware of reading strategies have better reading comprehension. Moreover, the interview data indicate that two Thai graduate students who received high scores in both tests demonstrated a high metacognitive awareness of reading strategies while reading the tests as they could mention the clear process in employing reading strategies to help come up with the answers for the tests. One possible explanation for the participants' awareness of reading strategies might be from factors such as the age of EFL learners, language proficiency, metacognitive knowledge of L1 structure, grammar, and syntax, cultural orientation such as attitudes toward text and purpose for reading, and background knowledge mentioned by Grabe (1988) that might also be involved in influencing their EFL reading comprehension.

Therefore, it is hoped that the current study has made more contribution to a more comprehensive theory of EFL reading comprehension for the graduate level and provided some possible ways of looking at theoretical and methodological perspectives for assessing strategy.

Suggestion

The valuable data received in this study show that both Thai and international graduate students need to be equipped with reading strategies, especially international graduate students who might encounter more difficulties when dealing with complex English academic texts. Providing them the instructions of what reading strategies should be used in particular situations, when to use them, and how to use them effectively is highly suggested. It needs to be acknowledged that the relationship of reading strategies to EFL reading comprehension could be far more complicated than what has been found, and it has to be noted that the types of reading strategies used in this study might be limited by the limitation of the research instruments (i.e. questionnaires, the multiple-choice method).

This study has opened further areas of investigation into the relationship of reading strategies in EFL's reading comprehension in the graduate level. Effects of test methods and text difficulty on reading strategies, especially metacognitive strategy use at graduate level should then be explored since levels of reading text difficulty and task demands could result in different processing of reading strategies. Despite the limited number of participants, this study has shown that qualitative data using stimulated recall interview provide valuable findings about the participants' cognitive process related to the use of reading strategies such as what, how, and why they use such strategies to help enhance reading comprehension. Other issues underlying the use of strategies may emerge from the qualitative data such as motivation and affect.

It is, therefore, recommended that future research combine quantitative and qualitative data gathering and analysis method to understand the nature of strategy use in EFL graduate students. Moreover, with the great concern to improve the reading quality of EFL graduate students in Thailand, it is necessary for those international graduate programs to provide effective instruction about reading strategies to EFL graduate students so that they can become aware in using reading strategies to enhance reading comprehension.

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