T hai EFL Business Majors' Metacognitive Awareness when Reading Online Texts
การศึกษาการตระหนักรู้เชิงอภิปัญญาของ นักศึกษาชาวไทยที่ศึกษาในคณะบริหารธุรกิจ เมื่ออ่านจากสื่ออินเทอร์เน็ต

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บทคัดย่อ

วัตถุประสงค์ของงานวิจัยชิ้นนี้ คือ การศึกษาการตระหนักรู้เชิงอภิปัญญาของนักศึกษาคณะบริหารธุรกิจ ที่ใช้ภาษาอังกฤษเป็นภาษาต่างประเทศเมื่ออ่านภาษาอังกฤษผ่านสื่ออินเทอร์เน็ต กลุ่มตัวอย่างประกอบ ด้วย นักศึกษาเพศชายและเพศหญิง จำนวน 582 คน จากมหาวิทยาลัยรัฐบาล เอกชน และราชภัฏ 12 แห่งทั่วประเทศ นอกจากนี้นักศึกษาจำนวน 12 คนจากจำนวน 582 คนได้ถูกคัดเลือกเพื่อศึกษา เพิ่มเติมในงานวิจัยเชิงลึก ข้อมูลหลักมาจากแบบสอบถามที่พัฒนาโดย Carrell (1989) การสัมภาษณ์ แบบ Think-Aloud การสัมภาษณ์แบบคิดย้อนทบทวน และการสังเกตการณ์ ผลจากการวิเคราะห์เชิง

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ปริมาณ พบว่า กลุ่มตัวอย่างใช้การตระหนักรู้เชิงอภิปัญญาหลาย ๆ ประเภทผสมกัน และมีสองปัจจัย ที่ทำให้กลุ่มตัวอย่างใช้การตระหนักรู้เชิงอภิปัญญาต่างกัน คือ ประเภทของสถานศึกษา และที่ตั้งของ สถานศึกษา ผลจากการวิเคราะห์เชิงคุณภาพพบว่า ประเภทของสถานศึกษาเป็นปัจจัยสำคัญที่ทำให้ กลุ่มตัวอย่างใช้การตระหนักรู้เชิงอภิปัญญาต่างกัน

คำสำคัญ: การตระหนักรู้เชิงอภิปัญญา นักศึกษาไทย การอ่านข้อความจากสื่ออินเทอร์เน็ต

Abstract

The purpose of this study was to examine Thai EFL Business majors' metacognitive awareness when reading school-related online texts in English. The surveyed participants were 582 male and female students from 12 universities across Thailand. Twelve students were selected for an in-depth study based on a purposeful sampling of the maximum variation. Major data sources included a Metacognitive Awareness Questionnaire designed by Carrell (1989), think-aloud protocols, retrospective interviews, and observations. The quantitative results demonstrated that the participants used a combination of metacognitive awareness strategies. Two factors affected the use of metacognitive awareness: the institutional type and the demographic area. In addition, the qualitative results showed that the type of institution might have an effect on the participants' strategy use.

Keywords: Metacognitive Awareness, Thai Students, Reading Online Texts

Introduction

In the age of digital technology, understanding and learning from written texts is one of the most important skills students need to possess (Mcnamara and Shapiro, 2005: 2). However, due to the increasing use of Information and Communication Technology (ICT) in pedagogy, reading is no longer restricted to reading printed materials. The Internet is an increasingly important part of the lives of English as a second language (ESL) students and English as a foreign language (EFL) readers worldwide and, therefore, electronic formats of many printed texts have been made available on the Internet (Izquierdo and Reyes, 2009: 102; Tseng, 2010: 96). However, the experience of reading online materials is different from reading printed materials. Undoubtedly, the skills and strategies involved are more complex (Britt and Gabrys, 2001: 74). Gilster (1997:3), for example, posits that in the past people read books but at present, people read books only and surf the web. Also, interaction between the reader and the Internet is more dynamic. By navigating the WebPages, clicking the hyperlinks and participating in live chatrooms, readers become more actively involved while reading.

As a result of rapidly changing technologies and new environments, teachers and researchers alike are finding ways to train students in effective strategies to read for information and make inferences, together with skills to critically read and evaluate online texts. Previous studies in ESL/EFL learning have revealed that readers' knowledge about their own reading and reading strategies such as metacognitive awareness plays a significant role in reading and is related to success in ESL/EFL reading comprehension. Brown (1980: 455) defines metacognition as the conscious control of one's own reading action while Flavell (1979: 907) defines it as cognition about cognition. Brown (1980: 453) additionally recommends that while reading, readers should be aware of and control their cognitive actions.

The importance of metacognition and metacognitive awareness has been illustrated by a number of studies. Huang and Newbern (2012: 66), for example, examined the effect of metacognitive reading strategy instruction on the reading performance of adult ESL learners with limited literacy skills. Results revealed that the experimental group had higher reading gains across all skill levels. Iwai (2011: 150) revisited the concept of metacognition and offered pedagogical implications for ESL/EFL teachers. Iwai also concluded that metacognition is key to reading comprehension and it is essential to explicitly teach metacognitive strategies. In addition, McNamara & Shapiro (2005: 1) explored multimedia and hypermedia solutions for promoting metacognitive engagement, coherence, learning and

suggested that students should be trained to use more effective reading strategies and hypertext design features that focus on active reading. Zhang and Wu (2009: 38) studied metacognitive awareness of reading among EFL high school readers. Results demonstrated that proficient readers were better at planning, monitoring, and selecting appropriate strategies and that less proficient readers could benefit from Metacognitive Strategy Instruction that guides them to think about their reading process. Since digital-oriented information has become increasingly more important, investigating metacognitive awareness when reading online texts is critical.

If metacognitive awareness is vital for ESL readers, it is unquestionably important for EFL readers whose language proficiency is more limited and who are therefore likely to come across more linguistic difficulties. Unfortunately, metacognitive awareness studies with Thai EFL business majors when reading school-related online texts as participants are sparse. Also, previous researchers have not focused on actual behavior that individual readers engage in when they read WebPages. There are several studies dealing with reading strategies readers use with printed materials (Imtiaz, 2004: 35; Mokhtari and Sheorey, 2002: 3; Yang, 2002: 18; Zhang and Wu, 2009: 40). However, a systematic analysis of metacognitive awareness when reading online texts and discussions concerning the characteristics of online texts are still missing from the literature (Konishi, 2003: 100). Above all, to the best of our knowledge, Thai researchers have not conducted any large-scale surveys on metacognitive awareness of Thai EFL business majors when reading school-related online texts.

Considering these situations in the research field of reading instructions in ESL/ EFL classrooms, the present study therefore tries to explore the different kinds of metacognitive awareness Thai EFL business majors use when they read through the Internet and to investigate factors that may contribute to their metacognitive awareness.

This study attempts to answer the following questions:

1. What are the different kinds of metacognitive awareness used by Thai EFL business majors enrolled in public, private and Rajabhat universities across Thailand when they read authentic school-related online texts in English?

2. How do learner variables such as gender, school year, institutional type and demographic area influence their metacognitive awareness?

Denitions of Terms

Metacognitive awareness refers to the ability to understand, reflect, and control one's learning (Flavell, 1979: 906-911). Metacognitive

awareness also includes knowledge about when and how to use particular strategies for learning or for problem solving (Metcalfe and Shimamira, 1994: 2).

Metacognition refers to readers' conscious and strategic use of evaluating and regulating their understanding of information in the text that contributes to text comprehension (Baker and Brown, 1984: 353).

Confidence strategies are related to the participants' confidence as readers and there are six statements regarding the participants' perceived ability to read in the language (items 1-6)**.**

Repair strategies are related to strategies a reader uses when comprehension fails which comprises 5 statements (items 7-11).

Effective strategies are statements related to the participants' perception of efficient reading strategies and they consist of 17 statements (items 12-28).

Difficulty strategies refer to the factors that make reading difficult. There are 8 statements (items 29-36).

Demographic area refers to the location of each university. It does not refer to the birthplace of the participants.

Institutional Type refers to the type of university that each participant enrolled in as a full-time student (Public/ Private/ Rajabhat).

Review of Literature

Multiliteracies

The term "multiliteracies" was first used by the New London Group (1996: 64), a group of leading literacy professors that called for updated literacy pedagogy in response to the new conditions of our changing society. Simply put, multiliteracies refer to a means to use language in a diverse culture with respect to integration of multiple modes of communication (Jewitt, 2008: 243). Additionally, Kasper (2000: 105) defines multiliteracies as functional, academic, critical, and electronic skills a person needs to process when living in a diverse society. As a multiliterate person, a student is required to have a combination of skills that will enable him or her to make use of a wide range of technological channels so that he or she can take effective part in learning communities (Kasper, 2000: 106). However, the skills involved are more difficult for ESL/EFL learners, since they have to acquire linguistic competence and also develop cognitive, critical and sociocultural skills in order to become part of a valuable workforce in the 21st century.

Metacognition in Reading

In order to understand how metacognitive awareness is related to research on ESL/EFL reading, a brief explanation of metacognition is offered. As a term first used by Flavell

(1979: 906), metacognition refers to the consciousness and awareness of an individual of his or her own thinking, and who is generally considered having the ability to think about thinking. Metacognitive awareness in reading represents the planning of the reading task, monitoring, and evaluating of the reading process (Caliskan and Sunbul, 2011: 149). In the context of reading, metacognitive awareness is viewed as one of the elements of strategic readers' reading process. Strategic readers with high metacognitive awareness are likely to be successful learners. That is, they select appropriate reading strategies that are related to their reading goals, task requirements and their own learning styles (Akkakoson, 2011: 1).

Carrell (1989: 121) categorized metacognitive awareness into four sub groups 1. Confidence in reading ability, 2. Repair strategies, 3. Effective strategies, and 4. Difficult strategies.

Metacognitive Awareness and Online Texts

Adapting metacognition to reading online texts, McEneaney (2003: 4) considers the possibility that there are basic behaviors, actions or characteristics that direct some readers to be more active in their online reading, while other readers are less active. The idea is supported by recent research studies that point out that strategic readers are people who are metacognitively aware

of their own learning. While reading online texts, readers are required to actively and metacognitively engage with that text, choosing a path that is most relevant to his or her interests (Kasper, 2003: 1).

Although non-linear online texts can offer students many benefits, Rouet and Levonen (1996: 10) suggest that without explicit instruction on how to navigate online texts, students may become lost in a sea of information, potentially facing cognitive overload. This statement is supported by Mills (2010: 36), who argues that not all adolescents today are experts in digital practices. It is even worse with students who are not mainstream, white middle class. Previous studies have shown that some students had poor Internet navigation skills and some of them have even been viewed as digital immigrants (Izquierdo and Reyes, 2009: 100). In addition, these students rarely questioned the authenticity or authority of websites and were not critical online readers.

Therefore, while they are reading online texts, being metacognitively aware of what students read is important. Metacognition is particularly crucial to ESL/EFL readers since they have a more limited knowledge of vocabulary and grammar. These students also need metacognition research to further examine whether the teaching strategies have successfully overcome their reading problems.

In this next section, the author briefly discusses metacognitive awareness and online texts, research on metacognitive awareness and ESL/EFL students will be presented in the next part.

Research on Metacognitive Awareness and ESL/EFL Students

A plethora of research has investigated the role of metacognitive awareness in ESL/EFL reading, but many studies focus on using printed texts as materials. Zhang and Wu (2009: 38), for example, investigated metacognitive awareness and reading strategy use of EFL Chinese high school students by using a 28-item Survey of Reading Strategies (SORS). Results showed that students who were proficient readers reported using metacognitive awareness strategies more often than those students who were less proficient. Zhang and Wu suggested that English teachers should focus more on teaching reading strategies, not test-taking strategies so as to foster the students' in-depth comprehension.

In the Omani context, Amer, Al-Barwani, and Ibrahim (2010: 103) explored the online reading strategies of EFL first year students and senior student teachers using Shoerey and Mokhtari's (2001: 433) Survey of Reading Strategies Questionnaire. Results showed that the fourth year students used more metacognitive strategies than the first year students. However,

results showed no statistically significant difference between males and females in the overall use of strategies, or in the three categories. The authors suggested that success in online reading depends on being highly strategic and metacognitive and that students need explicit regular metacognitive strategy instruction.

Unlike Amer, Al-Barwani, and Ibrahim (2010: 103) who focused only on online reading strategies, Songsiengchai (2010: 1) explored reading strategies used by third year English majors when reading online and printed texts using the Questionnaire for Strategies in Reading Online Academic Texts and the Questionnaire for Strategies in Reading Printed Academic Texts. Results showed that the use of strategies in reading online and printed texts of proficient and less-proficient readers was significantly different. That is, more-proficient readers used reading strategies more effectively than the less-proficient readers. For example, they focused on the main point while reading to understand the concept of the text, and when they saw unknown words they tried not to use a dictionary to clarify meaning, but they continued reading or used contextual clues to help them understand the text. Songsiengchai also concluded that the less-proficient students were less capable of using reading strategies when reading online academic texts. For example, they were unlikely

to locate the main point or idea of the text or use their background knowledge to help them understand the text. They only read through to the end of each part of the text, and sometimes they lost concentration while reading because they focused on decoding the meaning of unknown words. Also, they tended to use a dictionary when faced with this problem. The author also suggested that Metacognitive Strategy Instruction (MSI) is needed in order to develop university students' reading ability. Wichadee (2011: 32) investigated the effects of Metacognitive Strategy Instruction (MSI) on EFL Thai university students' reading proficiency. The instruments included a 30-item multiple-choice test of reading skill, a 5-point Likert scale Metacognitive Questionnaire and a semi-structured interview. Findings demonstrated that teaching metacognitive strategies might be an effective way to improve students' reading comprehension and that non-proficient readers can become proficient readers if they are given instruction in effective reading strategies.

The need for metacognitive awareness study is not a recent issue. In a synthesis of research, Mills (2010: 36) revealed that we know little about reading and online texts. Mills also added that teachers and educators have a wrong perception of students' navigation skills. She argues that not all students are digital natives. This is particularly true with students who are not from the white, middle-class group.

Benefits of using Information & Communication Technologies (ICTs) in English

Undeniably, ICTs have changed the English language learning setting as well as its nature and environment. There are many reasons why ICTs are implemented in English classrooms (Al-Kahtani, 1999: 3; Muehleisen, 1997: 1).

The first reason is that the nature of the ICT tool is interactive and therefore learning English using multi-modal, digital texts offers a strong intrinsic motivation for students. The second reason is that ICTs can support students' autonomous learning behavior. Students are given power to control both their own learning and the course content. As a result, students' motivation and interest in the functional use of communicating will be fostered. The third reason is that the Internet and ICTs place English in an international context. Students are given unparalleled opportunity to use authentic language. This is one way to encourage students to become more engaged, confident and responsible language learners. As Al-Kahtani (1999: 2) proposes, students can be empowered by the capacities of technology and become effective language learners and communicators. With the integration of ICTs, new language

learning activities have been introduced to help students. Different communication channels —synchronous and asynchronous interactive email, web chat, eBook, fan fiction, IRC multi-media activities and other task-oriented activities– can help learners to improve different types of linguistic proficiency and grammar accuracy. Finally, ICTs provide students with a less-threatening means to communicate (Skinner and Austin, 1999: 271). Other advantages of using ICTs is an increase in computer skills such as typing skills, web navigation, software conflict repair, and e-mail etiquette.

Problems associated with ICT Integration in Education

ICTs have played a key role in democratizing education in both developed and developing countries. However, there are some major difficulties associated with ICT implementation. Rajesh (2003: 2) summarized the main factors that delay the expansion of new ICTs as follows:

Policy Structure of the Government

ICT usage depends largely on the extent to which Government leaders acknowledge the significance of ICT tools in assisting students' learning experiences.

Political Factors

Beliefs and attitudes of a political system significantly influence the technology development. For example, Rajesh (2003: 3) states that the growth of ICTs will be commonly found in democratic countries since ICTs are considered as an education equalizer.

Economic Factors

In the educational context, cost is one of the most influential factors that direct the expansion of ICTs. In most developing countries, there are not sufficient funds for an adequate amount of investment in ICTs. In addition, there is also a lack of appropriate infrastructure, and usage charges are high. In most developing countries, such as Thailand for example, Infrastructure for water, energy, transportation and communication are still behind the current rate of urbanization.

Cultural Factor

Language is one of the critical issues that concern educators in many developing countries. In some cultures, teachers or students might resist other languages and technologies that may threaten to change their current status, power, and working/learning habits, especially if they violate some of the groups' shared values (Zakaria, Affendi, and Zakaria, 2010: 153). If adopting ICTs means adopting the new language, the result can be a resistance to new IT changes, a failure in ICT adoption, and a lack of implementation.

METHODOLOGY

Surveyed Participants

The survey participants of this study were 323 male and 259 female Thai EFL Business majors enrolled in four public universities, four private universities and students from four Rajabhat Universities across Thailand. The survey participants were from different demographic areas namely the North, the Northeast, the Central, the East, the South, the West, and Bangkok metropolitan area including freshmen, sophomores, juniors and seniors. To be more specific, the survey participants were students from 12 universities across Thailand. That is, the researcher asked students from 6 universities outside Bangkok and 6 universities from the Bangkok area to participate in this large-scale study.

Instruments

The instruments used for the quantitative data collection approach were as follows:

1. Background Information Sheet. This survey elicited personal information such as gender, age, school year, institution type as well as the demographic area.

2. The Edited Metacognitive Awareness Questionnaire adapted from Carrell (1989: 122) and Hirano (1999: 572). The questionnaire is a 36-item five point Likert scale survey that was subcategorized into four main parts namely

Confidence, Repair, Effective, and Difficulty. The present study employed Carrell's (1989: 123) and Hirano (1999: 582) questionnaires because they are more comprehensive and they employed the 5 point Likert scale instead of multiple-choice questions. Also, Carrell's (1989: 123) and Hirano's (1999: 582) questionnaires have been successfully used by ESL/EFL readers. In the end, the English language questionnaire was translated into Thai to ensure that the students fully understood it.

The surveyed participants were asked to complete the questionnaire within 15 minutes. The reason the investigator used a paper-based questionnaire instead of an online questionnaire is in order to guarantee a high response rate. That is, the investigator physically visited each university and asked students to complete the questionnaires.

Reliability of the Metacognitive Awareness Questionnaire

Cronbach's alpha was calculated to measure the internal consistency of the questionnaire. Internal consistency is "a reliability measure that assesses the extent to which all of the items in an instrument measure the same construct" (Cronk, 2004: 110). The overall survey reliability showed a Cronbach's alpha of .89. According to George and Mallery (2003: 1-371), the alpha value is commonly interpreted based on the following groups:

$\alpha > .70$ is acceptable, $\alpha > .80$ is good, and $\alpha > .90$ is excellent. The overall Cronbach's alpha of .89 falls in the *good* reliability group.

Data Collection-Qualitative

To assure the completeness of data collection, and to account for differences in the variables that could affect the participants' metacognitive awareness, the interviewed participants were selected to participate in the think-aloud portion of the data collection. Think-aloud is a metacognitive technique that a student uses to verbalize what he or she thinks while reading a selection orally. This process might help a researcher learn more about a student's processes of comprehension (Block and Israel, 2004: 155).

The interviewed participants were selected based on a purposeful sampling of the maximum variation (Merriam, 1998: 1). The rationale for using the maximum variation is the belief that findings from a small sample of greatly diversified characteristics yields shared important patterns. It is assumed that different participants with different characteristics can offer good insight. That is, both individual factors and environmental factors were taken into consideration. The selection criteria were based on characteristics that have been found to play a role in English language learning such as gender, age, school year, institutional type, and demographic area. While completing the

edited Metacognitive Awareness Questionnaire, each surveyed participant was asked whether he/she wanted to participate in the think-aloud protocol and the retrospective interviews. There were approximately 50 surveyed participants who mentioned that they wanted to take further part in the qualitative study. In the end, only 12 participants were chosen based on the criteria mentioned earlier.

Each interviewed participant was met individually for about a one-hour session. The session took place at each student' school library in order to assure his/her familiarity with the setting. First, each participant was asked to answer a questionnaire having questions concerning their gender, age, school year, institution type and demographic area. Then they were asked to sit in front of a personal computer that was connected to the Internet. A video-recorder was set beside the computer. After receiving instruction on how to think-aloud and seeing a sample by the researcher, each participant practiced thinking-aloud for about five to ten minutes. Next, the researcher asked each participant to navigate through the Internet for about 15-20 minutes to carry out a task assigned individually. While they were navigating the websites, they were asked to perform the think-aloud procedure. That is, each participant thought aloud with whatever came to his or her mind. They were allowed to speak English or Thai or both

languages depending on their preference. Their voice was also tape-recorded for further analysis of their metacognitive awareness while the computer screen was videotaped to gather data concerning their behaviors, expressions, and gestures during the reading activity as well as how long they stayed on a specific page and which link they chose, what button they used, etc. The data from the videotape was analyzed parallel to the audio taped think-aloud data to specify the metacognitive awareness they used for navigating the websites and reading online texts. In addition, the researcher observed each participant while she/he was navigating the websites. The investigator also took notes while observing each interviewed participant. After the think-aloud part was finished, each participant was asked to recall the story and they were also retrospectively interviewed to reflect on what they thought about the activity, the website, and the reading.

The materials used for qualitative approach are as follows:

Tasks

This study adopted two types of tasks for reading online texts: a closed task and an open task.

A Closed Task. The first task involved the researcher accompanying each interviewed participant at the university library. Each participant was required to read the assigned article through to the researcher in order to report or think-aloud what it was about. The text was selected after a thorough search based on the criteria that the text should be unbiased and thought provoking. This search resulted in a non-linear text with hyperlinks about 1 screen page long.

An Open Task. This task was a free task that focused on the strategies and metacognitive awareness readers used when they carried out browsing, searching, and reading carefully. That is, each interviewed participant was asked to search, navigate and carefully read his or her own WebPages.

Data Analysis

Quantitative

The researcher used the Statistical Package for Social Sciences (SPSS) version 20.0 to analyze quantitative data. Techniques of descriptive statistics such as means, standard deviations, and MANOVA were used. Concerning the qualitative data, the researcher used cross-case analysis and the coding scheme categorized by Carrell (1989: 123). In examining participants' metacognitive awareness in terms of a Likert scale that ranges from 1-5, this study used three usage levels as suggested by Oxford and Burry-Stock (1995: 154). That is, a mean of 3.50 or higher fell into the high-usage level, a mean of 2.50-3.49

fell into the moderate-usage level and a mean of 2.49 or lower fell into the low-usage level.

Data Analysis

Qualitative

This study used an analysis of think-aloud protocol and retrospective interviews to investigate the metacognitive awareness of Thai EFL business majors. All of the qualitative data were transcribed for coding purposes. The researcher used the coding system (Confidence, Repair, Effective, Difficulty) based on Carrell's (1989: 123) Metacognitive Awareness Questionnaire. If the interviewed participant said something that fitted into Carrell's metacognitive awareness, the researcher marked and coded the strategy as item No. 1, 2, or 3, based on the questionnaire.

If the interviewed participants said something that was not in the questionnaire, the researcher marked "Other 1" or Other 2. Pseudonyms were used throughout the whole study.

Results

Question One: Quantitative Results

With regard to the first research question "What are the kinds of metacognitive awareness strategies used by Thai EFL business majors enrolled in public, private and Rajabhat universities across Thailand when they read authentic school-related online texts in English? Table 1 shows descriptive statistics for the surveyed participants' perceived use of individual strategies and the overall mean frequency of each strategy item.

Table 1 Individual strategy's means and standard deviations

Category	Strategy	*M*	*SD*
1	**When reading online texts,** I am able to predict what will come next in the texts.	3.49	.804
2	I am able to recognize the difference between main points and supporting details.	3.37	.796
3	I am able to relate information that comes next in the online texts to previous information in the texts.	3.28	.786
4	I am able to understand what the author is saying.	3.59	.724
5	I have the knowledge and experience to understand the content of the text I am reading.	3.38	.764
6	I have a good sense of judgment when I understand something and when I do not.	3.95	.901
7	**If I do not understand something,** I keep on reading and hope for clarification further on.	3.81	.902
8	I re-read the problematic parts.	3.73	1.001
9	I go back to a point before the problematic parts and re-read from there.	3.65	.958

Table 1 Individual strategy's means and standard deviations (cont.)

Category	Strategy	M	SD
10	I look up unknown words in a dictionary.	3.36	1.239
11	I give up and stop reading.	2.51	1.233
12	**The things I do to read effectively are to focus on...** Mentally sounding out parts of the words.	3.12	1.092
13	Understand the meaning of each word.	3.27	.950
14	Getting the overall meaning of the text.	3.70	.876
15	Being able to pronounce each whole word.	3.12	1.131
16	The grammatical structure.	3.12	1.034
17	Relating the text to what I already know about the topic.	3.40	.846
18	Looking up words in the dictionary.	3.35	1.130
19	The details of the content.	3.72	2.251
20	The organization of the text.	3.44	.715
21	**Things that make reading difficult** are... The sound of individual words.	2.85	1.097
22	Pronunciation of the words.	2.95	1.088
23	Understand word meanings.	3.66	.829
24	The grammatical structures.	3.80	1.152
25	The alphabet.	2.96	1.042
26	Relating the text to what I already know about the topic.	3.43	.861
27	Getting the overall meaning of the text.	3.51	.753
28	The organization of the text.	3.42	.718
29	**The best reader I know in English reading is a good reader because of his/her ability to...** Understand word meanings.	3.42	1.124
30	Sound out words.	3.23	1.135
31	Understand the overall meaning of a text.	3.83	.960
32	Use a dictionary.	2.93	1.111
33	Guess at word meanings.	3.62	.916
34	Integrate information in the online texts with what she/he already knows.	3.32	.899
35	Focus on the details of the content.	3.67	.954
36	Grasp the organization of the online texts.	3.41	1.026

The results showed that 13 of the 36 strategies fell in the high-usage group (mean of 3.50 or more), while the remaining 23 strategies had means of between 2.51 and 3.49, indicating medium-usage of these strategies. None of the strategies was reported as used with low frequency (mean below 2.49). In addition, the results showed that students on the whole reported using the reading strategies at a moderate level. The item that the participants reported as used most frequently was the item No. 6 (M = 3.95) whereas the item No. 11 (M = 2.51) was reported as used least frequently.

Question One: Qualitative Results

Among the strategies cited most by all 12 participants were 1) I keep on reading and hope for clarification further on, 2) I re-read the problematic parts, 3) I relate the texts to what I already know about the topic, 4) I print a web-based text to understand it better, 5) I highlight words and sentences with the mouse cursor, 6) I understand the main points in an online text that are bold, italicized, and written in bigger letters, 7) I use contextual clues during reading when the text is not understood, and 8) I move the mouse cursor over a web-based text during reading. The top three strategies that were cited most frequently by the participants will be presented below.

1) I keep on reading and hope for clarification further on. Keeping on reading is the online reading strategy that all 12 interviewed participants reported using. That is, when they found difficult words or when they didn't understand something they moved on and hoped for clarification later in the text. Below is an interview excerpt from Nirissara, a female junior from a public university in the Western part of Thailand.

> Nirissara: When I read and found difficult words or unknown expressions, I just keep on reading. For example, this sentence "We wanted to make sure our employees were actually walking the walk and not just talking the talk." I think this sentence is an expression but I didn't quite understand it. So I moved on and I hoped that I would understand it later. I think if I read further, I will understand. The words will make sense but you need to keep going.

2) I re-read the problematic parts. When the participants did not understand what they read, they mentioned in accord that they would just re-read it to help themselves understand and remember the information they were reading. Nipatpong, a male sophomore from a public university in Bangkok, mentioned that he went back and re-read the whole sentence.

Nipatpong: I don't understand this sentence "Apple's PC rivals may scoff at Apple's attempts to enter a PC dominant enterprise segment." I think this one is really difficult, especially the term "scoff" so I tried to re-read it again and again and I think it's better.

3) I relate the texts to what I already know about the topic. All 12 interviewed participants mentioned that when they read online materials, especially in English, they tried to relate the information in the text to their background knowledge and their prior experience. They clearly stated that this strategy helped them to understand the texts better. During the think aloud part, Paphavi, a female student from a Rajabhat university made the following connection to her prior knowledge:

Paphavi: This passage is about iPads and therefore, I try to think about what I know about iPads, such as its features, and its benefits. I myself don't have an iPad as it is too expensive. I try to relate the information with the past news. If you ask me whether it helps, I think it is better than doing nothing.

These examples illustrate that the interviewed participants used various types of metacognitive reading strategies to help them understand what they read.

Question Two: Quantitative Results

In order to answer the second research question concerning learner variables such as gender, school year, institutional type and demographic area that might influence their metacognitive awareness, the MANOVA was conducted. Results from the MANOVA revealed that there were two factors affecting the metacognitive awareness of the surveyed participants. Those two factors were 1) the institutional type, and 2) the demographic area. To be specific, the institutional type (public/ private/Rajabhat) significantly affected the surveyed participants' metacognitive awareness in all the four categories (Confidence, Repair, Effective, and Difficulty) at $p \leq .000$, 000, .000, and .000 respectively. Results from the MANOVA also show that the students who were from the South reported using the Confidence strategy category significantly higher than those who studied in Bangkok, the Central, the East, the West, the North and the Northeast.

Question Two: Qualitative Results

According to the second research question, results show that the factor that affected the participants' metacognitive awareness while reading online texts was the institutional type.

The Institutional Type

Students from different universities were found to use different metacognitive awareness

strategies. For example, the participants who were from public universities reported using particular strategies more often than those who were from private and Rajabhat universities. The differences will be divided into five subgroups as follows:

I question myself to relieve confusion. Asking questions was another online reading strategy that the interviewed participants who studied in public universities used when they read the text. Nipatpong, Supanit, and Jukkarin reported that they often posed questions during reading when they found something confusing in the text. This example is from Jukkarin.

> Jukkarin: I don't understand this paragraph "Interaction with Apple was minimal as there was little integration work needed. Honestly, direct contact with Apple did not have an impact in our decision." So I have to ask "Why" and "How" every time I don't understand something. It is like I need to do it in order to activate my brain cells. You know what I mean, you just can't read along. You need to think.

I grasp the organization of the online texts. Scrolling down and up a web-based text is the action that Nipatpong, Supanit, Jukkarin, Nirissara demonstrated in this study. Before reading, Nirissara scrolled down and up before reading the text whereas Supanit and

Nipatpong demonstrated this type of scrolling after reading the first few sentences in the text. Jukkarin also exhibited the scrolling after reading the first paragraph. Nirissara, when asked what she did before reading the text, said:

> Nirissara: "I was curious. I want to know more about the story I am going to read. Mostly, I want to know about the length. Also, I want to know how the story ends"

From the think-aloud, while the public university students scroll up and down while reading, the students who studied in private and Rajabhat universities did not use this reading strategy. During the retrospective interviews however, Thana and Virayut, for example, mentioned that they did not usually scroll up and down. They stated that while reading online texts, they mostly read in a linear manner. Below is an example from the retrospective interview of Thana.

> Thana: Mostly, I just read, like from the very first sentence to the last sentence. Sometimes, when the text is too long, I just stop reading. You know, it is boring to see a long, never ending story in one screen. So I just stop.

I Use additional websites to clarify read information. Going to various websites

to read additional articles to clarify information in a web-based text was the online reading strategy public university students such as Nipatpong, Supanit, and Jukkarin used. During the retrospective interview, Nipatpong, for example, mentioned that he often clicked the related topic buttons in order to find more information about the topic. Below are his comments:

> Nipatpong: I like online reading, it's more fun. Do you understand what I am saying? When you read print-based materials, it's static. But when you read online texts, you can see video clips, and comments from other readers. Reading online texts are so interactive and I like it. So when I don't understand something, I just click. Sometimes, I just scroll down and read some more comments and yes, I get it. Sometimes, pictures and visuals can help me understand the story better. It is much better. Video clips also save you time. For example, my favorite website is MSNBC; you can click a video clip to see more. You can also practice your listening skills. After reading the texts, I also google more about that topic. I understand the subject matter more. It really helps.

While Nipatpong googled and figured out more information, Paphavi, a female student from a Rajabhat university in the East, stated that while reading, she just focused on that particular website. She also said that when she did not understand something, she just used the online dictionary to unlock the meanings of unknown words. Below is her comment.

> Paphavi: While reading online texts, when I don't understand something, I just use the online dictionary since it saves time. It's faster and more convenient. Mostly, this dictionary helps. However, when the story is too difficult or when it's not related to your life, it's really hard to understand. Sometimes I take a break and sometimes, I just stop reading.

I focus on the overall meaning. The findings from the interviews suggested that students from the public university reported that they would focus on the overall meaning more than reading word-by-word, or sentence-by-sentence. The public university students reported that they used numerous reading strategies such as using context clues and activating their background knowledge in order to understand the overall meaning of the text. The example below will illustrate Jukkarin's reading behavior.

Jukkarin: While reading, you need to focus on the overall idea, that's what good readers do. You don't need to pay attention to every word. When I find difficult words, I just use context clues to make a guess. Mostly it works.

While public university students focused more on the overall meanings, students from a Rajabhat university mentioned that while reading online texts, they were likely to read word-by-word and sentence-by-sentence. Boonyanut, a female student from Rajabhat university in Bangkok mentioned that she got stuck when she found difficult words. When asked what she did to solve the vocabulary problem, she stated that she did not know what to do. Below is her comment:

Boonyanut: Normally, I don't really read online texts in English. Mostly, I log on to sanook.com and dekdee.com and yes, they are in Thai. Therefore, I don't really read in English. I don't know what to do, maybe I just stop reading. Here, I don't understand the term "consumerization IT" So I just looked it up in online dictionary.

This example illu-strated that the participants who were from private and Rajabhat universities focus more on accurate word identification, not a focus on meaning construction.

I am able to recognize the difference between main points and supporting details. During the retrospective interview, when asked to recall the text they just read, public university students tended to recognize its main idea whereas the private and Rajabhat university students were unlikely to complete the task. Below is a retrospective interview of Supanit, a female student from a public university in Bangkok.

Supanit: This text is not too difficult. I think I understand what it says. At first, they said, iPad might be a bad business tool but later I found out that the people who said that were Apple's competitors. Of course, they have to say something bad to make their products look good, right? So I think this is the main point. When I read, I just focus on the main points.

The examples shown above demonstrate that the interviewed participants used a wide variety of metacognitive reading strategies to help them understand online materials. The next part of the article presents the Discussion of the study.

Discussion

Research Question One: Metacognitive Awareness Strategies

The quantitative results of this current

research continue to add to our understanding of how metacognitive awareness is performed by Thai EFL Business majors within the context of school-related online reading. The metacognitive awareness, as revealed through the Metacognitive Awareness Questionnaire, indicates a variety of strategies that the surveyed participants reported using while reading online texts in English. With regards to the first research question, the quantitative results supported what has been acknowledged as the value of metacognitive awareness (Chomphuchart, 2012: 127; Songsiengchai, 2010: 14; Wichadee, 2011: 32; Zhang and Wu, 2009: 42). Previous studies have found that metacognitive awareness strategies such as keeping on reading, re-reading, checking one's own understanding while reading yield a significant effect on students achievement since they help increase students' reading fluency and create a critical connection with texts (Akkakoson, 2011: 283; Caliskan and Sunbul, 2011: 149; Hsieh and Dwyer, 2009: 37). Another interesting finding in the data reported here is that the top two metacognitive awareness strategies that surveyed Thai participants reported as used (no. 6 and 31) were global, top-down strategies that proficient readers use in the Carrell's study. However, the nature of this study and that of the Carrell (1989: 122) are different since Carrell studied metacognitive awareness of American English monolingual students studying in American contexts.

Based on the qualitative analysis, findings suggested that reading online texts in English is a complex process. While reading, the participants used a wide array of world knowledge, vocabulary knowledge, knowledge of linguistic features, metacognitive knowledge and digital literacy knowledge to construct meaning out of the texts. The interviewed participants reported using numerous metacognitive awareness strategies such as keeping on reading and hoping for clarification further on, re-reading the problematic parts, relating the texts to what they know about the topic, printing an online text to understanding it better, highlighting words and sentences with the mouse cursor, understanding the main points in a web-based text that are in bold, italicized, and written in bigger letters. Apparently, the knowledge of vocabulary or the knowledge of text structure alone cannot help the students to fully understand the text but they make use of a combination of strategies in association with other knowledge.

The findings from the qualitative analysis also supported previous studies that reading is no longer restricted to reading printed materials. The experience of reading online materials is different from reading printed materials and the strategies are more complex (Britt and Gabrys, 2001: 74). As shown in the results section, the interviewed participants

reported using additional strategies such as I grasp the organization of the online texts and I use additional websites to look up and clarify read information. Results of this current study corroborate Songsiengchai (2010: 13) that today's students use both printed and online media to gather information and that the definition of literacy has been changed. Also, the results supported Britt and Gabrys (2001: 74) that learning to use language effectively is not enough, students need to gather, analyze and evaluate information that has been read.

Research Question Two: Factors Affecting Metacognitive Awareness

According to the second research question about what factors affected the use of metacognitive awareness, the results from the quantitative analysis revealed that the institutional type played a role in all four metacognitive awareness categories (Confidence, Repair, Effective, and Difficulty). It showed that there were significant differences in metacognitive awareness use among public, private and Rajabhat Universities in all the four metacognitive awareness strategies. The results are in line with the findings of Zhang and Wu (2009: 38) who investigated metacognitive awareness. They found that proficient readers were likely to report using metacognitive strategies more frequently than less proficient readers. One question arises as to why public universities students were more aware

of metacognitive strategies. Metacognitive awareness and metacognitive strategies are considered reading strategies that are used by strategic and experienced readers. In Thailand, normally, 12th graders who obtain higher scores on the National tests (O-NET, A-NET, GAT) are primarily given a chance to study in a public university. Thus, this might explain why the more proficient in English they are, the more they are aware of metacognitive strategies. Probably, the participants with more experience studying English might be given an opportunity to practice using metacognitive strategies more frequently than those who did not. Another explanation might be that the students who were proficient readers might possess some basic knowledge such as language knowledge, lexical knowledge and world knowledge. In other words, they might have some available resources to be used in planning, controlling and evaluating their reading processes.

According to the quantitative results, another factor that affected the metacognitive awareness use was the demographic area. The findings revealed that the students who were from the South reported using the Confidence strategy category significantly higher than those who studied in Bangkok, the Central, the East, the West, the North and the Northeast. The Confidence category was considered by Carrell (1989: 127) as the strategy that strategic readers use while

reading. So why did this particular demographic area stand out in its reported use of Confidence strategies? Previous studies on reading instruction and reading strategies have revealed that less proficient readers are not metacognitively aware of their own reading. In other words, the results of those studies found that the less proficient readers mostly used bottom-up strategies that focused on word-level reading processes. The results of these studies suggest that Metacognitive Strategy Instruction (MSI) with an emphasis on self-regulated learning and comprehension monitoring can assist less proficient readers overcome reading failure. It might be possible that the participants who were from the South had been taught metacognitive strategies of planning the reading, monitoring progress towards the goal, modifying the solution when necessary and evaluating their reading outcome. To date, there has been no study investigating the relationship of the institutional type and reading strategy use. It might be a good point to start asking why and how each institution varies from one another and how the similarities and differences affect the students' reading achievement in a broad spectrum.

According to the qualitative results, the factor that seemed to affect the participants' metacognitive awareness use was the institutional type (public/private/Rajabhat). It is obvious that the students who were from

public universities, regardless of gender, school year, and demographic area from which they came, tended to use higher-order, top-down metacognitive strategies such as questioning themselves to relieve confusion, grasping the organization of the online texts, using additional websites to clarify read information, focusing on the overall idea, and being able to recognize the difference between main points and supporting details. That is, the public university students were likely to be able to use linguistic and content knowledge to help them better comprehend the texts. This is one of the main factors distinguishing more proficient readers from less proficient readers (Hellekjaer, 2009: 200). The findings, thus, confirmed previous studies about the value of metacognitive awareness in reading. Researchers stated that students without metacognitive awareness and strategies are essentially students without directions to review their progress. The findings showed that metacognition helps students to be consciously aware of what they have learned, recognize situations in which it would be useful, and processes involved in using it (Carrell, Gajdusek, and Wise, 1995: 99; McEneaney, 2003: 5; Philip and Hua, 2006: 3; Wichadee, 2011: 34).

Limitations of the Study

The relatively small number of interviewed participants and volunteer-based recruiting

methods limit the generalizability of the present study. More studies with a bigger number of interviewed participants are required in order to achieve a better conclusion. More research on the relationship between metacognitive awareness and reading online texts in English should be conducted. In addition, although the think-aloud technique is a widely used method to investigate what the readers are thinking, sometimes the students do not report all the strategies they use. In addition to using think-aloud and retrospective interviews like this study did, additional data such as students' exercises can be used to triangulate the data.

Conclusion

The main findings of my investigation of the metacognitive awareness used by Thai EFL Business majors across Thailand can be summarized as follows: First, the participants exhibited a number of metacognitive awareness strategies while reading online texts. However, the Confidence strategies were reported as used most frequently by the surveyed participants. Second, the top five metacognitive awareness strategies were namely; I know when I understand and when I do not, I am able to get the overall idea, I keep on reading, I focus on grammatical structure and I re-read the problematic parts. Third, the factors affecting the use of metacognitive awareness were the institutional type and the demographic area. In addition, the qualitative results showed

that the interviewed students who were from different institutions performed using different types of metacognitive awareness strategies.

Implications and Recommendations for Future Research

The combination of quantitative and qualitative research methods within this current study provided ample room for comparison between types of metacognitive awareness and allowed for a closer investigation of how student self-reports varied from their actual use of metacognitive awareness when reading online texts in English. Mixed-methods research is capable of clarifying both the breadth and depth picture of what is happening within a set of research data. In this present study, the two approaches working together provided a more comprehensive understanding of the findings than either one of the approaches alone could offer.

1. The present study explored student's metacognitive awareness when reading school-related online texts in English. Therefore, it would be interesting to conduct further study by exploring reading strategies students use by using different types of texts such as academic versus non-academic, expository versus narrative. In addition, comparative studies on reading strategies when reading online versus printed text should be conducted within the same study. Also, that the task order can vary from "closed task, first, and open task,

second" to "open task first, and closed task, second" should be taken into consideration.

2. Findings from the qualitative analysis demonstrated that some interviewed participants might lack some strategies while reading online texts. It is time for classroom teachers to start planning explicit Metacognitive Strategy Instruction for improving students' reading comprehension. Classroom teachers who are not familiar with metacognitive strategies might have trouble providing instruction. Therefore, continuous training and technical support in the area of online reading strategies should be offered for these teachers.

3. More in-depth information about the students as readers may provide other insights that explain their use of metacognitive strategies while reading online texts. A longer period of research and students' semester-long exercises may also assist in explaining the students' metacognitive awareness while reading online texts in English.

4. Future studies should take into consideration on user preferences across disciplines. It is believed that students studying business may access online texts less often than those in the sciences (Bodomo, Lam, and Lee, 2003: 35). This needs to be supported by further studies. Future research could explore, for instance, online reading habits versus printed reading habits, e-book versus e-journals.

5. The findings of this study showed that metacognitive awareness is essential to success in reading. Therefore, teaching these strategies should be integrated in the curriculum in order to help students become strategic readers.

Acknowledgement

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