

TEACHING ENGLISH READING STRATEGIES ON THE INTERNET FOR GRADUATE NURSING STUDENTS

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ABSTRACT

The purposes of this research were: (1) to study English reading strategies used by graduate nursing students at Sukhothai Thammathirat Open University, and (2) to find the satisfaction of graduate nursing students towards learning English reading strategies on the Internet. The sample consisted of 49 graduate nursing students who enrolled for their thesis or independent study. Two research instruments were employed: Webcast was used as an experimental tool for teaching English reading strategies on the Internet, and questionnaires were used for collecting data. The latter comprised two parts: frequency of using English reading strategies and the satisfaction of graduate nursing students towards learning English reading strategies on the Internet. These two forms were verified by three experts, and the researchers improved these forms according to the suggestions of those experts. The Cronbach's alpha reliability coefficients of those forms were .97 and .88 respectively. The quantitative data was statistically analyzed using frequency and percentage, whereas, qualitative data (data from open-ended questions) was analyzed by grouping contents. The findings were as follows: (1) Students use both direct and indirect strategies for their reading; and (2) Students consider this learning method as efficient and effective for their level. They were satisfied in terms of content and presentation. Teaching English Reading Strategies on the Internet were beneficial for students because they could review and repeat the exercise according to their needs.

Keywords: *English Reading Strategies, Webcast, Nursing Students*

INTRODUCTION

Language learning is very important for learners who wish to develop themselves as learners of the 21st century due to the fact that most new and up to date information is in foreign languages such as English, Japanese, or Chinese. The language ability of learners will not only help them to access and gain knowledge and information directly but they will also have the opportunity to do business with businessmen from different countries.

However, in order to effectively communicate by using four skills: listening, speaking, reading, and writing, students need to master language learning strategies. In particular, learners need training and practice in using these strategies for effective communication. Therefore, not only modern administrators need business strategies but they also need effective communication which necessitates language learning strategies.

For English language learning, language learning strategies which Thai learners need to use frequently are reading strategies (Soranasataporn, 1993). It has been shown that successful English users employ various language learning strategies more regularly than unsuccessful English language users. Interestingly, there have been many successful implementations of explicit teaching of language learning strategies in English as a foreign language to learners through literature (Kaotsombut, Soranastaporn, & Chantarasorn, 2004; Suthiwartnarueput & Soranastaporn, 2006, Khamkhien 2010, Gursoy, 2010). Typically, students studying in high-schools and universities are divided into high-level and low-level learners. Different levels of learners employed different learning strategies. For example, students with higher language ability are able to guess the meaning of a word from the context in which the word was used more frequently than students with lower language ability.

For most adult learners, learning depends on existing experiences and teaching atmospheres which foster teacher-learner interactions in various forms, such as easy-going or strict environments (NECTEC's Web Based Learning, 2007). These experiences are what teachers need to consider in answering questions or applying information related to psychology. The obtained information are then sorted and analysed in order to relate to learners' existing knowledge. While trying to remember the information, they may classify it, read it slowly, underline it, draw a chart or a figure, or tell it to their peers. These methods are necessary for learning new information and skills. (BBC, 2012)

In the past, the School of Nursing of Sukhothai Thammathirat Open University (STOU) developed curriculum in reading and writing English for graduate nursing students who needed to register for their thesis or independent study. After this learning experience, students improved their ability to read English research articles and had highly positive satisfactions towards the curriculum and the teaching strategies. Nevertheless, the follow-up program assessment showed that learners reading English research articles, needed additional revision, more practicing and regular guidance. Therefore, the researchers have attempted to improve their teaching methods by enhancing the interaction via the Internet using Webcast run by STOU.

Webcast, a broadcast via the Internet, was first introduced in 2011 at STOU by Siritarungsri and Suwansumrit to teach the course entitled "How to Write and Present a Radio Script for Health Education". During the webcast, only students can see the instructor teaching. The instructor is unable to the students. However, students can interact with the instructor and other students via a web board in real time. A single instructor can thus teach all students who are able to access the Internet, without being confined by the walls of a traditional classroom. Students can visit the webcast site to review previous sessions and download them for revision purpose(see <http://www.stou.ac.th/stouonline/orientation/>). This is added advantage of using webcasts to support students learning at any time and any place that they need.

RESEARCH METHODOLOGY

In this study, the researchers employed the mixed-method by combining quantitative and qualitative methods in order to examine the use of new strategies for reading English research articles on the Internet by graduate nursing students and their attitudes towards the strategies for reading English research articles on the Internet. The participants of the

study were graduate nursing students of STOU. The participants included forty-nine students who have registered for their thesis or for independent study in the first semester of the year 2011.

Instruments

Two research instruments were used: (i) Webcast was used as an experimental tool for teaching English reading strategies on the Internet; and (ii) questionnaires were used for collecting data. The latter comprised two parts. The first part of the questionnaire comprised the five-point Likert scale questions which were developed from literature, especially by referring to the Oxford's language learning strategies (1990). The instruments were verified by three experts and the instruments were amended accordingly. The second part of the questionnaire was a satisfaction questionnaire adopted from a questionnaire (Siritarungsri and Suwansumrit, 2011). The content validity index value was .87. The pilot study that was carried out showed that the Cronbach's alpha reliability coefficients .97 and 0.88 respectively.

Data collection

Data collection procedures involved: 1) preparation, 2) instruction, and 3) evaluation.

Step 1: Preparation

The preparation procedures for teaching via the Internet include the following:

- (1) sending of emails to the participants informing them of the research purposes and to request their participation
- (2) uploading of teaching materials, exercises, pre-test and post-test on the website two weeks before the teaching sessions via email (See http://www.stou.ac.th/stouonline/nurselearning/index_180255.htm) (These were also sent to individual students via email.)
- (3) sending of necessary information and the steps for learning on the Internet through the Webcasting program.

Step 2: Instruction or Teaching

Associate Professor Dr. Songsri Soranastaporn, an expert English teacher with a nursing background, who is currently working at Faculty of Liberal Arts, Mahidol University, Thailand was invited to conduct the teaching sessions. The teaching was conducted five times. Each session lasted for three hours. The teaching processes were as follows:-

- (1) Orientation – Students were introduced to the training curriculum, course objectives, and learning and teaching methods on the Internet. Students were recommended to study the teaching materials that have been posted on the website prior to the teaching session. Students asked questions and received their answers by means of emails, the web board in the web cast, or telephone. A facilitator collected the questions from students and conveyed the answers provided by the teacher to the students. The facilitator also made suggestions on the evaluation method at the end of teaching.
- (2) Teaching – The teacher taught according to the teaching schedule using the following processes:
 - (2.1) the teacher created the relationships with the students by introducing themselves and getting to know all the students. The teacher checked students' readiness by calling students' names and students who had their names called out would reply "ready" on the web board.

(2.2) The teacher revisited teaching objectives for each topics. Students were told to study using the teaching materials that have been provided. Students could raise questions via web board or telephone calls while or after teaching. The researchers supported by answering the questions or by collecting specific questions for the teacher to answer.

(2.3) Two phrases of distance learning teaching (DLT) were offered: (1) reading strategies and research article reading; and (2) abstract writing. First, the teacher taught the reading strategies using increasingly difficult articles. Topics were introduced one at a time, and students were allowed to practice by doing exercises before moving to the next topic. This process was continued until the end. Materials developed for this group of learner by the teacher were used for enhancing distance learning and teaching. Two parts of contents: reading strategies and abstract writing were focused. Reading strategies such as word formation, guessing meaning of words from contexts, purposes of reading, skimming & scanning, facts & opinions, attitude & tone, and summary & conclusion were taught. Sentence patterns: simple, compound, and complex and English grammar such as parts of speech and tenses were reviewed by the teacher and practiced by students. Finally, structures of language used for writing are search abstract and the patterns in research articles were presented.

Students applied what they had learned from DLT into their real life. Briefly after the teacher completed teaching the reading strategies and English abstract writing, a selected research article was provided to the students. The teacher encouraged students to read the article using the reading strategies they have learnt. This exercise started from studying the research article components such as author benefit, journal title, introduction, methods, results, and discussion, citations in texts, and a reference list. The teacher initially taught students to read the abstract and reflect. The teacher showed the patterns of research articles. The teacher then pointed out the patterns of sentences used in writing research papers such as statements of purposes or statements explaining the population or research devices.

Students were encouraged to provide contextual clues while reading such as signal words indicating similarity, opposites and examples. Word formations were indicated from the articles so as to expand the students' vocabulary. The teacher analysed the outcome by determining the reading strategies that the students were mostly trained in and used. The teacher contrasted and compared structures of sentences between English and Thai.

Finally, some parts were selected for students to read, to write, and to summarize in Thai language in order to ensure that the students are able to draw information from English. Additionally, students were encouraged to speak by repeating aloud after the teacher. While teaching, the teacher applied empowerment techniques to motivate students to learn and recognise their own learning curve. The teacher also questioned and interacted with the students. In each session, the teaching began with reviewing content from the previous session and end the session by summarizing and assigning students the preparations for the next session.

(2.4) The researcher then summarized the content at the end of the last session.

Step 3: Evaluation

At the end of the last session, students were informed about the assessment. Students were asked to complete the evaluation forms and return them through email.

Data analysis

Quantitative data that was collected from questionnaires was analyzed for descriptive. While, qualitative data from the open-ended questions was grouped by using content analysis. There were 49 students who completed the pre-test before attending the course. At the end of the course, there were only 23 students or 46.93 percent of the sample group. The analysis was divided into three parts: 1) general information of graduate students of School of Nursing at STOU, 2) the use of reading strategies among graduate nursing students, and 3) students' satisfaction over the reading strategies based on teaching through the Internet.

Part 1: General Information of Nursing Students

The analysis revealed the characteristics of graduate nursing student population. Almost 100 percent of the population were women and a half of them aged between 31 - 49 years old. The students who were nursing administrators (57.14 percent) were more than the percentage of students who were professional nurses (42.86 percent). Their knowledge and experience of using the Internet in different aspects is shown in Table 1.

Table 1: Number and Percentage of Graduate Nursing Students' Knowledge and Experiences of Internet Using

Knowledge and experiences of internet using	Number	Percentage
High	10	20.41
Moderate	29	59.18
Low	10	20.41
Total	49	100.00
Having computer devices used for accessing the internet	Number	Percentage
Yes	49	100
No	0	0
Total	49	100.00
Studying place	Number	Percentage
Workplace	26	53.06
Internet café	20	40.82
Home	2	4.08
Other	1	2.04
Total	49	100.00

Part 2: Reading Strategies Used by Graduate Nursing Students

Reading strategies used by graduate nursing students were classified into three main parts. There were two principle reading strategies: (1) direct language learning strategies, and (2) indirect language learning strategies. Both direct and indirect language learning strategies were further divided into three subordinate groups. Direct language learning strategies consisted of compensation strategies, memory strategies and cognitive strategies. In addition, indirect language learning strategies consisted of metacognitive strategies, consideration strategies, and social strategies. (See Table 2, 3, and 4)

Table 2: Language Learning Strategies Used by Graduate Nursing Students for Reading English Research Articles

Language Learning Strategies	Participation on teaching English reading strategies on the Internet			
	Before (N = 49)		After (N = 23)	
	μ	SD	μ	SD
Direct Language Learning Strategies				
Compensation	2.7797	.69649	3.7717	.73436
Memory	2.7373	.69011	3.7029	.70165
Cognitive	2.4597	.63502	3.4076	.69619
Indirect Language Learning Strategies				
Metacognitive	3.0266	.70310	3.7888	.68630
Affective	3.0042	.59721	3.3696	.63007
Social	2.1864	.89970	2.9565	.92826

Table 2 displays reading strategies used by graduate nursing students before and after participating in teaching English reading strategies on the Internet. Details are as follows.

1. Before participating in teaching English reading strategies on the Internet

The students used both direct and indirect reading strategies at low and moderate levels. When compared using direct and indirect reading strategies, it can be found that the students often used indirect reading strategies more than direct reading strategies. The results showed that the students often use metacognitive strategies and compensation strategies compared to the social strategies.

2. After participating in teaching English reading strategies on the Internet

The students used more both direct and indirect reading strategies at moderate and high levels. When compared and ranked according to language learning strategies, students used compensation strategies, memory strategies, and metacognitive strategies at high level, while cognitive strategies, affective strategies, and social strategies were used at medium level.

Findings from the open-ended questions revealed pre and post scores on students' satisfactions toward language learning strategy principles in reading English research articles for the lesson of *“Teaching strategies for reading English research articles on the Internet”* were similar. The standard deviation (SD) did not exceed 1. One student showed her satisfaction about the lesson by saying that *“It was really good because I had to put an effort in reading English research articles which I had retrieved from many sources. I also think that I do not have enough skills for writing a summary or conceptualising the main ideas of the texts. However, this lesson really helps me to understand and master reading which will be beneficial when I have to conduct my thesis.”*

Table 3: Direct Language Learning Strategies Used by Graduate Nursing Students for Reading English Research Articles

Direct Language Learning Strategies	Participation in teaching English reading strategies on the Internet			
	Before (N=49)		After (N=23)	
	μ	SD	μ	SD
Memory Strategies	2.7373	.69011	3.7029	.70165
Remembering a new English word by making a mental picture of a situation in which the word might be used	2.8814	.94841	3.8696	.81488
Thinking of relationships between what one already know and new things one learns in English.	3.2881	.87199	3.8261	.83406
Using new English words in a sentence so one can remember them.	2.8136	.88033	3.7826	.73587
Using rhymes to remember new English words.	2.5932	.85336	3.7826	.95139
Connecting the sound of a new English word and an image or picture of the word to help me remember the word.	2.7288	.97963	3.6957	.76484
Review English lessons often.	2.1186	.78969	3.2609	1.00983
Cognitive Strategies	2.4597	.63502	3.4076	.69619
First skimming an English passage (read over the passage quickly) then go back and read carefully.	2.5763	.91356	3.6957	.97397
Using the English words one knows in different ways.	2.6102	.89089	3.6087	.94094
Trying to find patterns in English.	2.5085	.97154	3.5217	.79026
Looking for words in one's own language that are similar to new words in English.	2.5085	.83816	3.4348	1.03687
Trying not to translate word-for-word	2.7119	.94779	3.4348	.89575
Finding the meaning of an English word by dividing it into parts that one understands.	2.6102	.92879	3.3913	1.07615
Reading for pleasure in English.	1.8814	.74475	3.2609	1.05388
Watch TV programs or English soundtrack films.	2.2712	1.0477	2.9130	.99604
Direct Language Learning Strategies	Participation in teaching English reading strategies on the Internet			
	Before (N=49)		After (N=23)	
	μ	SD	μ	SD
Compensation Strategies	2.7797	.69649	3.7717	.73436
Making guesses to understand unfamiliar English words.	2.8644	.88000	4.0435	.82453
Using a word or phrase that means the same thing.	2.8814	.93005	3.7391	.81002

Making up new words if you do not know the right ones in English.	3.0000	.92848	3.6957	.97397
Reading English without looking up every new word.	2.3729	.94501	3.6087	.78272

Table 3 showed direct language learning strategies used by graduate nursing students for reading English research articles before and after participating in teaching English reading strategies on the Internet.

1. Before participating in teaching English reading strategies on the Internet

Before participating the class of “*Strategies of Reading English Research Articles on the Internet for Graduate Nursing Students*”, students used sub-strategies for reading English research articles at low and moderate levels. According to **memory strategies**, when looking at individual sub-strategies, it was found that thinking of relationships between what one already knows and new things one learns in English was applied the most, including associating the word learnt earlier with a newly learnt word, followed by remembering a new word by relating it with a picture in which the word may be used. The least used sub-strategy was often practicing the English language.

In relation to **cognitive strategies**, it was found that students avoided word-by-word translation, followed by using a newly known word in different contexts and use of word formation technique. The least used sub-strategy was reading English printed materials for pleasure. While in the use of **compensation strategies**, students used paraphrasing techniques when they did not know the exact meaning of the words, followed by approximation techniques. The least used replacement technique was reading the texts without looking up every unknown word.

2. After participating in teaching English reading strategies on the Internet

After participating the class of “*Strategies of Reading English Research Articles on the Internet for Graduate Nursing Students*”, students reported that they directly applied all seventeen (17) sub-strategies of **indirect strategies** when they read the English research articles. The guessing technique was reported as the most frequently used technique, followed by remembering a new word by relating it with a picture in which the word may be used, associating the learned word with newly learned words, using them in a sentence for better encoding and using homonyms to help remember the word. In using the guessing technique, students avoided word-by-word translation and used a word formation technique, often using the English language, reading English printed materials for pleasure, and watching English TV programs and English film soundtracks.

The results from the qualitative data are illustrated as follows.

1) **Memory strategies**: Students used memory strategies to read their English research articles i.e. **restore information and retrieve it to use when they need**. One student reported that she was able to use reading strategies which she learned from the course which was new to her to help her to read English research articles so that she did not need to use Thai-English dictionary for finding the meaning of unfamiliar words, “...I read without using Thai-English dictionary.” After she tried her reading strategies, and still fail to understand the word, she looked them up in the dictionary. Students use **skimming and scanning** to read their English research articles. Four students agreed that they “*read an abstract and summary of the research results first and then read the whole paper quickly*”. This technique helped them to find the main idea efficiently.

2) **Cognitive strategies:** Students used cognitive strategies for practicing and analyzing and reasoning. One student stated that *“the more practice I have, the better I can read”*. Then she tried to use those cognitive strategies repeatedly so that she would not forget. She expressed it by saying *“When I do not have time to read, then I forget those strategies”*. As a result, she tried to keep her reading strategies by using cognitive strategies to remember words, analyze structure of the research articles, and pattern of sentences. She said that *“I gain knowledge of the structure of the research articles and pattern of sentences”*. Another student confirmed that she used the criteria she learned from the class to select research articles to read, *“I use criteria for selecting quality papers to be my references”*.

3) **Compensation strategies:** Students used compensation strategies for guessing the meaning of words wisely for their reading. Three students stated that *“We use guessing meaning of words from contexts such as signal words of similarity, opposite, or restatement to help us read more efficiently”*. After they used these signal words and still did not understand, they used contextual clues. One of them said, *“If I did not understand, I tried to guess or relate unfamiliar words with their explanation”*. Another student said that *“I use Google to find the meaning of unfamiliar words”*. They practice speaking, *“I practice how to pronounce words”* and this helps to overcome the barrier of language.

Table 4: Indirect Language Learning Strategies Used by Graduate Nursing Students for Reading English Research Articles

Indirect Language Learning Strategies	Participation in teaching English reading strategies on the Internet			
	Before (N=49)		After (N=23)	
	μ	SD	μ	SD
Metacognitive Strategies	3.0266	.70310	3.7888	.68630
Thinking about progress in learning English.	3.8136	.93725	4.2174	.73587
Having clear goals for improving English skills.	3.5593	1.00466	4.1304	.75705
Trying to find out how to be a better learner of English.	3.4068	.94902	3.9130	.79275
Looking for opportunities to read as much as possible in English.	2.7288	.94377	3.6522	.98205
Trying to find ways to use English.	2.9492	.87934	3.6087	.78272
Noticing English mistakes and using that information to help you do better.	2.3390	.88298	3.5217	.73048
Planning the schedule to have enough time to study English.	2.3898	.83081	3.4783	.94722
Indirect Language Learning Strategies	Participation in teaching English reading strategies on the Internet			
	Before (N=49)		After (N=23)	
	μ	SD	μ	SD
Affective Strategies	3.0042	.59721	3.3696	.63007
Trying to relax whenever one feels afraid of using English.	3.4068	.74553	3.7826	.85048

Giving oneself a reward or treat when one does well in English.	2.8814	1.08413	3.5217	1.03877
Noticing if one is tense or nervous when studying or using English.	3.5085	1.13522	3.1304	1.28997
Practice using English with friends	2.2203	1.01824	3.0435	.97600
Social Strategies	2.1864	.89970	2.9565	.92826
Asking for help from teachers/ friends who are English speakers.	2.1864	.89970	2.9565	.92826

Table 4 shows the sub-strategies of language learning in reading English research articles by nursing graduate students

1) Before participating in teaching English reading strategies on the Internet

Before participating in a class of “*Strategies of Reading English Research Articles on the Internet for Graduate Nursing Students*”, students employed sub-strategies under the **indirect strategies** in English reading from low to high levels. When compared the use of each sub-strategy of language learning under the indirect strategies, this study found that students employed sub-strategies of **metacognitive strategies** as follows: “The expectancy of progress/the improvement of learning English” and “Setting a clear goal to improve English language skills.” Despite the most frequently used sub-strategies above, the least used strategy under the metacognitive domain was “Finding errors and editing the errors when using English.” The use of sub-strategies under the **affective strategies** was arranged from medium to low levels as follows: “Being worried and nervous when you are studying or using English” and “Trying to relax when you feel nervous to use English.” In contrast, the least used strategy is “Practicing using English with your friends.” Finally, the least used sub-strategy under the **social strategies** was “Asking for help from your teacher or foreign friends when using English” shown at low level.

2) After participating in teaching English reading strategies on the Internet

After participating in the class of “*Strategies of Reading English Research Articles on the Internet for Graduate Nursing Students*”, this study found that students employed 13 sub-strategies under the **indirect strategies** in language learning more than they had previously done before the class. The most frequently used sub-strategies were arranged as:

“The expectancy of progress/the improvement of learning English”, “Setting a clear goal to improve English language skills”, “Looking for a variety of opportunities to better improve English language learning”, and “Trying to relax when you feel nervous to use English.” In addition to these strategies, there are some strategies used by the students at the medium levels: “Giving an award to yourself when you can use English very well”, “Managing your time met with your requirements to study English”, “Being worried and nervous when you are studying or using English”, “Practicing using English with your friends” and “Asking for help from your teacher or foreign friends when using English.”

The results of qualitative data showed that students used metacognitive strategies for reading their English articles.

1) **Metacognitive strategies:** When they evaluated their learning, two students reported that “*They believed that they understood what they learned and they could use these strategies to search for information to conduct their research.*” In the case of one student, in order to write her thesis, she said that she needed to study more and review more so she could understand and be able to write. Moreover, she said that she “*had to practice and practice to write well.*” The other student evaluated herself and reported that she knew how

to read now and she needed to practice more, *“I can read efficiently now by using those strategies I learned. Furthermore, I had to practice a lot.”*

2) **Affective strategies:** According to one of the students, *“I enjoyed learning and feel more confident about reading English research articles and selecting information for writing in my thesis in Thai.”* A second student said that *“She feels less scared to read English than before.”* A third student said that *“I used less time to read an English paper and write what I want in Thai for my thesis. I feel more confident than before. I can tolerate my reading for English papers more. I try more.”*

3) **Social strategies:** Two students stated that they did not use these reading strategies because they did not need them or had not had a chance to use them *“...I just started to review my literatures, so I read Thai version first to gain background knowledge. After that, I will search for English papers to review.”* The other said that *“I just submitted my report, so I did not read English papers.”*

Section 3: The satisfaction of teaching strategies in reading English research articles on the Internet by graduate nursing students

The data analysis derived from the obtained questionnaires entitled “The satisfaction of teaching strategies in reading English research articles on the Internet by graduate nursing students” is shown in Table 5.

Table 5: The Satisfaction of Teaching Strategies in Reading English Articles on the Internet by Nursing Students (N=23)

Satisfaction	μ	SD
Contents	4.1304	.51970
Appropriate content for autonomous learning	4.2174	.51843
Knowledgeable contents	4.1304	.45770
Applied contents to actions	4.0435	.70571
Presentations	4.0217	.56866
Appropriate styles of presentation	4.1304	.45770
The clarity of voice/music	4.1739	.77765
Image resolution	4.0000	.73855
Appropriate formats and sizes of presented fonts	3.7826	.79524
Satisfaction	μ	SD
Technology and Communication	3.5217	.63426
Convenient access and systems	3.5652	.89575
Efficiency of voice and image signals	3.5652	.72777
Communication on Webcast conveniently with lessons, teacher, and other students	3.4348	.66237
Efficiency and effectiveness	4.1925	.46112
Cost effective	4.8261	.38755
Learn base on convenient and available time and place of students	4.6957	.47047
The internet learning and teaching is suitable	4.4.48	.58977
Student can apply what they learn to real situation	4.0870	.66831
Students were satisfied with learning and teaching via Webcast	4.0000	.79772
Student can interact with teachers and students	3.6957	.87567
Activities which were provided during learning increase students' skills are applicable to real practice	3.6087	.65638

Total	3.9666	.39069
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Table 5 shows that after the lesson, students thought that the instruction was efficient and effective due to the fact that the instruction was economical, convenient, and flexible both in timing and places to learn, appropriate application of Internet-based instruction, practical learning outcomes, satisfying learning outcomes from web cast, good interaction between learners and instructors, and learning activities facilitating practical skills.

The qualitative data analysis substantiated the findings from the quantitative analysis that students rated the instruction on reading strategies for English research paper on the Internet-based platform was efficient and effective due to the following reasons:

- The instruction was economical. Three students said that the instruction *“helped students save the expense”*,
- The instruction was convenient and flexible both in time and location. Three students said that the instruction *“was convenient for them and they learned more, as compared to a classroom instruction”, “could be learned while they (students) were working, and they could repeat the lesson”, “we (students) could review the lesson although their time was limited.”*

The application of internet-based instruction was appropriate. Four students have the following opinions: *“I really liked the instruction. I could feel like studying a long distance program”, “I agreed with this teaching method”, and “it (the instruction) provided a lifelong learning process. I would like to see more such types of instruction.”*

Students were satisfied with the learning outcomes from the Web cast. Comments from two students were *“I really liked it. It was superb!”*, *“I want this type of instruction in the future”*, and *“this type of instruction (web cast) should be used in other classes.*

Interaction between students and instructor was positive. Two students commented that *“...it was good for having someone to provide the answers. Such instruction should be held very often. It helped strengthen learners’ knowledge and experience for their future self, professional, and organizational development.”*

Students were least satisfied about the technology and the communication compared to other aspects. This satisfaction was low because on the day of instruction, there was an electricity outage so the Internet system failed. Four students commented that *“I had a problem with my hospital’s Internet system.”* Another student added that *“The Internet signal in my hospital was so poor so I needed to rerun the program. The network was lagged.”* One student commented that *“To access web cast in the second week was problematic. The Internet system did not work. It took ages for downloading.”* Another student commented that *“To post a question when the web cast was lagged. It was difficult to update the Internet (refresh) the page. Thus, an orientation should be provided before actual instruction.”* Another student replied that *“There should be an orientation before actual instruction because students would notice if there was anything wrong with his/her Internet system”*. Another problem that occurred during the instruction, some students needed to participate in another program.

DISCUSSION AND CONCLUSION

Results showed that after students' participation in the class, they applied more language learning strategies to their English reading (both direct and indirect strategies) than before. Students expressed that learning through Webcast was efficient and appropriate for them. The details of discussion are as follow.

1. The use of English language learning strategies

Graduate nursing students of STOU use all groups of language learning strategies. They use each group of learning strategies differently at various levels.

1.1 Compensation strategies

Students guess the meaning of unknown words while they are reading English research articles. They learn new vocabulary from guessing meaning while they are reading English articles intelligently, by guessing meaning from similar words, opposite words, restatement, language marks: appositive, dash, bracket, quotation, and guessing meaning from context. In addition, students search the vocabulary meaning from the google website-translation tool. Students also practice speaking skills which implies that

they are trying to overcome their limitation of language skills.

1.2 Memory strategies

Students collect and recall their memories. Students can learn more vocabularies by applying the new techniques which they were taught such as word formation and guessing meaning from context.

Some of the new techniques that the students have applied to their reading are skimming and scanning. When using the skimming techniques, the students would set the reading goals in order to catch the main issue of reading. They then consider whether articles they read, match their objectives. The skimming technique can be used by reading the article thoroughly and quickly beginning with articles title, abstract, conclusion, main topics, and subtopic respectively. The skimming techniques helped students read faster, more convenient to get the main point by not translating every word. Students also use the scanning technique. This technique can be used when students compose the questions of who, what, when, where, why, and how before their reading. With this technique, student make glances to identify only wanted points. When the students found the information they need, they would stop there and keep reading to get more details on that point.

1.3 Cognitive Strategies

After training, students avoided translating English to Thai word by word. Instead, they tried to find the meaning of unknown words by chopping them into prefix, root, and suffix. They tried to guess the meaning of unfamiliar words by using contexts. They tried to practice and use more and more language learning strategies. Moreover, students also analysed the component of research articles and used criteria to select the papers to read. It can be concluded that students used higher order thinking skills.

1.4 Affective Strategies

Students have a positive satisfaction and motivation about language learning. They find that language learning is worthwhile and they feel less anxiety in learning. This encourage them to to be more self-directed in their learning.

1.5 Social Strategies

Students used social strategies at low level. Moreover, the results of this study were different from the research done by Suthiwartnarueput and Soranastaporn, (2006). They studied language learning strategies used by graduate science students at Mahidol University, Thailand and found that students used all strategies, mostly the compensation strategy. Students also used metacognitive, cognitive, affective, and memory strategies at medium level. The results of this study were different from the research done in foreign contexts which found that undergraduate students used all types of language learning strategies in moderate levels. Foreign researchers studied the use of language learning strategies in different countries such as United States (Ehrman & Oxford, 1995), and Singapore (Wharton, 2000). For this reason graduate nursing students at the Nursing School of Sukhothai Thammathirat Open University used all types of language learning strategies at high and moderate levels but not at the highest level. The graduate students just began learning language strategies. Some did not participate in the early learning because they had to take other courses. Some had already completed the report on English article analysis. Some had to work and study this course at the same time, so they might not have had much time to use and practice language learning strategies. Moreover, language learning strategies involved many sub-strategies. The graduate students might need to take time to understand, practice, and find chances to try out those sub-strategies as much as they can in order to be familiar with and fluent in using language learning strategies.

2 The Satisfaction of Teaching Strategies in Reading English Articles on the Internet by Nursing Students

The graduate nursing students at the School of Nursing of STOU were highly satisfied with the teaching of strategies in reading English research articles on the Internet. They rated their satisfaction at the high level. The reasons might be as follows. This group of nursing students is adult learners who have their own career and family to take care of, therefore learning via the Internet is comfortable and convenient for them by saving their time in transportation and payment. While, there are technical issues, the students were still satisfied with the strategies used. Students stressed that the contents suitable for their self-study. This could be due to the well-experienced teacher. Intaya (2005) stated that the good teacher should have strong knowledge and high skill in their content and be able to integrate such knowledge to other courses.

Regarding efficiency and performance, the results show that the students were satisfied with saving cost at the highest level which is congruent with the study results of Pope (2009), who found that learning and teaching via the Internet can save time and money. Students stated that it was convenient for them and they had freedom to learn without the limitations of time and place. These results are accordance with the study of Digilio Ann H (1998), who found that the use of web in teaching can support self-study and individual study, especially adult learners because students in this age group have different knowledge background, different motivation, and different learning styles. Diaz and Carnal (1999) found that the online learners had to build learning motivation on their own rather than being persuaded by others.

Limitation of the Study

The sample size is a major limitation of the research. Theoretically, to increase or maintain reliability of the research, the sample size must be big enough and the subjects must be randomized (McMillan & Schumacher, 2001). However, these were not done in this research because the goal of this research is to only to train students who enrolled in specific subjects (thesis and independent study) and this group needs to use reading strategies to read research articles and know how to write an English abstract. Moreover, according to the

rules and regulations of the Office of Higher Education Commission, Ministry of Education, Thailand that number of teachers and students must be suitably matched i.e. one teacher per five students so the number of graduate students is small. Contextually, the initial sample size of this study was 49 but at the end of the study, there were only 23 students. Also, using the questionnaire technique to collect data from a small sample (i.e. $n < 100$) is also not appropriate as the error of measurement tends to be large. The value of Cronbach's alpha coefficient depended on the number of items and of subjects, the higher the better results (Hinkin, Tracey, & Enz, 1997). Since the sample size of this study is small, only the whole value of Cronbach's alpha coefficient of each scale was calculated. In order to increase the reliability of this study, the researchers used interview to find and collect more in-depth data.

Acknowledgements

The researchers would like to sincerely thank STOU for research funding and express deep and sincere gratitude to Associate Professor Dr. Songsri Soranastaporn for her valued teaching, and suggestions.

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