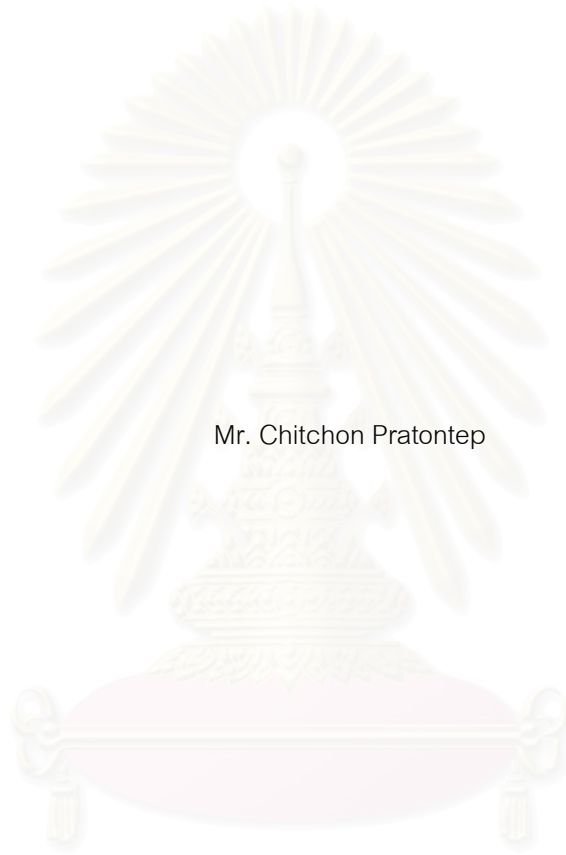


THE EFFECTS OF EXTENSIVE READING AND LEVELS OF READING PROFICIENCY  
ON THAI UNIVERSITY STUDENTS' ENGLISH READING COMPREHENSION  
USING A SELF-REGULATED LEARNING FRAMEWORK



Mr. Chitchon Pratontep

A Dissertation Submitted in Partial Fulfillment of the Requirements  
for the Degree of Doctor of Philosophy Program in English as an International Language  
(Interdisciplinary Program)

Graduate School

Chulalongkorn University

Academic Year 2007

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ผลของการอ่านภาษาอังกฤษแบบกว้างและความสามารถในการอ่าน

ต่อการอ่านภาษาอังกฤษเพื่อความเข้าใจของนิสิตนักศึกษา

โดยใช้แนวคิดการเรียนรู้แบบกำกับตนเอง



นายชิตชน ประโทนเทพ

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วิทยานิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปริญญาศิลปศาสตรดุษฎีบัณฑิต

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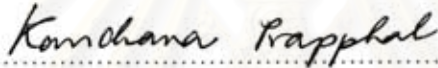
Thesis Title            The Effects of Extensive Reading and Levels of Reading  
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                                 Comprehension Using a Self-Regulated Learning Framework  
By                            Mr. Chitchon Pratontep  
Field of Study            English as an International Language  
Thesis Advisor         Assistant Professor Apasara Chinwonno, Ph.D.

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ต่อการอ่านภาษาอังกฤษเพื่อความเข้าใจของนิสิตนักศึกษาโดยใช้แนวคิดการเรียนรู้แบบกำกับตนเอง.  
(THE EFFECTS OF EXTENSIVE READING AND LEVELS OF READING PROFICIENCY  
ON THAI UNIVERSITY STUDENTS' ENGLISH READING COMPREHENSION USING A  
SELF-REGULATED LEARNING FRAMEWORK) อ. ที่ปรึกษา : ผศ. ดร. อาภัสรา ชินวรรณ,  
180 หน้า.

งานวิจัยนี้มีวัตถุประสงค์เพื่อศึกษาผลของการอ่านแบบกว้างและการเรียนแบบกำกับตนเองต่อการ  
อ่านภาษาอังกฤษเพื่อความเข้าใจของนิสิตไทยและการใช้กลวิธีกำกับตนเอง กลุ่มตัวอย่างประกอบด้วยนิสิต  
ปริญญาตรี 76 คน จำแนกเป็นสองกลุ่มคือ กลุ่มการอ่านแบบกว้างที่ใช้การเรียนรู้แบบกำกับตนเอง (n=38)  
และกลุ่มการอ่านแบบกว้างแบบเดี่ยว (n=38) จากนั้นใช้คะแนนทดสอบการอ่านภาษาอังกฤษเพื่อความ  
เข้าใจจัดกลุ่มย่อย มีนิสิตที่มีความสามารถทางการอ่านสูง 14 คน และนิสิตที่มีความสามารถทางการอ่านต่ำ 15  
คน นิสิตทั้งสองกลุ่มได้อ่านแบบกว้างเป็นระยะเวลา 10 สัปดาห์ แต่นิสิตในกลุ่มการอ่านแบบกว้างที่ใช้การ  
เรียนแบบกำกับตนเองได้เรียนกลวิธีกำกับตนเองด้วย ข้อมูลเชิงปริมาณได้มาจากการประเมินแบบทดสอบการ  
อ่านภาษาอังกฤษเพื่อความเข้าใจก่อนและหลังการทดลอง และนำคะแนนมาทดสอบหาค่าความแตกต่าง  
ข้อมูลเชิงคุณภาพได้มาจากการสอบถามการเรียนรู้แบบกำกับตนเองและการสัมภาษณ์โดยใช้สถานการณ์  
จำลองการเรียนรู้แบบกำกับตนเองเพื่อศึกษาสมรรถภาพในการใช้กลวิธีการกำกับตนเอง นอกจากนี้ข้อมูลจาก  
การรายงานความคิดด้วยวาจาและแฟ้มผลงานการอ่านได้นำมาเพื่อศึกษาการใช้กลวิธีการเรียนแบบกำกับตนเอง  
ในชั้นปฏิบัติ

จากผลการทดลองพบว่าคะแนนแบบทดสอบการอ่านภาษาอังกฤษเพื่อความเข้าใจก่อนและหลังการ  
ทดลองของกลุ่มการอ่านแบบกว้างที่ใช้การเรียนรู้แบบกำกับตนเองเพิ่มขึ้นอย่างมีนัยสำคัญ ( $p < .05$ ) และเมื่อ  
เปรียบเทียบคะแนนแบบทดสอบการอ่านภาษาอังกฤษเพื่อความเข้าใจก่อนและหลังการทดลอง ของนิสิตใน  
กลุ่มที่มีความสามารถทางการอ่านสูงและต่ำก็พบว่าเพิ่มขึ้นอย่างมีนัยสำคัญเช่นกัน ( $p < .05$ ) อย่างไรก็ตามเมื่อ  
นำคะแนนแบบทดสอบการอ่านภาษาอังกฤษเพื่อความเข้าใจหลังการทดลองของกลุ่มการอ่านแบบกว้างที่ใช้  
การเรียนรู้แบบกำกับตนเอง และกลุ่มอ่านแบบกว้างแบบเดี่ยวพบว่าไม่มีความแตกต่าง อย่างมีนัยสำคัญ จาก  
การศึกษาสมรรถภาพในการใช้กลวิธีกำกับตนเองพบที่นิสิตใช้กลวิธีกำกับตนเอง เพื่อควบคุมองค์ประกอบ  
ทั้งสามของการเรียนแบบกำกับตนเองซึ่งได้แก่ การควบคุมอภิปราย การควบคุมพฤติกรรมเรียน และ  
การควบคุมสภาพแวดล้อมในการเรียน กลวิธีกำกับตนเองที่นิสิตใช้ได้แก่ การตั้งเป้าหมายการเรียน การ  
จัดการสภาพแวดล้อม และการแสดงผลลัพธ์ในการเรียนด้วยตนเอง จากการศึกษาการใช้กลวิธีการกำกับตนเอง  
เองในชั้นปฏิบัติโดยใช้ข้อมูลจากการรายงานความคิดด้วยวาจาและแฟ้มผลงาน การอ่านพบว่านิสิตใช้กลวิธี  
กำกับตนเองในบางขั้นตอนการกำกับตนเอง ได้แก่ การวางแผน การตรวจสอบตนเอง และการแสดงปฏิกิริยา  
ผลการทดลองชี้ว่าการอ่านแบบกว้างควรปฏิบัติอย่างต่อเนื่องเป็นระยะเวลานาน จัดการสิ่งแวดล้อมให้เอื้อ  
ต่อการอ่านหนังสือเพื่อส่งเสริมให้นิสิตอ่านแบบกว้าง นอกจากนี้ควรจะสอนกลวิธีกำกับตนเองให้นิสิตอย่าง  
ชัดเจน

สาขาวิชา ภาษาอังกฤษเป็นภาษานานาชาติ

ลายมือชื่อนิสิต..... 

ปีการศึกษา 2550

ลายมือชื่ออาจารย์ที่ปรึกษา..... 

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 KEY WORD: EXTENSIVE READING / SELF-REGULATED LEARNING /  
 ENGLISH READING COMPREHENSION


CHITCHON PRATONTEP: THE EFFECTS OF EXTENSIVE READING  
 AND LEVELS OF READING PROFICIENCY ON THAI UNIVERSITY  
 STUDENTS' ENGLISH READING COMPREHENSION USING A SELF-  
 REGULATED LEARNING FRAMEWORK. THESIS ADVISOR: ASST.  
 PROF. APASARA CHINWONNO, PH.D., 180 pp.

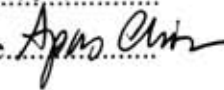
This study explores the impact of extensive reading instruction with the integration of self-regulated learning framework (ERSL) on Thai university students' English reading comprehension and the use of self-regulated learning strategies. The participants were 76 undergraduate students divided into two groups. They were randomly assigned to the two treatments: ERSRL (n=38), and a regular extensive reading instruction (n=38). From the English reading comprehension pre-test scores, fourteen students were classified as the high English reading comprehension groups and fifteen as the low English reading comprehension groups. Over 10 weeks, extensive reading instruction was introduced to both ERSRL and ER groups, but the ERSRL students were also taught self-regulated learning strategies. For the quantitative data, the English reading comprehension pre- and post-test scores were compared using dependent and independent samples t-test. For qualitative data, self-regulated learning strategies questionnaire and self-regulated learning interview schedule were used to observe an aptitude property of self-regulated learning. Verbal protocols of reading and reading portfolios were used to study an event property of self-regulated learning.

The findings show that the English reading comprehension pre- and post-test mean scores of ERSRL differed significantly ( $p < .05$ ). There was also significant difference ( $p < .05$ ) in the English reading comprehension pre- and post-test mean scores of the high and low reading comprehension groups. However, the comparisons of the English reading comprehension post-test mean scores between ERSRL and ER high reading comprehension groups, and between ERSRL and ER low reading comprehension groups were not significantly different. For self-regulated learning strategies, the aptitude measurement revealed that both high and low reading comprehension groups employed most strategies in all three categories of self-regulation—metacognitive regulation, performance regulation, and learning environment regulation. The strategies that they relied on the most were goal-setting, environment structuring, and self-consequences. For an event property, the data from verbal protocols of reading and reading portfolios show that both high and low reading comprehension groups used only some of the strategies while reading in all three stages—planning, self-monitoring, and self-reacting stages. The findings suggest that extensive reading instruction be maintained over a long period of time and a positive reading environment be provided to students to encourage extensive reading. Self-regulated learning strategies should be explicitly taught to EFL students.

Field of study English as an International Language

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Student's signature.....

Advisor's signature.....

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สถาบันวิทยบริการ  
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# CHAPTER I

## INTRODUCTION

### 1.1. Background of the study

In Thailand, it is believed that reading has not been an integral part of the culture until recently (Eoseewong, 2006). The National Statistical Office survey (2005) reveals that 30.9 percent of Thais or approximately 18 million people do not read because they dislike reading or they prefer to watch television. This reflects that a number of Thais are not likely to find reading pleasurable in their own language. Similarly, they are not likely to find reading in English pleasurable (Morrow & Gambrell, 2000). Komindr (2002) states that Thai students do not have good reading habits nor do they read well in English. Thai students' average EFL reading comprehension ability is often found to be at a low level. Educational Testing Service (2007) reports that the 2005-2006 Computer-Based TOEFL (CBT) mean score of Thai students was only 200. This indicates that Thai students' English proficiency may be below the effective operational proficiency level according to the Common European Framework Reference (Educational Testing Service, 2004). The study by Prapphal and Opanon-amata (2002) also found that Thai students scored below 500 on Chulalongkorn University Test of English Proficiency (CU-TEP) as equated to the Paper-Based TOEFL (PBT) score. Since L2 language proficiency may account for 30 percent of variances in second language reading abilities (Bernhardt, 2005), Thai students may experience frustration reading English.

Poor reading ability may impede the students from achieving comprehension. Readers at a low level of reading abilities require more effort and attention to the decoding process leaving only a fraction of resources to monitor their strategy use (Hudson, 2007). They tend to concentrate more on the word level (Schoonen, Hustijn & Bossers, 1998; Rosenshine, 1980). Furthermore, they may not recognize reading problems and insist on adopting a single interpretation of texts (Hudson, 2007; Jimenez, Garcia & Pearson, 1996; Block, 1992; Brown, Armbruster & Baker 1986). Consequently, readers at a low level of reading abilities consider reading a tedious assignment or an arduous process demanding hard work and tremendous efforts. Nuttall (1996) depicts the vicious cycle readers at a low level of reading abilities face. Because these readers do not enjoy reading, they rarely read, and their decoding skills

remain weak. As a result, they read slowly, cannot understand texts, and hence, do not find reading pleasurable. It is important to find ways to help these poor readers break this cycle.

However, EFL reading instruction in Thailand primarily focuses on detailed studies of vocabulary and comprehension (Komindr, 2002), but many reading researchers argue that this intensive reading instruction may not be sufficient for EFL students (Day & Bamford, 1998; Grabe, 2002; Coady, 1997; Nuttall, 1996). Eskey (1987) recommends that people learn to read by reading. Krashen (2004) further explains that EFL students need to gain exposure to a large amount of comprehensible input to improve their reading comprehension. Therefore, an approach to reading instruction that can address this issue is to read extensively.

Extensive reading is essential for English as a foreign language (EFL) students since it helps make reading more meaningful and engaging (Nassaji, 2003). Several reading experts support the practice of extensive reading (Weaver, 1980; Nuttall, 1996; Carrell & Carson, 1997; Coady, 1997; Grabe & Stoller, 2001; Eskey, 2002; Carnine, Silbert, Kame'enui & Tarver, 2004). They agree that although this may not necessarily generate the highest level of competence, it is an indispensable component of reading instruction, which will pave the way for higher levels of language proficiency.

## **1.2. Statement of the problems**

Extensive reading (ER) is an approach to teaching reading in which students are exposed to a large amount of reading materials. The purpose of reading is to gain comprehension, and learning should be pleasurable. The ultimate goal of ER is to give students an opportunity to read in a second language and become avid readers (Day & Bamford, 1998). ER may lead to gains in vocabulary knowledge (Coady, 1997; Cho & Krashen, 1994; Nation, 1997; Nation & Ming-tzu, 1999), and reading speed and ability (Mason & Krashen, 1997). In addition, a positive attitude may develop towards reading (Mason & Krashen, 1997; Day & Bamford, 1998; Takase, 2001).

In ER, the aims of reading are primarily pleasure and general understanding. The amount of reading must be considerable to provide sufficient exposure to language, which promotes language acquisition and reading fluency. Reading



materials should be within students' linguistic competence, and students must be able to choose any books they want to read. The goal can be the number of words, pages, or books read. The post-reading activities should be of low accountability. Grades or rewards should not be offered for students' reading since they have proven to be ineffective in promoting reading achievement or positive motivation to read. Students may be asked to keep a record of time and the amount of reading done, or a short summary of a book or a part of it that they have read (Susser & Robb, 1990; Lai, 1993; Mason & Krashen, 1997; Day & Bamford, 1998; Renandya, Rajan & Jacobs, 1999; Lao & Krashen, 2000; McQuillan, 2001; Robb, 2001; Prowse, 2002; Shue, 2003).

The teacher acts as a counselor who encourages and helps students with their reading by conferencing with students during or after class time, and by checking progress and commenting on students' written summaries. More importantly, the teacher has to be a model reader for students. The teacher can read aloud to the class or sit and read while students read silently (Susser & Robb, 1990; Ping-ha & Chi-ting, 2000; Robb, 2001; Dawson, 2002). The effectiveness of ER also attributes to students' attitudes and contributions. Students are responsible for their own reading to the extent that they must choose materials at an appropriate level and must learn to be conscientious in regularly completing assigned reading tasks (Robb, 2001).

However, becoming proficient in second language reading is not a simple task. Bernhardt (2005) proposes that first language literacy and second language knowledge only contribute to 50 percent of reading performance in a second language. Other unexplained variables may be comprehension strategies, interest, motivation, engagement, and content knowledge. Therefore, simply being exposed to reading texts may not be sufficient to improve reading in a second language.

Moreover, there are problems in implementing ER. Each culture has its own views of what reading is, and why and how it is done. Day and Bamford (2000) caution that introducing ER in a non-reading culture, or in one that does not attach importance to reading for pleasure, makes the task of EFL reading teachers more complex. Also, because ER occurs most of the time outside of the classroom, EFL students may not have the discipline to maintain the regular habit of reading. Even in Japan, a country renowned for its reading culture, Robb (2002) implemented ER in

Japan and experienced some difficulties. The students were not disciplined to do their reading regularly unless there was a carefully planned tracking activity to encourage reading. It was more likely that they read to fulfill the requirements of the course, not for the joy of reading. In Thailand, since a number of Thai students may not like to read (National Statistical Office, 2005; Komindr, 2002), ER may not be well-received. Accordingly, these obstacles must be overcome to implement ER in Thailand.

There should be another critical component to keeping students motivated to read. Baker (2002) advises that independent reading is not sufficient. She asserts that students need metacognitive strategies, specifically in knowing how to regulate their cognition. In a similar view, Brown (2002) supports the teaching of self-regulation to improve reading comprehension since poor readers cannot make use of different strategies, and they need to be taught how to effectively use these strategies. Self-regulation may provide the accountability ER lacks while still maintaining the pleasurable component of ER.

Self-regulated learning is viewed by social cognitive theorists as a process in which individuals are metacognitively, motivationally, and behaviorally active participants in their learning process (Bandura, 1986). This involves an interdependent interaction among *person*, *environment*, and *behavior*. Each component interacts with the other to modify or change behaviors so that a learning goal can be reached (Bandura, 1986).

Students who have to study independently most of the time in a university can learn to be self-regulated. If they can control themselves, they will be able to adapt to the academic demands of the university. In actuality, only a few students in every classroom are good at regulating their own behavior (Pintrich, 1995). Most students need support and opportunities to develop the cornerstones of self-regulated learning. Therefore, the development of self-regulated learning should be an integral part of meaningful learning in the classroom (Schunk & Zimmerman, 1994).

Zimmerman (1998, 2000) has proposed the self-regulated learning process which includes three cyclical phases: 1) forethought—a planning process which precedes and influences performance, 2) performance or volitional control—a control process which occurs during the performance, and 3) self-reflection—an evaluating

process which occurs after the performance and influences the forethought phase of subsequent performance. Horner (2002) suggests the integration of self-regulated learning to reading pedagogy. Poor readers can learn to become more proactive and observant of their reading. The self-regulated reading process comprises two major components—goal-setting and self-evaluation, which are similar to the self-regulated learning process proposed by Zimmerman (1998, 2000). This interactive process will improve reading comprehension after a careful practice.

With the combination of ER and self-regulated learning, students should be able to enjoy reading independently and effectively. Through ER, students can read faster, develop vocabulary knowledge, and gain better reading comprehension. In self-regulated learning, reading comprehension can also be enhanced. Students who are self-regulated are proactive and pay attention to their learning process and outcomes. For example, they set goals that are short-term, specific, and attainable; they carefully monitor their reading comprehension; and they self-evaluate progress towards their goals.

In this study, the characteristics of ER have been adopted. Students read plenty of materials of their own choice in a variety of genres inside and outside of the classroom. The purpose of reading was for pleasure and general comprehension. Students had access to books within their linguistic competence and silently read at their own pace and time. After finishing their reading each week, students wrote a brief summary of what they read and gave personal reflections.

In addition to these common traits of ER, the learning process was guided by the embedded self-regulated learning framework, which includes planning, self-monitoring, and self-reacting. At the beginning of each week, students set a short-term goal and planned how to achieve it. Although students read rapidly and focused their attention on meaning, they kept records of problems or solutions while reading. After finishing reading, they evaluated their comprehension and learning strategies. In the last phase, students reflected on their problems and solutions, and used the information they had gathered to guide their learning in the following week.

The goal of investigating the effects of extensive reading instruction with the incorporation of self-regulated learning framework (ERSRL) is more than just better reading competence. It is inconceivable that weak readers will miraculously become

advanced readers in only one semester. The possible results are that they may, for the first time, get pleasure from reading and continue to read more on their own.

Eventually, these poor readers will not only read and enjoy it, but they will know how to read well.

### **1.3. Research questions**

This study addresses the following research questions:

1. To what extent does ERSRL improve English reading comprehension of Thai university students?
  - 1.1. To what extent does ERSRL improve English reading comprehension of students at a **high level** of reading comprehension?
  - 1.2. To what extent does ERSRL improve English reading comprehension of students at a **low level** of reading comprehension?
2. What are self-regulated learning strategies used by Thai university students at high and low levels of English reading comprehension while participating in ERSRL?

### **1.4. Objectives of the study**

The objectives of this study are the following:

1. To develop extensive reading instruction with the incorporation of self-regulated learning framework (ERSRL) for Thai university students.
2. To study the effects of ERSRL on English reading comprehension scores of Thai university students at high and low levels of English reading comprehension.
3. To explore the use of self-regulated learning strategies of Thai university students at high and low levels of English reading comprehension in ERSRL.

### **1.5. Statement of hypotheses**

The hypotheses of this study are as follows:

1. The English reading comprehension post-test mean scores of high reading comprehension students in ERSRL will be significantly higher than the English reading comprehension pre-test mean scores.

2. High reading comprehension students in ERSRL will have significantly higher English reading comprehension post-test mean scores than those of high reading comprehension students in ER at the significance level of 0.05
3. The English reading comprehension post-test mean scores of low reading comprehension students in ERSRL will be significantly higher than the English reading comprehension pre-test mean scores.
4. Low reading comprehension students in ERSRL will have significantly higher English reading comprehension post-test mean scores than those of low reading comprehension students in ER at the significance level of 0.05

### **1.6. Scope of the study**

1. The population in this study was English as a foreign language students from the Faculty of Commerce and Accountancy in a Thai university. The samples were 76 first year students from the business management major.
2. The data were collected from the following research instruments and methods: the English reading comprehension pre- and post-tests, self-regulated learning strategies questionnaire, self-regulated learning interview schedule, verbal protocols of reading, and reading portfolios.
3. The data analysis methods include: descriptive statistics, independent samples t-test, dependent samples t-test, verbal protocol analysis, and content analysis.

### **1.7. Delimitations**

This study attempts to develop extensive reading instruction with the incorporation of self-regulated learning for Thai university students. The relationship between extensive reading and self-regulated learning was studied by means of reading comprehension. Reading rate was not considered as reading comprehension should be adequate in determining students' reading abilities. Students' vocabulary knowledge was not assessed because even though gain in vocabulary in one semester through extensive reading may be retained, the amount of vocabulary students acquired may not be significantly different. Furthermore, the effects of extensive reading on writing abilities was not explored in this study as there was not any explicit writing instruction involved.

### **1.8. Assumption of the study**

In the present study, students provided self-report responses to three research instruments—the self-regulated learning strategies questionnaire, self-regulated learning interview schedule, and reading portfolio. It was assumed that the students' self-report responses could be accountable for self-regulated learning strategies which they employed.

### **1.9. Limitations**

The current study has been carefully designed to optimize the internal and external validity, but this is not without any limitations. After data collection and analysis, three areas of limitation have emerged and should be considered when interpreting the findings from this study.

*Sample size* – Since this research was conducted in a classroom setting, the sample size was small. In the beginning, there were 38 students in each treatment group—ERSRL (n=38) and ER (n=38)—comprising 76 students. In each treatment group, there were 14 students in the high English reading comprehension group and 15 in the low English reading comprehension group. Therefore, with limited samples, the generalizability of the findings should be interpreted with caution and may extend only to this immediate population.

*Research design* – This study employed the pre-test post-test quasi-experimental design since students were already assigned to their sections, and it was not possible to randomly select the samples out of the population. Two groups were randomly assigned to the ERSRL and ER groups.

*Self-report data* – Data from the self-regulated learning strategies questionnaire, self-regulated learning interview schedule, and reading portfolios were self-reported by students. The researcher had to rely on this data since it was not possible to directly observe the process students used. Self-report data provide one way to access this area of cognition, but there is a possibility that students may not implement these strategies in an actual setting. Social desirability response bias may have influenced students' responses. Thus, data from the self-regulated learning strategies questionnaire, self-regulated learning strategies interview schedule, and

reading portfolios should be viewed as a prediction of the actual self-regulated learning strategies use.

*Roles of other English instruction and input* – While participating in these treatments, students also enrolled in a foundation level English course which aims at developing listening, speaking, reading, and writing skills in English. Thus, students were also exposed to other types of input besides through extensive reading which may help improve English reading skills.

### **1.10. Definition of terms**

**Extensive reading instruction** is an intervention to enhance reading comprehension and fluency. The focus of extensive reading instruction is not on language or reading skill studies but on comprehension and reading enjoyment. Students are exposed to a large amount of comprehensible input (Krashen, 2003) through reading English graded readers or authentic books. The post-reading task is minimal and mainly consists of a brief summary to keep records of students' reading.

**Self-regulated learning** is a cyclical learning process which uses the feedback from prior performance to make adjustments during current efforts to attain personal goals. Self-regulated learning includes two components (Winne & Perry, 2000).

First, an aptitude property is the cognition or motivation that will be involved in a learning activity. It involves the interdependent regulation of three categories: metacognitive, performance, and learning environment regulation. The three categories interact and influence the other's regulation. They are constantly changing during the course of learning and performance and must be regulated.

The other component is an event or the process of cognition in actual learning performance. The self-regulated learning process involves three phases: 1) planning—the planning process which influences the regulation of performance, 2) self-monitoring—the regulating and monitoring process while performing a learning task, and 3) self-reacting—an evaluating process which identifies attributions to success and failure, and influences the planning phase of subsequent performance.

**Self-regulated learning strategies** are defined as actions and processes directed at acquiring skills or information (Zimmerman, 1989). Fifteen strategies

cover the regulation of three categories. Strategies related to the metacognitive regulation category include Goal Setting and Planning, Organizing and Transforming, Keeping Records and Monitoring, and Rehearsing and Memorizing. Strategies for the performance regulation category include Self-Evaluation and Self-Consequences. Strategies for the learning environment regulation category include Environmental Structuring, Seeking Information, Reviewing Notes, Test, or Textbooks, Seeking Social Assistance from Peers, Teachers, and Adults, and Other Persons' Initiations.

**Extensive reading instruction with the incorporation of self-regulated learning (ERSRL)** is an approach to improve reading comprehension and to promote proactive learning. Through exposure to reading texts of high interest and at an appropriate language level, students gain better comprehension. With the incorporation of self-regulated learning framework, students learn to plan, monitor, and react appropriately to enhance performance to meet their goals in extensive reading instruction.

**English reading comprehension** refers to the ability to read English texts and understand the main ideas and important details. This will be measured by the reading comprehension sub-test of Chulalongkorn University Test of English Proficiency (CU-TEP). The test questions measure different aspects of reading comprehension such as locating main idea, determining word meaning, and making inferences.

**Thai university students at a high reading comprehension level** refers to fourteen Thai university students majoring in business management whose English reading comprehension pre-test scores were  $+ .3SD$  above the mean score in this study.

**Thai university students at a low reading comprehension level** refers to fifteen Thai university students majoring in business management whose English reading comprehension pre-test scores were  $- .3SD$  below the mean score in this study.

### **1.11. Significance of the study**

This study aims to develop and evaluate extensive reading instruction with the incorporation of self-regulated learning in Thailand. The results from this study have a potential to make a number of contributions to extensive reading instruction, a practice which is crucial to develop fluent and competent readers but often neglected



in classroom practice. The inclusion of self-regulated learning as another component of extensive reading illustrates the complementary effects these two elements have for each other. Students may not always learn to be fluent and effective readers simply by reading a large amount of books. Self-regulated learning can provide a suitable guideline and an appropriate amount of control for each student without making reading unpleasant.

In addition to the contribution to extensive reading instruction, this study also has a pedagogical purpose. It provides an insight into the nature of extensive reading instruction. Students' reflections towards the instruction will be valuable information for any teacher who wishes to implement extensive reading instruction in Thailand. The progress students make in reading comprehension and the use of self-regulated learning strategies are expected to foster life long readers, the ultimate goal of all reading teachers.

### **1.12. An overview of the study**

This study aims to explore the impacts of ERSRL on Thai university students' English reading comprehension and the use of self-regulated learning strategies. This chapter presents the background and statement of the problems. Research questions and objectives address the problems in the areas of extensive reading and self-regulated learning. The scope, delimitations, assumption of the study, limitations, definitions of terms, and significance of the study have been explained.

Chapter 2 reviews the literature related to: extensive reading, self-regulated learning, reading proficiency, and think-aloud technique.

Chapter 3 elaborates on research methodology. It explains the research design, population and sample, research instruments, instructional instruments, instrument validation, data collection and analyses.

Chapter 4 reports the findings of the two research questions. Both quantitative and qualitative data are presented.

Chapter 5 starts with a summary of the study. Findings are discussed followed by pedagogical implications for students and reading educators. The chapter ends with recommendations for future research.

## **CHAPTER II**

### **LITERATURE REVIEW**

This part of the study will explore the construct that is the focus of this study—extensive reading and self-regulated learning. First, a general description and characteristics of extensive reading in first and second language are described. The benefits of extensive reading are explained with a review of empirical. Then, the characteristics of self-regulated learning are listed followed by the measurements of self-regulated learning. The importance of self-regulated learning is then elaborated through empirical studies that investigate the role of self-regulated learning on language teaching. Finally, reading proficiency and think-aloud technique are explored.

#### **2.1. First language extensive reading**

In the context of first language pedagogy, reading instruction which resembles the principles of extensive reading is sustained silent reading (SSR). This type of reading instruction also has many names. Some call it SSR for short, others call it DEAR (Drop Everything and Read), or DIRT (Daily Independent Reading Time) (Hopkins, 1997). All of these programs share the same basic principles.

SSR grew out of a concern for students' reading achievement. Allington (2002) found that in typical elementary classrooms, students spent as little as ten percent of their day reading. In some fifth grade classrooms, 90 percent of the students were found to spend less than four minutes or less of their school day reading. Many elementary classrooms were found to have only twenty minutes of reading per school day (Knapp, 1995 cited in Allington, 2002).

Moreover, the program is based on the belief that self-selection motivates students to read with interest, and the extended period of practice improves their reading achievement (Nagy, Campenni & Shaw, 2002). Another important element of SSR is modeling. Nagy, Campenni and Shaw (2002) described the early practice of SSR in which students, teachers, administrators, secretaries, and maintenance staff would all stop what they were doing and read at the same time as a school community. Therefore, the message to the students is that even adults believe that reading is important.

### **2.1.1. Characteristics of first language extensive reading**

Hopkins (1997) defines SSR as a period of time set aside by the teacher to have students participate in independent reading. The time is usually anywhere between ten to thirty minutes depending on grade level and reading ability.

There are many purposes to SSR:

1. Most school reading is assigned reading. SSR offers students an opportunity to read material of their own choice.
2. During SSR time, many students learn that they can use their word attack skills to figure out new words on their own.
3. SSR can build students' confidence in their abilities to work through reading trouble spots.
4. Many studies of whole-class groups and of select groups of unmotivated readers show that SSR can result in students wanting to read more.
5. The amount of time that students spend reading independently outside of school often increases as a result of SSR, parents report. Often children ask for books to read at home.
6. SSR can be one more element in a reading program aimed at demonstrating the joy that reading can bring and developing lifelong readers and learners (Hopkins, 1997, p. 1).

According to Hopkins (1997) sustained silent reading takes different forms in different schools. In some schools the entire school will stop what they are doing and all read independently at the same time. In other schools, where SSR may not be supported school wide, teachers incorporate SSR into their classroom program. Ultimately the thrust of SSR program is for students to see that the pleasure of reading is valuable.

Cunningham and Allington (1999) recommend that second and third graders should spend at least 20-30 minutes each day reading from materials they have chosen. They further suggest that reading should be the only activity during this time and that the amount of time should be consistent and regular. To make sure that students are spending independent reading time in actual reading, the time prior to sustained silent reading should be set aside for selecting reading material (Moore, Jones & Miller, 1980).

A study by Kragler and Nolley (1996) found that when students were given the opportunity for self-selection of independent reading materials, 62 percent chose books at their independent reading level. Allington (1997) comments that readers need the opportunity to be placed in materials they can read fluently in order to develop fluent and rapid oral reading. Hoyt (2000) recommends that emergent readers need independent reading time to handle books, make stories from the pictures, and be treated as fully engaged readers. They might enjoy reading a book together, talking about a book, or even acting out a story that has been read to them earlier (Routman, 1991).

Nonetheless, many teachers choose not to allow students to select their own books. Nagy, Campenni and Shaw (2000) found that in a study of 96 teachers, 69% restricted what students read in some fashion. Atwell (1987) required her students to read a book, no magazines or newspapers. This practice was found to be useful by both Atwell (1987) and Burden (1994) as a way to engage students in reading materials that they may not have otherwise chosen. They found that when students read magazines or newspapers they did what many of us do, scan the headlines or photographs rather than actually read the articles.

### **2.1.2. Research in first language extensive reading**

In first language reading, reading extensively has proven to bring about improvement on students' reading abilities. Hoyt (2000) claims that research is very clear about the importance of SSR and that teachers need to provide substantial time for SSR everyday. Greaney (1980) found that after studying 920 fifth graders, the amount of time spent reading was positively related to reading achievement. A study by Anderson, Wilson & Fielding (1988) found that time spent reading books was the best predictor of reading achievement in second through fifth grade students. Taylor, Frye & Maruyama (1990) reported that their study of 195 fifth and sixth grade students supported the theory that time spent reading at school was significantly related to gains in students' reading achievement. Warwick (1992) found that students who voluntarily read were stronger readers and had higher achievement scores in the United States than students who did not volunteer to read on their own time. Topping and Paul (1999) also reported on a study conducted in New York. The findings showed that the biggest difference between high and low performing schools was the

large amount of silent reading done in the high performing schools.

In the study of SSR in a high school English class, Burden (1994) found that through the use of SSR in the classroom, students increased SSR time and willingness to read. She also found that students increased their visits to the library to seek out new books, and most students had a growth in their self-confidence. While Burden (1994) found that her students were reading more, practicing SSR has been shown to actually increase reading rate even among college age students, implying that students not only just read more because of participation in SSR but they also read faster (Dwyer & West, 1994).

A study by Gaskins (1998) found that when students who were reading two to five years below grade level were placed in a reading program designed to provide lots of reading time, they gained two or more years in reading levels during the two years they were in the program. These students were also achieving at or above the mean on standardized achievement tests. Another study by Manning and Manning (1984) compared a sustained silent reading model to that of a control group where no organized silent reading program was conducted. The results indicated that an organized silent reading program made a difference in the reading achievement and attitudes of students.

Nonetheless, the most notable drawback to SSR is that many reluctant readers do not utilize this time to actually read, especially if the SSR program is not graded. Maguiness (1999) found that many reluctant readers blamed their lack of reading on outside influences rather than taking responsibility for their own learning and reading. While looking at his high school classes, Meyers (1998) established that only 60% of his high school students reported reading most of the time during the time allotted for SSR. Burden (1994) discovered that many of her reluctant readers lacked the motivation to read, and by the end of the study, still held negative attitudes towards reading.

Hoyt (2000) found that students may not read because they were reading books at the wrong level, were unmotivated to read, or had learning disabilities. Methods needed to be developed to insure students were actually practicing reading text and getting the most from the practice time provided in class. Lessons should teach students how to choose a book that will keep them interested, what happens during independent reading time, and how students can employ reading strategies to

help them become better readers.

Truscott (1996) found that students were more likely to persist in challenging tasks if they know how to use a wide variety of reading strategies. Moore, Jones & Miller (1980) believed that the teacher should be required to read during the silent independent reading time and to end the time by reacting to what he / she reads.

Another disadvantage to SSR is that many teachers find it difficult to manage the program. Teachers feel that they must give grades; otherwise their students will not participate (Burden, 1994; Hopkins, 1997; Nagy, Campenni & Shaw, 2000). By the end of the second year of Maguiness' study (1999), teachers were very frustrated with their SSR program because they felt as if they were spending too much time managing the program and not enough time modeling good reaching techniques for their students.

## **2.2. Second language extensive reading**

Extensive reading has received growing attention in the field of second language pedagogy. Many reading experts have supported the practice of extensive reading. Weaver (1980) recommended that extensive reading be one component of any reading program from kindergarten through high school and beyond. Nuttall (1996) rationalizes that people learn to read by reading and emphasized the importance of extensive reading by claiming that, besides living among speakers of that language, reading extensively is the best way to improve foreign language. She further clarifies that extensive reading is not an opposition of intensive reading but an essential complement.

Carrell & Carson (1997) concurred and insisted that intensive reading by itself is insufficient and extensive reading is needed to prepare EAP students in handling reading demands of academic classes. Coady (1997) also asserted that extensive reading can help learners incidentally acquire the basic 3,000 word families. Grabe & Stoller (2001) supported that extensive reading should be a central component of any academic reading course. Eskey (2002) viewed that students need to be engaged in extensive reading behavior before developing other reading skills. Carnine, Silbert, Kame'enui & Tarver (2004) strongly recommended that a program which allows students to reading books and other materials outside of the classroom be established.

In the first part of a review of extensive reading, definitions and characteristics

of this reading approach will be explored. The other part lists research in extensive reading studying the benefits and impacts extensive reading can lead to.

### 2.2.1. Characteristics of second language extensive reading

Extensive reading has been defined and characterized by many experts. Palmer (1921, 1964 in Day & Bamford, 1998) first coined the term extensive reading for rapid reading of several books with a reader's attention on comprehension not language study. In fact, texts are used for language teaching but because the main focus is on comprehension, the language learning takes place in a pleasurable and meaningful way.

Recently, Jacobs, Davis & Renandya (1997) and Carrell & Carson (1997) both gave similar explanation of extensive reading as reading of great quantity of material for pleasure and information without explicit or intensive instruction.

Welch (1998) used information in Table 2.1 to explain the features of extensive reading and intensive reading. While in extensive reading, readers rapidly read several easy materials for pleasure and comprehension, readers in intensive reading approach slowly read few difficult texts to study linguistic structure. Day & Bamford (1998) has extended the definition to the area of language teaching, identifying ER as not just styles or ways of reading but an approach to second language reading instruction.

**Table 2.1 The distinctive features of extensive and intensive reading**

<b>Extensive</b>	<b>Reading</b>	<b>Intensive</b>
General understanding and enjoyment	<b>Purpose</b>	Language study
Easy (graded readers)	<b>Level</b>	Often difficult (material for native speakers)
A lot	<b>Amount</b>	Not much
Fast and fluently	<b>Speed</b>	Slow

Evidently, all experts share some common ground in their definitions of extensive reading. Two major aspects are unanimously stressed. It is the type of reading that requires a large amount of reading and readers should pay their attention to general understanding of stories or texts.

Although the definitions of extensive reading seem to have some similarities, in practice, it poses many difficulties and vagueness. The amount of reading needed to be called extensive is hard to pinpoint (Day & Bamford, 1998). Teachers may randomly assign a few pages a week up to several hundred pages for the whole semester. Another doubt teachers have is how to implement and evaluate such an unconventional learning. Many teachers may find it frustrating in trying to arrange the program and gauge at students' progress from reading. As a result of these problems, more detailed characteristics of extensive reading have emerged.

Susser & Robb (1990) provided five characteristics of extensive reading. Reading must be of large quantities for general comprehension. The goal is not to analyze texts but to gain pleasure from reading them, and students should be allowed to choose their own texts. Most importantly, books should not be required for class discussion. Kembo (1993) added that students should be able to freely choose their reading materials and read independently inside and outside of the classroom.

Day & Bamford (1998) identified characteristics of a successful extensive reading program. First students should read plenty of materials of their own choice in a variety of topics inside and outside of the classroom. The purpose of reading is for pleasure and general understanding with few or no exercises. Students should have access to books within their linguistic competence and silently, rapidly read at their own pace and time. Teachers need to explain the methodology, monitor, guide, and be a role model for the students (see Figure 2.1).

Other researchers have largely agreed to this with some other variations. Jacobs, Davis & Renandya (1997) accentuated that extensive reading should be a regular part of the curriculum, not an extra activity done whenever time allows. Prowse (2002) suggested that the use of recordings be included to increase sound-symbol correspondence and reading speed.



- (1) *Students read as much as possible*, perhaps in and definitely out of the classroom.
- (2) *A variety of materials on a wide range of topics is available* so as to encourage reading for different reasons and in different ways.
- (3) *Students select what they want to read* and have the freedom to stop reading material that fails to interest them.
- (4) *The purposes of reading are usually related to pleasure, information and general understanding.* These purposes are determined by the nature of the material and the interests of the student.
- (5) *Reading is its own reward.* There are few or no follow-up exercises to be completed after reading.
- (6) *Reading materials are well within the linguistic competence of the students* in terms of vocabulary and grammar. Dictionaries are rarely used while reading because the constant stopping to look up words makes fluent reading difficult.
- (7) *Reading is individual and silent*, at the student's own pace, and, outside class, done when and where the student chooses.
- (8) *Reading speed is usually faster rather than slower* as students read books and other material that they find easily understandable.
- (9) *Teachers orient students to the goals of the program, explain the methodology, keep track* of what each student reads, and *guide* students in getting the most out of the program.
- (10) *The teacher is a role model of a reader for students* -- an active member of the classroom reading community, demonstrating what it means to be a reader and the rewards of being a reader.

**Figure 2.1. Ten Characteristics of Extensive Reading. (Day & Bamford, 1998: 7)**

Even though these characteristics sound complete, there are some arguments in its practicality especially in an Asian context. With 10 years of experience in implementing extensive reading, Robb (2002) recognized problems in extensive reading with his Japanese students. While extensive reading stressed that students can choose their reading materials and take control of their learning, this may not be the case of Asian students, and teachers need to pose certain requirements such as the number of pages or books. This may be contradictory to the framework set by Day & Bamford (1998). Other problems are limited class time and a variety of texts.

Concisely, extensive reading aims at a large quantity of pleasurable reading with the focus on general reading comprehension. Although flexible in the nature of the program, some characteristics of extensive reading have been provided. However, these characteristics of extensive reading are not carved in stone and should be only guidelines for setting up an extensive reading program. Changes or modification should be made to suit needs and context of language learning classroom.

### **2.2.2. Research in second language extensive reading**

Series of research have investigated the effects of extensive reading on different aspects of reading proficiency and other areas like writing and affective domains. The following review will start with an impact on vocabulary, a vital component of reading. Then effects on reading proficiency will be explored, followed by effects on attitudes. The last section details the benefits of extensive reading to overall language proficiency.

#### **2.2.2.1. Second language extensive reading and vocabulary**

Extensive reading has proved to help learners acquire new words and enrich existing ones. The number of vocabulary is so abundant that it is inconceivable how all the words can be learned only in class (Coady, 1997).

The relation between extensive reading and vocabulary knowledge is clearly shown in the study by Zimmerman (1997). The researcher reported on the effects of reading and interactive vocabulary instruction for 44 postsecondary foreign students of which 17 were in the control group. The interactive vocabulary instruction was provided 3 hours a week. The students were pre- and post- tested using a vocabulary checklist test. They were required to keep reading record of hours spent on self-selected reading. A questionnaire was also given to rate their perception on how words should be learned. The results showed that the experimental group reported knowing more words than the control group. The hours of required reading were also higher in the experimental group. The students rated class activities as the most important factor in learning new words. The author discussed that reading provides more exposure to words but it should not be the only source of encounters. The questionnaire also revealed that students disliked using dictionary and memorization. The author concluded by advising teachers to teach vocabulary, to choose meaningful contexts for word encounters, to help students choose self-selected reading materials, and to choose reading assignments carefully.

However, since extensive reading happens largely outside class and learners may not get enough exposure to vocabulary to successfully acquire them, a study in vocabulary acquisition and retention is needed. Waring & Takaki (2003) investigated the rate at which vocabulary was learned from reading the 400 headword graded reader *A Little Princess*. Fifteen intermediate level (or above) female Japanese

subjects participated in this study. To attest whether words of different frequency of occurrence rates were more likely to be learned and retained or forgotten, 25 words within five bands of differing frequency of occurrence (15 to 18 times to those appearing only once) were selected. The spelling was changed to ensure that each test item was unknown. Three tests (word-form recognition, prompted meaning recognition and unprompted meaning recognition) were distributed immediately after reading, after one week and after a three-month delay. The results show that words can be learned incidentally but more frequent words were more likely to be learned and were more resistant to decay. The data suggest that, on average, the meaning of only one of the 25 items will be remembered after three months, and the meaning of none of the items that were met fewer than eight times will be remembered three months later. The data thus suggest that very little *new* vocabulary is retained from reading one graded reader, and that a massive amount of graded reading is needed to build new vocabulary. It is suggested that the benefits of reading a graded reader should not only be assessed by researching vocabulary gains and retention, but by looking at how graded readers help develop and enrich already known vocabulary.

McQuillan (1996) conducted an experiment in free voluntary reading with 20 bilingual students studying Spanish for Native Speakers. There are two components in the reading program. In a Popular Literature Survey, students had to read 20 assigned readings of different genres from children's literature to academic reports. In Literature Circles, students read the same material in groups. The researcher did not formally monitor the students. Instead, peer and self-assessments were employed. At the end of the program, the experimental group gained significantly higher word knowledge and showed positive attitudes toward Spanish reading.

In the same papers, to study the long term effect of free voluntary reading in promoting reading habits, McQuillan (1996) conducted another study with 10 students in Spanish for Native Speakers course. However, the treatment was different. Students had to do the same Popular Literature Survey, but they also had to read ten articles per week for weekly free voluntary reading, and completed a ten-week project with some extensive reading and writing in Spanish. Ninety percent of the experimental group reported to do free voluntary reading for seven months after the program ended, but he noted that the ten-week program may be too short to develop the habits of reading.

### **2.2.2.2. Second language extensive reading and reading comprehension**

The benefits of extensive reading can be directly linked to gains in reading proficiency itself. Learners only learn to read better and faster through reading extensively. Many researchers have been interested in this research area, and the results have proved that learners can gain reading proficiency from reading a large amount of texts.

Lituanas, Jacobs & Renandya (1999) studied the effects of extensive reading on reading ability of sixty students at a public secondary school on the island of Mindanao in the southern Philippines. The Informal Reading Inventory (IRI) and the Gray Standardized Oral Reading Test were used for pre- and post-tests. After six months of extensive reading class, it is found that reading proficiency scores of students in an experimental group significantly increased but they still read below their grade level.

Recognizing that good readers read not only with understanding but also at faster speed, Bell (2001) compared the effects of extensive and intensive reading on reading speed and comprehension of 26 elementary level young adult students at the British Council English Language Centre in Sana'a, Yemen. The extensive reading group was required to read several graded readers while the intensive reading group studied short texts followed by comprehension questions. Results indicated that students in the extensive reading group achieved both significantly faster reading speeds and significantly higher scores on measures of reading comprehension.

Similarly, Taguchi, Takayasu-Maass, & Gorsuch (2004) studied whether and how assisted repeated reading with an auditory reading model enhances reading fluency of 29 Japanese students who were learning English as a foreign language at a university near Tokyo. Extensive reading approach was used in a comparison group. The results suggest that repeated reading and extensive reading are comparable in facilitating participants' reading fluency, with the repeated reading group having slightly higher word per minute reading rates. Both repeated reading and extensive reading groups increased their comprehension scores on both pretests and posttests as the number of readings multiplied. In terms of comparisons between groups, the repeated reading and extensive reading groups performed similarly on pretest and posttest comprehension measures. Participants in both repeated reading and extensive reading groups stated that the two reading methods increased their willingness to read

long passages. Repeated reading has potential to rival and strongly facilitate extensive reading as a means of fluency building, and allowing FL/L2 learners to become independent readers.

Walker (1997) set up an extensive reading project to establish a self-access reading resource using graded readers. The participants were 26 students. A parallel cloze test of 140 items was distributed as pre- and post-tests. A reading record was kept. At the end of the course, questionnaire and structured interviews were carried out. Students perceived extensive reading as beneficial to their language learning and their scores in pre- and post-test actually increased. Students also recognized that extensive reading could help them prepare for reading unsimplified EAP texts.

Finally, the evaluation methods for extensive reading usually involve a reading comprehension test. However, with the use of unconventional tests, Kim & Krashen (1998) studied the effective of the Author Recognition Test (ART) and Magazine Recognition Test (MRT) in predicting vocabulary knowledge of 103 female high school students in Korea. Apart from the ART and MRT, Self-reported free reading (RFVR) measuring the amount of free reading outside classroom and the vocabulary test with false words were administered. The findings revealed that ART was the best predictor of students' vocabulary knowledge. The researcher implied that magazines may contain fewer vocabularies that were tested and free voluntary reading may include very light reading.

### **2.2.2.3. Second language extensive reading and attitudes**

As learners have become a central focus of language pedagogy, researchers have been exploring the role of attitudes among extensive readers. Renandya, Rajan & Jacobs (1999) studied whether extensive reading can benefit older adult second language learners and the relationship between learning gain and a set of extensive reading variables. Participants were 49 senior Vietnamese government officials in a two-month intensive English course in Singapore. Students were to read either 20 books or less than 20 books but with the total number of pages more than 800. Instruments include the English proficiency pre- and post-test, a Book Record form, a two-part questionnaire given at the end of the course. The results yielded that extensive reading could be used with older adult ESL students. Multiple regression analysis also showed that among the 10 variables, extensive reading was a significant

predictor of the gained scores. More interestingly, less eager students developed a healthy reading habit. The authors suggested that careful planning and systematic implementation be required for a successful extensive reading program.

In 1999, Hayashi examined three areas—EFL students' reading strategies in different proficiency; the relationships between reading ability and the amount of reading, and vocabulary development through extensive reading; and students' reaction to the book report tasks. Students read news articles in class using skimming and scanning strategies. They also read 100 pages of book per month and wrote a 200 word summary and reaction on it. The participants were 100 Japanese sophomores. The TOEFL were used as a pre- and post-test on reading ability and a TOEFL practice test for vocabulary knowledge. The results supported Mason & Krashen (1997) findings. Extensive reading improved reading skills, give learners a rich background knowledge, vocabulary recognition, a high motivation for more reading, and becomes the basic skill of rapid reading, discovery of reading strategies by learners themselves, and increases guessing ability in context.

Other studies which follow have been concentrating mainly on reading comprehension and attitudes. Lao & Krashen (2000) investigated the impact of popular literature on vocabulary growth, reading rate and attitudes of 91 first year students in Hong Kong. Students had to read 5 prescribed popular novels with one self-selected book. Films or video of these novels were also shown. The results were impressive. Students acquired 3,000 new words in comparison to 500 word growth of the control group. Reading rate also increased. The researcher performed ANCOVA to determine whether different classes that the students in experimental and control groups were a factor affecting the results, but the post-test scores were still significantly higher than the pre-test scores. The reading attitude survey also reported that students became enthusiastic about reading novels.

The benefits of extensive reading may not be limited to only reading and attitudes. Other skills are also improved. Yang (2001) compared the performance of 60 Hong Kong adult students who read mystery novels in addition to the textbook to the other two comparison groups. Students in the experimental group had to read 40 pages a week. A multiple choice test was used to measure student's language proficiency before and after the 15-week course. The novel reading group illustrated significant gains in language proficiency. A questionnaire and interview examining

students' attitudes towards the extensive reading outside of class showed that students had positive experience in reading. The impacts seemed to extend to other skills to as students commented that their speaking became more meaningful when discussing the novels in class and writing flew out easier than before.

Over a 20-week period Leung (2002) conducted a study on the impact of extensive reading on an adult's self-study of Japanese. Data were collected from multiple sources, including a learner diary, audio-recordings from several private tutorial sessions, and vocabulary tests. The results of this study show that extensive reading can enhance vocabulary acquisition and reading comprehension, and promote a positive attitude toward reading. Language learners, especially those who have never experienced the benefits of extensive reading, may find it challenging to find the time, discipline, and commitment to read extensively at the beginning. If learners are given the opportunity to read extensively for pleasure and develop a passion for reading, they can become more eager to learn the necessary reading skills and vocabulary they need in order to enjoy what they read. Extensive reading also gives learners more control and confidence in their own learning. In addition, keeping a record of reading to keep track of learners' progress or reading speed may provide greater insights regarding the effectiveness of extensive reading.

Maamouri Ghrib (2003) surveyed the attitudes of 300 Tunisian university students and 13 reading teachers towards the reading program, the instructional materials, the teaching approach, learners' motivation, and assessments. Students reported that they recognized the importance of reading but both students and teachers felt bored or negative about the materials, teaching, and assessment. The researcher recommended extensive reading outside the classroom as a complement component to stimulate positive attitudes and motivation.

In the setting of other foreign language learning, Hitosugi & Day (2004) incorporated extensive reading into a Japanese course. Fourteen students in a Japanese class at the University of Hawai'i participated in the study. They were required to read 40 books of Japanese children literature and received credits in return. A three-part measure was used to test students' Japanese reading ability and a 22-item questionnaire measured the affective aspect of extensive reading. After the course, students read on average 32 books and results show that students in extensive reading group had higher scores in the three-part measure than other regular students.

Students also developed positive attitude towards reading which also extended to other activities such as watching Japanese television programs and interest in Japanese culture.

#### **2.2.2.4. Second language extensive reading, reading comprehension and writing skills**

Tsang (1996) compared the effectiveness of an extensive reading program and a frequent writing program on the acquisition of English descriptive writing skills by 144 Cantonese speaking secondary school students. Students were in three groups which received different extra instruction in extensive reading, extensive writing, and mathematics. Essay writing was used as pre- and post- tests. The findings indicated that students in the extensive reading program gained significantly higher scores in content and language use while extensive writing and mathematics groups yielded little improvement. The researcher suggested that extensive reading may help in only some areas of writing and feedback on writing was a critical factor in enhancing EFL students' writing.

Lai (1993) studied the effects of extensive reading on reading comprehension, reading speed and writing development. Subjects were 226 students in grades 7-9 from Hong Kong secondary school reading 16-18 graded readers over 4 weeks. Results show improvement in all three areas and graded readers were one of the factors leading to significant gain in reading comprehension. However, weaker students did not show much progress in their reading speed and writing accuracy. This can result in lack of interaction between teacher and students.

Mason & Krashen (1997) carried out three experiments. The first one investigated the effect of extensive reading on cloze test scores of twenty university students in the remedial English class. Students were required to read 50 books in one semester. Pre- and post-tests of a 100-item cloze test written at the sixth grade level were administered. The results showed that students in the experimental group made significant gains and nearly catch up with the comparison group. Students also developed better attitudes toward reading and became eager readers.

The second experiment involved 128 university students. They read and wrote an appreciation of the book in Japanese and report about a book of their choice in English to their partners. The 100-item cloze tests were used as pre- and post- tests



and students had to write summaries of the first and last book they read. These were then graded by three native speakers. A brief questionnaire was distributed during the final session. Results showed that students in the experimental groups made higher and significant gains in their cloze test scores and writing. The questionnaire data reported that most of the students thought their writing had improved and identified reading as the cause. The gain in writing occurred without explicit writing instruction. The third experiment was designed to examine this aspect.

The third experiment made use of three groups—English response group, Japanese response group, and a comparison group. The measurements include the 100-item cloze pre- and post- test, a reading comprehension post-test, and a summary writing in English at the beginning and the end of the course. Time taken to read the required book was also recorded at the beginning and the end of the school year. The results revealed that extensive reading groups made higher gains in the cloze test but only the English response group gains were significantly different. In the reading comprehension test, both extensive reading groups were significantly better. From the summary writing, the Japanese response group made higher gain than comparison and English response groups. The Japanese response group also read significantly faster than other groups. It should be noted that the Japanese response group started at a lower level than others. Nonetheless, all the three studies corroborated that extensive reading can bring about gains in reading and other areas of language proficiency.

#### **2.2.2.5. Research in extensive reading in Thailand**

There have been few studies of extensive reading in Thailand. In 1995, Satitporn studied the effects of extensive reading on vocabulary knowledge and reading comprehension. The subjects were 60 Mattayomsuksa 5 students studying in the science program in Thailand. The research design involved two treatment groups: an intensive reading group and an extensive reading group. The findings revealed that the extensive reading group's vocabulary knowledge was significantly higher than that of the intensive reading group on the post-test. That is, extensive reading contributed to an increase in vocabulary knowledge. The students also reported having positive attitudes towards extensive reading.

Another study of extensive reading in Thailand is a small scale research

involving 15 Mattayomsuksa 4 students in the science program. Tutwisoot (2003) studied the impacts of extensive reading on the students' reading comprehension, ability to read independently, and attitudes towards extensive reading. The findings showed that the students scored significantly higher on their reading comprehension post-test. The students also reported that they could manage to read independently for pleasure, and that they were satisfied with extensive reading.

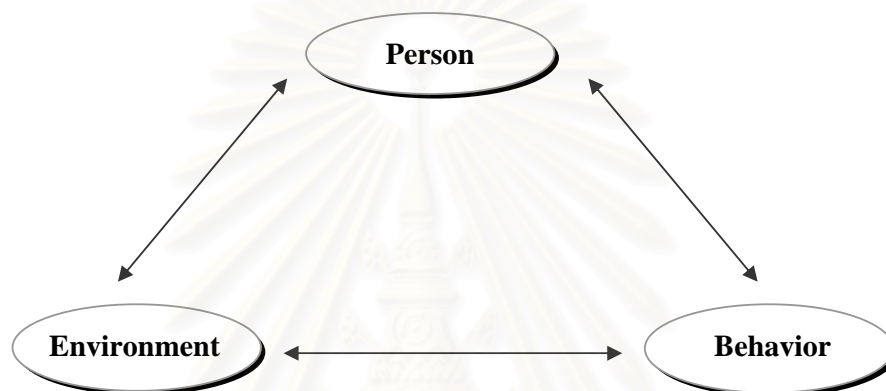
Although these two studies of extensive reading in Thailand indicate that extensive reading can help better students' vocabulary and reading comprehension, a major part of what happens outside of the classroom has not been documented. How students cope with problems and manage their reading outside of the classroom can offer guidelines to other reading educators who wish to establish extensive reading instruction at their institution. Therefore, this study attempts to fill in this missing piece of information by investigating the integration of self-regulated learning to extensive reading instruction.

To sum up, extensive reading has proven to provide benefits in areas of vocabulary, reading proficiency, and other areas such as writing and affective domains. However, these results should be interpreted with caution. Most of the results are from studies of limited samples of fewer than 30. Few studies were conducted in Thailand. Similar contexts where English is a foreign language are only Japan and Korea. The implementation of extensive reading in Thailand needs to be carefully planned. As suggested by Robb (2002), the implementation of ER in Asian context needs some adjustment. The amount of books or pages to be read, the demands and requirements on students, and assessment must be taken into consideration to make sure the program will bring about beneficial results.

### **2.3. Self-regulation**

Self-regulation is one of the basic functions of humans. People's behaviors are believed to be influenced by their own internal standard, self evaluative reactions, and external environments. In theory, social cognitivists support triadic reciprocity, or the determinant interaction of behavior, cognitive and personal factors, and environmental influences (Bandura, 1986). In other words, self-regulation exists when individuals are metacognitively, motivationally, and behaviorally active participants in their learning process (see Figure 2.2).

To help learners reach their goals, this learning process is planned and cyclical as feedback from prior performance is used to make adjustments for next effort. The adjustments occur in all interactions among the three components. Behavioral self-regulation entails self-observing and strategically adjusting performance processes. Environmental self-regulation involves observing and adjusting environmental conditions. Covert self-regulation involves monitoring and adjusting cognitive and affective states (Zimmerman, 2000).



**Figure 2.2 Triadic forms of self-regulation (Zimmerman, 2000, p.15)**

Self-regulation is important and suitable for university students in several ways. It is unlike learning styles which is believed to be a trait, something students cannot change. Students cannot learn to be self-regulated without any formal instruction or guidance. Also, they will have to study independently most of the time in a university. If they cannot control themselves, they will not be able to adapt to the academic demands of the university (Pintrich, 1995).

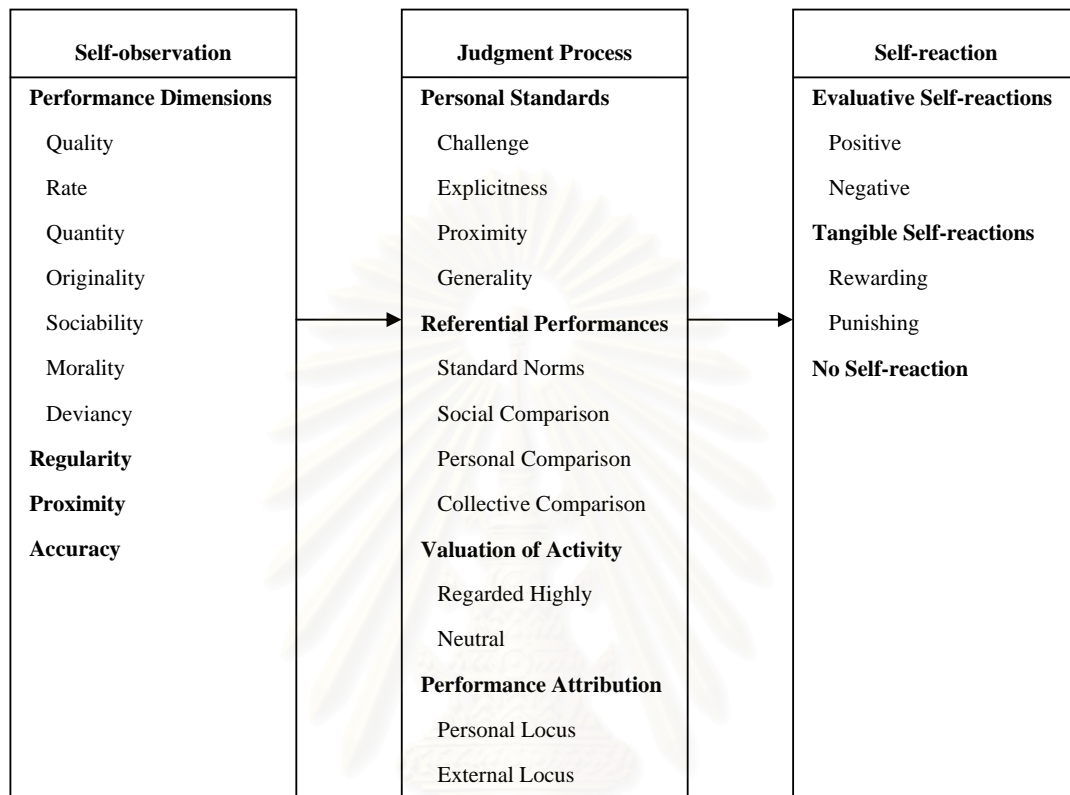
### **2.3.1. Self-regulatory Processes**

There have been a number of models of self-regulation (Boekaerts, Pintrich & Zeidner, 2000). Bandura (1986) has initiated three stages of subfunctions of self-regulation and Zimmerman (2000) has further developed it and highlights the cyclical nature of self-regulation

#### **2.3.1.1. Bandura's Sub-functions of Self-regulation**

People's behaviors do not change without the means for exercising influence over their behaviors. Self-regulation operates under a set of sub-functions—self-

observation, judgment process, and self-reaction (see Figure 2.3).



**Figure 2.3. Subprocesses involved in self-regulation (Bandura, 1986, p. 337)**

Self-observation is selective attention to relevant aspects of behavior (Bandura, 1986). People can exert influence over their actions only when they know what they are doing. This sub-function uses self-recording of behavioral instances to correctly reflect behaviors. The observation must be done regularly and timely (Schunk, 1994).

Self-judgment is the comparison of performance against personal standard or goal. This can demonstrate progress to learners, and this improves self-efficacy and motivation. There are three important goal properties that cannot be overlooked. First, goal must be specific so that learners know the amount of effort required. Second, goal should be short term since it is easier to gauge progress. Third goal should be difficult as learners are likely to put in more effort to reach that goal (Schunk, 1994).

Self-reaction is when people evaluate and respond to their own behaviors. The reactions can be both evaluative and tangible. Evaluative wise, if students believe that

they are making progress and satisfied with the accomplishment, the self-efficacy and motivation will be higher. Negative evaluations do not imply that motivation will be decreased if students believe that they can improve. Students may also react to tangible reward of the progress. The anticipated result can increase motivation better than the result itself (Schunk, 1994).

### 2.3.1.2. Zimmerman's Cyclical Phases of Self-regulation (2000)

Similar to the subprocess of self-regulation initiated by Bandura (1986), Zimmerman has formed three cyclical phases of self-regulatory processes. The forethought is the processes, which precede performance efforts, performance or volitional control is processes which occur during efforts to perform, and self-reflection is processes which come after performance efforts (see Table 2.2). These three phases operate in cycle as feedback from previous effort determines the forethought phase for the next performance.

**Table 2.2. Phase Structure and Subprocesses of Self-regulation**

<b>Cyclical self-regulatory phases</b>		
<b>Forethought</b>	<b>Performance/volitional control</b>	<b>Self-reflection</b>
<b>Task analysis</b> Goal setting Strategic planning  <b>Self-motivation beliefs</b> Self-efficacy Outcome expectations Intrinsic interest/value Goal orientation	<b>Self-control</b> Self-instruction Imagery Attention focusing Task strategies  <b>Self-observation</b> Self-recording Self-experimentation	<b>Self-judgment</b> Self-evaluation Causal attribution  <b>Self-reaction</b> Self-satisfaction/affect Adaptive-defensive

(Zimmerman, 2000, p. 16)

Forethought comprises task analysis, which involves goal setting and strategic planning, and self-motivational beliefs which involve self-efficacy, outcome expectations, intrinsic interest or value, and goal orientation.

Performance or volitional control comprises self-control which involves self-instruction, imagery, attention focusing and task strategies, and self-observation which involves self-recording and self-experimentation.

Self-reflection comprises self-judgment which involves self-evaluation and

causal attribution, and self-reaction which involves self-satisfaction or affect and adaptive or defensive inferences.

### **2.3.2. Self-regulated learning**

Since context is one of the pivotal components of self-regulation, the social cognitive theory of self-regulation has been adapted by many domains such as health, management and education. Pintrich (1995) has applied the general models of self-regulations to issues of learning in school and classroom contexts. Pintrich (2000) has provided a general framework for self-regulated learning which involves four components: cognition, motivation and affect, behavior, and context. They occur in time-ordered sequence of four processes: 1) forethought, planning and activation, 2) monitoring, 3) control, 4) reaction and reflection (see Table 2.3). However, it is not definite that the four processes are hierarchical because in some models, monitoring, control and reaction can occur simultaneously.

In forethought, planning and activation phase, cognitions that can be self-regulated include goals, prior content knowledge, and metacognitive knowledge. Motivational processes include goal orientations, self-efficacy, and perceptions of difficulty and ease of learning, task value, and interest. Behaviors which can be self-regulated are time and effort planning and planning for self-observation of behavior. Contextual regulation factors include students' perception of the task and context.

In monitoring phase, attention and awareness of one's actions and their outcomes are in focus. Cognitive monitoring includes dynamic metacognitive judgments of learning and metacognitive awareness. Motivational monitoring refers to being aware of one's self-efficacy, values, attributions, and anxieties. Monitoring of behaviors includes time and effort management and adjusting based on assessments of their effects. Contextual monitoring refers to monitoring task conditions to determine whether they are changing

In control phase, learners attempt to control their cognitions, motivation, behaviors, and contextual factors based on their monitoring with the goal to enhance learning. Cognitive control and regulation include cognitive and metacognitive activities that learners use to adapt and change their cognitions. Motivational control and regulation processes include self-efficacy through positive self-talk. Behavioral control includes persisting, expending effort, and seeking help when needed.

Contextual control includes strategies to make the context more conducive to learning.

**Table 2.3 Phases and Areas for Self-regulated Learning**

Phases	Areas for regulation			
	Cognition	Motivation/affect	Behavior	Content
1. Forethought planning and activation	Target goal setting  Prior content knowledge activation  Metacognitive knowledge activation	Goal orientation adoption  Efficacy judgments  Ease of learning judgments Perceptions of task difficulty  Task value activation  Interest activation	Time and effort planning  Planning for self-observation of behavior	Perception of task  Perception of context
2. Monitoring	Metacognitive awareness and monitoring of cognition	Awareness and monitoring of motivation and affect	Awareness and monitoring of effort, time use, need for help  Self-observation of behavior	Monitoring changing task and context conditions
3. Control	Selection and adaptation of cognitive strategies for learning, thinking	Selection and adaptation of strategies for managing motivation and affect	Increase/decrease effort  Persist, give up  Help-seeking behavior	Change or renegotiate task  Change or leave context
4. Reaction and reflection	Cognitive judgments  Attributions	Affective reactions  Attributions	Choice behavior	Evaluation of task  Evaluation of context

(Pintrich, 2000, p. 454)

In reaction and reflection phase, learners' reactions and reflections include judgments, attributions, and self-evaluations of performance. Learners assess their performances which becomes the basis for other efforts to regulate motivation, behavior, and context. Motivational reactions include efforts to enhance motivation when needed. Behavioral reaction and reflection include cognitions about one's behaviors, such as whether one has used time effectively. Contextual reaction and reflection refer to evaluations of task demands and contextual factors.

From the self-regulated learning model, it is obvious that becoming self-regulated learners involve various factors. It is possible that learners will become self-regulated on their own but this will take indefinite amount of time and learning. The teaching of self-regulated learning is possible in any type of classroom context, in a separate program, in a study skills course, or in any subjects. There are five principles which encourage self-regulated learning (Pintrich, 1995):

1. Students must be aware of their behavior, motivation, and cognition. Prior to students' attempt to change their learning, feedback needs to be given to them to assess their strengths and weaknesses through instruments such as questionnaire and instructional strategies.
2. Students must have positive motivational beliefs. Since self-regulated learning can be tedious, students should focus on the mastery of materials or subjects and try to avoid centering their goals solely around grades. Students also need to appreciate self-efficacy beliefs for learning, their capabilities to learn.
3. Teachers may model self-regulated learning. As students are at the novice level of the discipline, teachers with automatized knowledge of the discipline and thinking can help students by sharing their knowledge, strategies for learning, and how they think and reason.
4. Students need practice to be self-regulated. Practice and use of the strategies require time and effort which can be supported by guidance from teachers.
5. Classroom tasks should provide opportunities for student self-regulation. Students should have choice and control on their learning to allow self-regulated learning to come into use.



### **2.3.2.1. Winne and Hadwin's self-regulated learning model**

Similar to the model by Zimmerman (2000), Winne & Hadwin (1998) describe that self-regulated learning consists of four phases. The first one is defining the task. Learners try to understand the task by collecting information about the task conditions, or information about the task in the environment and cognitive conditions, or memorial representations of some features of similar past tasks. The feedback students receive from previous tasks will reevaluate the task's condition and help develop new definition of the task.

The second phase is setting goals and planning how to reach them. Learners make decision, set goals, and plan how to achieve them. These goals become standard which products and processes are measured against in self-monitoring. These goals may be a confirmation of presuppositions in the first phase, or they may be adjusted after learners have engaged in a task.

The third phase is enacting tactics. They comprise conditional knowledge and cognitive operations. Conditional knowledge refers to two classes of information. Conditional knowledge propositions describe what a tactic is and does and how propositions are motivational beliefs that impact affect. Cognitive operations occur when students monitor products and this generates feedback.

The last phase is adapting metacognition. Students make major adaptations to those parts of the model under the student's control. This can be achieved in three ways: first, by accreting or deleting conditions under which operations are carried out or by changing operations; second, by tuning features that influence tactics; third, by restructuring cognitive conditions, tactics, and strategies to create very different approaches to addressing tasks.

### **2.3.3. Self-regulated reading process**

Learners with low self-efficacy for reading do not have high value in the reading task. They may also focus more on performance-oriented motivation or grades and scores which results in low self-regulation. Horner (2002) suggests self-regulation reading processes to solve this problem.

The first stage is goal setting. Learners should be allowed to choose their goals with guidance from teachers. Goals should be appropriate for each learner. Learners

with low self-regulation may not be able to handle long-term goals. Short-term and specific goals may be more attainable.

The second stage is selection, use, and monitoring of reading strategies. Since good readers use a wide range of strategies for different reading tasks and genre and evaluate the effectiveness of the strategies, teachers should expand strategies use of poor readers. Cognitive apprenticeship may be one way to promote effective strategies use. There are six methods involved. The teacher first models strategies use, coaches students by observing them and giving feedback and hints, scaffolds by giving learners temporary support and carefully removing the scaffolds, and articulates by having students verbalize their choice, uses and monitoring of reading strategies.

The last stage is self-evaluation. Learners evaluate their progress toward the goals. They monitor their behaviors and cognitions and react to the feedback. Teachers can promote this stage through reflection and exploration. In reflection, teachers encourage learners to compare their own goal setting and reading strategies to those of an expert reader and to an internal standard. In exploration, teachers invite learners to pose and solve their own problems. Learners should be able to use the same self-regulatory skills at other times and in other settings.

Self-regulated learning should be an integral part of an academic program. Although there are different self-regulated learning models, they share the same objectives in promoting students' control over their behavior, cognitive, motivation, and environment. Benefits from the teaching of self-regulated learning strategies are not only in academic performance but extend to promoting self-regulated readers.

In this study, all of the self-regulated learning models are integrated and synthesized. A proposed model includes four phases: 1) planning and goal setting, 2) self-monitoring, 3) self-evaluation, and 4) self-reaction. In the first phase, students will be required to set a specific and short-term goal which is attainable. The accomplishment can be to master the subjects or to gain the highest scores possible. Strategies, which will be used to achieve the goal, will also be discussed and planned at this point. In the second phase, students will monitor their comprehension by briefly summarizing the text or book which they read. Any problem while reading will also be discussed with the strategies or solution students used. This will help students to be more conscious of their comprehension and strategy use. In the third

phase, students will examine whether they have attained all the goals they have planned in the first stage. They need to identify strategies or methods which attribute to their goal achievement or failure. In the last phase, students will plan what corrective actions they will take to improve their comprehension or performance next time.

### **2.3.4. Measuring self-regulated learning**

The measurement of components and processes of self-regulated learning is difficult to investigate (Schraw & Impara, 2000). In an attempt to clarify and classify methods and instruments used by researchers to measure processes involved in the self-regulated learning, Winne and Perry (2000) distinguish between a) instruments that measure self-regulated learning as an aptitude, describing qualities or state of cognition of future behavior; b) instruments that measure self-regulated learning as an event, characterized as more complex measures that collect information on the states and processes students undertake while he or she is self-regulating.

#### **2.3.4.1. Instruments that measure self-regulated learning as an aptitude:**

*The Motivated Strategies for Learning Questionnaire (MSLQ)* (Pintrich, Smith, Garcia & McKeachie, 1991). Pintrich and collaborators have created this self-reporting tool with 81 items, with the objective originally designed to evaluate the learning to learn course at the University of Michigan. The MSLQ assesses students' motivational orientation and their use of different learning strategies. It is based on a general social cognitive view of motivation and learning strategies. In the development of the MSLQ, the learner is considered to be an active processor of information whose beliefs and cognitions are important mediators of instructional input and task characteristics. This instrument acknowledges the relationship between motivation and cognition. It contextualizes motivation and learning strategies by assessing them within the specific course as opposed to generalization across several courses.

The MSLQ is composed of two main sections: a motivation section and a learning strategies section. The motivation section comprises of 31 items that assess students' goals and value beliefs for a course, their beliefs about their skills to succeed, and their anxiety about tests. There are two subscales within the motivation

section that assess perceived self-efficacy. There are another three subscales that are used to measure value beliefs; intrinsic goal orientation, extrinsic goal orientation, and task value beliefs. The learning strategies section includes 50 items (31 items concerning the use of metacognitive and cognitive strategies and 19 items concerning management of different learning resources). The metacognitive subscale includes planning, monitoring, and regulating. There are three subscales that assess the cognitive strategies students use: rehearsal, elaboration, and organization strategies. Previous results using the MSLQ suggest that when students engage in some aspects of metacognition, they tend to report planning, monitoring, and regulating, and they also do better in terms of actual achievement, which is in line with general assumptions about self-regulated learning. The resource management items elaborate on regulatory strategies such as time management, environmental structuring, effort, peer learning, and help seeking. There are 81 total items on the instrument that are scored using a seven point Likert scale. It asks students to report on concrete behaviors in which they engage. The items ask students about actual behaviors they might use as they study their course material.

*Self-Regulated Learning Interview Schedule (SRLIS)* (Zimmerman & Martinex-Pons, 1986, 1988) is widely used interview procedures for measuring self-regulated learning. After identifying fifteen types of strategies used by secondary students to self-regulate learning in and out of the classroom, Zimmerman and collaborators developed a structured interview procedure to assess them.

The fifteen strategies measured by this procedure are: information organization and transformation, self-evaluation, goal setting and planning, information seeking, keeping records and monitoring, environmental structuring, self-consequences, rehearsing and memorizing, seeking social assistance from peers, teachers, and adults, reviewing test, notes, or textbooks, and learning behaviors initiated by others. The interview schedule is an open-ended self-report instrument and the data collected were measured according to strategy use, strategy frequency, and strategy consistency.

#### **2.3.4.2. Instruments that measure self-regulated learning as an event:**

Thinking aloud is a protocol where students report their thoughts and the processes and cognitive strategies they put into play while carrying out a task. One of

the areas where this protocol has most been used is in reading (Pressley, 2000; Pressley & Afflerbach, 1995). It should also be noted that the students' verbal responses are analyzed by means of the answer protocol which Zimmerman and Martinez-Pons used (1986). The measurement of self-regulated learning as an event is not as widely used as a measurement of an aptitude (Winne & Perry, 2000).

Pressley and Afflerbach (1995) compiled and organized a comprehensive list of every conscious process reported in the more than forty verbal protocols of reading. The studies used in the analysis involved primarily adults and summarized the conscious processes that are primarily self-regulated and coordinated to produce meaning from text (Pressley, 1995). Constructively responsive reading is described as opportunistic—using text clues when opportunity arises, varying according to prior knowledge, intentional, self-monitoring, reflective and motivating.

### **2.3.5. Research in self-regulation**

Research has examined various aspects of self-regulated learning. This section provides an overview of research on self-regulated learning and its relation to academic performance and motivation, and to language learning.

#### **2.3.5.1. Self-regulation, academic performance, and motivation**

Pintrich & De Groot (1990) examined relationships between motivational orientation, self-regulated learning, and classroom academic performance for 173 seventh graders from eight science and seven English classes. A self-report measure of student self-efficacy, intrinsic value, test anxiety, self-regulation, and use of learning strategies was administered, and performance data were obtained from work on classroom assignments. Self-efficacy and intrinsic value were positively related to cognitive engagement and performance. Regression analyses revealed that, depending on the outcome measure, self-regulation, self-efficacy, and test anxiety emerged as the best predictors of performance. Intrinsic value did not have a direct influence on performance but was strongly related to self-regulation and cognitive strategy use, regardless of prior achievement level.

Another study provides an in depth details on students' use of self-regulated learning strategies. Wolters (1998) studied self-regulated learning by addressing three research questions: what strategies do students use to regulate their motivation? Is the

use of these strategies dependent on contextual factors? How is motivational regulation related to other aspects of self-regulated learning and achievement? Self-report data were collected from 115 college students by using an open-ended questionnaire and Likert-style survey. Findings provide evidence that students regulate their level of efforts in academic tasks by using a variety of cognitive, volitional, and motivational strategies; that students' reported use of these strategies varied across the 3 motivational problems with which they were presented; and that different aspects of students' motivational regulation were related positively to their goal orientation, use of some cognitive strategies, and course grade.

Zimmerman and Kitsantas (1997) examined the developmental phases that cause students to shift from process goals to outcome goals. It was found that it was problematic when students began to learn an activity with performance outcomes in mind. It was better for students to choose process goals. Process goals enhanced self-perceptions of progress, self-efficacy beliefs, and intrinsic motivation to pursue the goal to mastery. The researchers stated that learning a skill from the beginning phase to the mastery phase, where it can be self-regulated, occurs in three phases. The skill is first acquired in the cognitive phase, then learners move to the associative phase where the knowledge is transformed into action sequences, and finally they moved to the autonomous phase where skills become automatic and self-regulated. In the cognitive phase, students learned through observing a model or listening to an expert model. Modeling helps to guide the learner. In the second phase, imitation allowed students to practice with feedback and guidance from the teacher. In the last phase self-control, students learned to practice on their own. Zimmerman and Kitsantas (1997) found that when children received skill training through modeling and imitation, then practiced with process goals in mind, and later switched to outcome goals, they displayed the strongest self-efficacy beliefs, positive self-reactions, and intrinsic interest. This shifting in the last phase to outcome goals resulted in the highest skills, intrinsic motivation, and self-efficacy. Students who only focused on mastery goals did not do as well as those who made the shift. This revealed an important connection between goals and self-efficacy. This study asserted that as students learn new activities and achieve performance goals with the new process they have learned, their self-efficacy rises. This is certainly evidence that advocates teachers instructing students in strategies for handling new reading material.

Ablard and Lipschultz (1998) found that self-regulated learners participated in academic tasks due to their personal interests and the satisfaction of learning. They also characterized self-regulators as active participants engaged in learning, which increased their academic performance. This led them to the conclusion that self-regulated students were typically high achievers. Students with only mastery goals were focused on learning and understanding material. On occasions where they did not perform well, they persisted because learning was the goal. Students with performance goals want to do well, learning the material well is not necessarily important. Students who focused on performance goals were less likely to attain high achievement. Achievement goals are goals where students want to learn the material deeply and do well at tasks. Thus, students are motivated to both appear competent and do well. The researchers also found high-achieving students use the full spectrum of self-regulation strategies rather than just utilizing one type of strategy. Students with the mastery goals reported use of self-regulating strategies, especially when encountering challenging tasks. Performance goals were related to self-regulation strategies when mastery goals were also present. What this study presented was the fact that some students are very concerned with both learning material well and getting good grades on tests and report cards. This lead us to believe that some students will work very hard to deeply learn material that they know will be on performance markers. Teachers in a high stakes testing environment could make the connection that with high achieving students, if they showed them how and what to learn from items that will appear on a test at the end of the semester, those students would work hard to achieve that learning.

Eom & Reiser (2000) provide a confirmation of the attribution of low academic performance to self-regulated learning strategies use. They examined the effects of learners' reported use of self-regulated learning strategies on achievement and motivation in learner-controlled and program-controlled computer based instruction. Thirty-seven sixth and seventh grade students were classified as being either high or low self-regulating learners and then were randomly assigned to either a learner-controlled or program-controlled version of a computer-based instructional program. Results revealed that learners in the program control condition scored significantly higher on a posttest than did learners in the learner control condition. Moreover, although the interaction was not statistically significant, the poorer

performance in the learner control conditions was particularly pronounced among low self-regulating learners.

McNeil and Alibali (2000) examined if externally imposed achievement goals affected learning. Externally imposed goals were defined as goals that were not devised by the students, but were manipulated. The researchers hypothesized that externally imposed goals helped teachers direct student attention and action toward relevant behaviors and away from behaviors that prevented goal achievement. Using math problems, they found that children given a learning goal generated new problem-solving procedures. Children who were given external goals outperformed children who were not given goals; children who were not given goals were more likely to use their initial knowledge rather than expanding and transferring their knowledge to new types of problems. The researchers found that when teaching students new concepts and procedures, they should provide students with goals to strive for. This information implies to teachers that imposing goals can be helpful to students. When learning new material, students may not know enough about the topic to form interest or learning goals. By providing goals, teachers can help students in their efforts to self-regulate. As students become familiar with the topic, teachers can work cooperatively with them to help develop goals until students can develop goals independently.

#### **2.3.5.2. Self-regulated learning and reading**

For the role of self-regulated learning strategies and second language pedagogy, a number of research have been conducted. Gu and Johnson (1996) studied the vocabulary learning strategies which Chinese university students of English used and their impacts on the outcomes of learning English. Participants were 850 sophomore non-English majors at Beijing Normal University and were asked to complete questionnaires which included three sections: 1) Personal data, 2) Beliefs about vocabulary learning, and 3) vocabulary learning strategies covering metacognitive and cognitive strategies. The latter two were rated in a 7-point scale from absolutely disagree (1) to absolutely agree (7). The vocabulary size tests and proficiency measures were also given to students afterwards to obtain information about their English learning outcomes. The results have shown that the metacognitive strategies (self-initiation and selective attention) are highly correlated with the



English proficiency. Also, the relationships between strategies and vocabulary size have revealed that self-initiation was strongly related.

Mekprayoon (2001) replicated the study by Gu and Johnson (1996) who studied the use of English vocabulary learning strategies of 345 Mathayom Suksa Five students in demonstration schools in Bangkok and their reading abilities. The researcher found that students in high, moderate and low ability significantly differed in their use of metacognitive strategies while their use of cognitive strategies yielded insignificant differences.

Barnette (1996) examined self-reported studying and quiz performance in a college course. Subjects were 22 female and 5 male students in an educational psychology class. They were quizzed on 4 supplementary reading assignments across the semester. Quizzes were scored for three types of learning; definitions, recall of factual information, and transfer of information to educational situations. Immediately following each quiz, students were surveyed about their preparation for the quiz. Surveys were scored for the amount of studying, the level of reproductive or memory-oriented studying, and the level of productive or generative studying. Results indicated moderate correlations between self-reported studying and quiz performance. Survey results were generally inconsistent with models of self-regulation, as students were relatively stable in their studying despite relatively poor quiz performance. Findings suggested that situational variables, such as being too tired to study or having a test in another class, play a larger role than was accounted for in current models of academic studying.

In 1997 Barnett reported on another study to examine the level of self-regulation as students read their textbooks in preparation for classroom examination. Students were surveyed after each exam in two college classes. In one course, students read their texts only immediately before the tests and used simple study tactics such as highlighting. Across the semester, the quality of study strategies decreased slightly, but students also increased their efforts. Test scores improved significantly. Relatively strong correlations emerged between studying and test performance, supporting the notion that strategies worked for students who used them. In another class, the students also used simple tactics and read their text only prior to the test. However, the level of effort was constant across the semester, but the quality of strategies used improved significantly. Students tried other tactics such as

concept maps and peer questioning. At the same time, test scores dropped across the semester and weak correlations were found between studying and test performance. This may be the result of insufficient practice with the new techniques, or insufficient effort in using these strategies.

To gain better insight into the adaptation of students' use of strategies across the semester, Barnett conducted another study in 1998. The study examined the self-regulated strategies college students used as they read their textbooks in preparation for examinations, noting whether they adapted these strategies across the semester. Eight students completed three think aloud sessions across the course of a college class. Each think aloud involved participants studying their textbooks in 45-minute sessions held 1 or 2 days prior to the exam. The students were tested individually and audiotaped. They were instructed to read their textbooks aloud and to state whatever was on their mind as they read. Researchers organized their verbal comments into four general categories for analysis: use of prior knowledge, elaboration upon text information, deliberate strategy use, and text analysis. There were strong correlations with achievement for prior knowledge and elaboration but not for deliberate strategy use or text analysis. Three of the students showed adjustment of their studying across the semester. Qualitative analysis of the think-aloud protocols revealed several themes. The most important of those was that the quality of the approach was what really mattered, not simply the presence of the categories. For example, prior knowledge could be used to facilitate comprehension or it could interfere with understanding the author's point.

Watchai (1996) studied the impact of learning strategies and self-regulation on the reading skills of 60 Mathayom Suksa 2 students. The samples were divided into 4 groups of 15. The first one practiced on learning strategies, the second on self-regulation, the third on learning strategies and self-regulation, and the fourth is a control group. Findings revealed that students who studied learning strategies and those who studied learning strategies and self-regulation achieved higher score in the reading comprehension test.

Theodorou and Meyer (2001) conducted two studies relating to self-regulated learning. The first study explored whether components of self-regulation related to the ability to transfer information from a base problem-solving task to a target problem-solving task. There were 229 undergraduate students participating in this study. The

second study replicated the methods of the first study and extended them to transfer of text structure to groups that were taught and not taught a reading strategy focusing on text structure. Ninety-eight students participated in this study. Components of self-regulated learning reliably predicted transfer on the problem-solving task. Self-regulation did not predict the transfer of text structure for students that were taught to use the text structure strategy. However, self-regulation was a reliable predictor for students who were not taught the strategy.

Najaikong (2001) studied the effects of mind mapping and self-regulation on attitudes and Thai language learning achievement of Mathayomsuksa one students. The subjects were 60 students in Mathayomsuksa one from Boployratchadapisaek School. They were randomly assigned into 3 experimental groups and a control group with 15 students in each group. The first experimental group was taught with the mind mapping technique, the second group with the self-regulation, the third group with a combination of mind mapping and self-regulation, and the last group with no treatment during the 6 weeks. The subjects received pre- and post-tests on attitudes and Thai language learning achievement. The test scores were analyzed by using the t-test and one-way analysis of variance (ANOVA). The results revealed that the students in the first, second, and third experimental group obtained higher scores on attitudes and Thai language learning achievement in the post-test than those of the control group at .01 significant level. The three groups of students also had higher post-test scores in both areas than their pretest scores at the significant level of .01. The post-test scores in Thai language learning achievement of the first and second groups were not significantly different. The third group had higher post-test scores in Thai language learning achievement than the first and second group did at the significant level of .01. Lastly, the attitude scores showed that the first, second, and third experimental group was not significantly different at .01 level. Despite the limited time of the treatment to the subjects, this study helped identify the contributions of self-regulation to language instruction.

Suzanne (2003) examined students' and teachers' responses to efforts to facilitate better self-regulated reading in ninth grade English classrooms. The study examined standard and honors students. Teachers employed instructional strategies in two different levels of classes, honors and standard. During the intervention, teachers taught strategy lessons on reading comprehension, goal setting, and high order

reading terms. Teachers also formulated challenging reading questions for students to use with reading assignments. After students completed reading assignments, the teacher facilitated group discussions in which students shared the answers they developed. The teachers developed reading quizzes by using rephrased homework questions for quizzes. Students participated by reading and answering questions for their English homework assignments, recorded their work by filling out their daily study log, set goals for their course work, and tracked their progress at accomplishing their goals.

Teachers found that asking higher order questions led to deeper reading by students and more thoughtful class discussions. Students found that setting goals gave them something to strive for and that challenging questions required them to read more deeply than less challenging questions that they could answer by skimming the text. In comparing the acquisition of self-regulation skills between student levels, it was found that many ninth graders in the honors classes came to high school with self-regulatory skills. They increased their self-regulation in self-monitoring of their reading and in responsiveness to questions. Students in the honors classes were also able to use self-regulation with and without the guidance of the teacher. In contrast, many students assigned to the standard classes had not yet developed these skills at the beginning of the semester. Although many of the students in the standard classes learned to self-regulate with the guidance of their teacher, they struggled with these skills when they were required to work independently. The findings affirmed previous studies documenting the benefits of self-regulation and suggest that high school teachers incorporate self-regulation strategies into their instruction more explicitly.

Schreiber (2003) examined the differential effects of reading instruction on the development and expression of metacognitive self-regulatory learning attributes on reading fluency and comprehension in elementary school student readers across two conditions – an Enrichment Triad Model reading intervention and a preexisting direct instruction reading program. The study employed a classroom level, cluster-randomized design with a sample of approximately 240 elementary school students from two low-socioeconomic urban elementary schools. Structural Equation Modeling protocols were used to test the hypothesis that knowledge and regulation of cognition were casually associated with reading comprehension and gain scores in reading fluency. A pattern of negative path coefficients between regulation of

cognition and reading comprehension emerged. Confirmatory factor analysis of the research instrument, the Thinking About Reading Index, shows promise as a metacognitive self-regulation assessment and evaluation tool in the area of reading.

In 2004, Chularut and DeBacker investigated the effectiveness of concept mapping used as a learning strategy with students in English as a second language class. Seventy-nine ESL students participated in the study. Variables of interest were students' achievement when learning from English language text, students' reported use of self-regulation strategies—self-monitoring and knowledge acquisition strategies, and students' self-efficacy for learning from English-language text. A randomized pre-test post-test control group design was employed. The findings showed a statistically significant interaction of time, method of instruction, and level of English proficiency for self-monitoring, self-efficacy, and achievement. For all four outcome variables, the concept mapping group showed significantly greater gains from pre-test to post-test than the individual study group. The findings implied that concept mapping could benefit students across all levels of English language proficiency and promoted the use of self-monitoring and knowledge acquisition strategies.

In all, research has proved that self-regulated learning is an important factor which can contribute to high academic performance. Learners who report using more self-regulated learning strategies are high achievers. However, there have not been many studies in the area of English as a foreign language reading and self-regulated learning. An investigation in this area is needed to improve our understanding of the relations between these two areas.

#### **2.4. Reading proficiency**

For second language readers, an important component which indicates the difference between beginning and fluent second language readers is their differential language proficiency (Alderson, 2000). Also, the ability to use metacognitive skills effectively and to monitor reading is also an important component of skilled reading. Good readers are more effective in using metacognitive skills than less fluent readers, and older readers are better than younger readers (Alderson, 2000). Good readers typically read most material at between 200 and 300 words per minute. Less fluent readers may read at a slow rate, and this can cause comprehension problems because

working memory capacity is used ineffectively while waiting to assemble information (Grabe, 1999).

Proficient readers are efficient because they recognize words automatically, quickly form meaning propositions, integrate propositional information into a text model rapidly, and restructure the text model to reflect the main ideas of the text being read. Slow reading may also indicate minimal processing efficiencies (Biemiller, 1994; Perfetti, 1994).

It is also clear that proficient reading involves goal setting and is purposeful, incorporates interactions among various levels of cognitive processing, and requires combinations of appropriate reading strategies. Moreover, reading requires both sufficient knowledge of language and knowledge of the world as basic supporting foundations on which to build comprehension (Grabe, 1999).

Research indicates that readers use many different strategies, but that distinctions exist between proficient and non-proficient readers. Proficient readers tend to use the most effective strategy that leads to complete processing of the text. Lovett and Flavell (1990) showed that awareness of strategies is in part a function of age and experience. Their study examined how three groups of readers, first graders, third graders, and undergraduates, approached the tasks of memorizing a list of words, matching words to a picture, and both memorizing and matching words. The results indicated that the more experienced readers understood the concept that a rehearsal strategy would help list memorization, and word definitions would help comprehension of new words. Non-proficient readers, on the other hand, did not recognize memorization and comprehension as distinct operations requiring different strategies.

Additionally, research has indicated that non-proficient readers demonstrate deficits in: 1) identifying the purpose of reading; 2) flexibility of strategy application; 3) coping with failures of comprehension; 4) identifying important information; 5) recognizing textual organization; 6) identifying and fixing syntactic or semantic anomalies that are encountered; 7) effectively monitoring comprehension; 8) application of their repertoire of strategies; 9) relating new information to known information; 10) level of metacognitive awareness; and 11) number and effectiveness of strategies used (Flavell, Miller & Miller, 2002). Moreover, Zinar (2000) indicates that the general effectiveness of comprehension-monitoring behavior explains a

significant amount of variability in reading comprehension. Thus, there is strong evidence that metacognitive ability affects the success of reading comprehension in first language readers.

Differences noticed during comprehension monitoring can be due to comprehension problems, uncooperative text, or unfamiliar vocabulary (Hacker, 1998). This mismatch creates a reading problem and triggers some forms of repair. Readers then begin to exert their control to make a coherent text representation. Proficient readers possess the necessary linguistic knowledge, background knowledge, and strategies. Their metacognitive knowledge selects the strategy or strategies that will repair the problem. If the repair allows the reader to fix the text or internal representation of the text, the reader typically attributes the problem to the text. If the two cannot be reconciled, the reader generally attributes the problem to his or her own comprehension abilities. After the reader resolves the comprehension problem, he or she continues to evaluate subsequent text information determining whether the developing text representations continue to remain congruent (Hacker, 1998). However, there remain instances of comprehension failure that are not repaired through this metacognitive process. Hacker (1998) has indicated several sources of comprehension failures that result from failures of monitoring or controlling comprehension. These failures at comprehension are reflections of inappropriate monitoring and control of the reading comprehension process, or of linguistic or topic knowledge deficiencies.

Brown and Palincsar (1989) have presented the six strategies that have been found consistently to affect comprehension. These are: 1) clarifying the purpose of reading in order to determine the appropriate strategy to use; 2) activating relevant background knowledge and linking it to the text; 3) allocating attention to important pieces of information in the text; 4) evaluating content for internal consistency and compatibility with prior knowledge; 5) self-monitoring and self-regulation of comprehension; and 6) drawing and testing inferences regarding the text message. These six strategy families can form the basis for selection of strategies in instruction.

A number of educators have discussed characteristics of instruction designed to encourage learners to become more strategic (Rosenshine & Meister, 1994). First instruction is most effective when the instructor: 1) carefully explains the nature and purpose of the strategy; 2) models its use through reading and thinking aloud; 3)

provides ample practice and feedback for the students; 4) reminds students of the benefits of strategy use, and encourages the independent transfer of these skills to new learning situations; and 5) provides a content base so that strategy learning is embedded in authentic purposes.

Furthermore, instructional time for direct-strategy instruction and modeling must be made available for strategy instruction to be effective. Implicit instruction does not appear to be very effective, particularly for those students who are having problems (Hudson, 2007). The strategies that are taught must be determined through task analyses of strategies needed. The strategies should be difficult for the students to apply, but not so difficult that they become frustrated. If the activity is too easy, the readers can forget the need to be strategic in their reading. It is important to consider how particular strategies are applied and the contexts in which they are needed. Strategies need to be taught over a sufficient duration for the training to be effective and should be presented over a number of contexts with a variety of texts. In this sense the learners will need to be able to use the strategy automatically before they can monitor its success and helpfulness (Hudson, 2007).

## **2.5. Think-aloud technique**

Think-aloud process incorporates subjects reporting on their thinking as they complete a task (Pressley & Afflerback, 1995). This process began with the examination of task oriented activities but is also supported as a methodology to gain information about reading processes (Olshavsky, 1975). In reading research, thinking aloud involves the overt, verbal expression of the covert cognitive processes employed when readers engage in constructing meaning from texts (Ericsson & Simon, 1993). The reader reads the text, stops periodically, reflects on how a text is being processed and understood, and orally discusses reading strategies employed during reading (Bauman, Jones & Seifert-Kessell, 1993; Pressley & Afflerbach, 1995).

The process of thinking aloud has been used to teach, model, and evaluate reading strategies (Ericsson & Simon, 1993). A goal of thinking aloud is to make students and teachers aware of the mental processes involved in reading and to equip students with strategies that will increase their comprehension.

Think-aloud technique enriches our understanding of reading and play central



roles in developing detailed descriptions of cognition and response in reading (Afflerbach, 2000). Protocol analysis offers the opportunity to gather a detailed understanding of reading and reading-related phenomena to better understand the processes of reading (Afflerbach, 2000).

Studies that have used verbal protocols of reading mostly ask students to read texts, stop every now and then to reflect on how the text is being processed and understood. Reports may include how a problem is being solved, how word meaning is being guessed from the surrounding context, and how comprehension questions are answered (Pressley & Afflerbach, 1995).

### **2.5.1. Implementation of think-aloud technique**

Ericsson and Simon (1993) make several specific methodological recommendations for collecting self-report data. These include the following: verbal protocols should reflect exactly what the subject is thinking. Participants should avoid attempts to make the reports more coherent. When reports are concurrent to the task, they reflect a subset of information in short-term memory. Fully-automated processes are also difficult to report. Reading tasks given to proficient readers using texts that are cognitively undemanding may not be available for self-report. Think-aloud subjects should be discouraged from giving descriptions or explanations of their processing. It is important that researchers be able to make predictions about what people will self-report. In order to make accurate predictions about a subject's processing, it is important that there is a thorough understanding of the nature of the task, and possible individual differences in relation to prior knowledge of the task and content (Ericsson & Simon, 1993).

The use of think-aloud method can help capture the subjects' metacognitive strengths and weaknesses (Jimenez, Garcia & Pearson, 1996). Ericsson and Simon (1993) believe that the think-aloud procedure, when appropriately used, allows researchers to access and view invisible cognitive processes that cannot be viewed otherwise and thus provides direct evidence about processes. Moreover, think-aloud protocols allow access to the reasoning processes underlying higher level cognitive activities (Afflerback & Johnston, 1984).

### **2.5.2. Types of think-aloud technique**

Cohen (2000) distinguishes three types of data that verbal protocols reflect: self-revelation, self-observation, and self-report. Among the three, self-revelation is the disclosure of the thought process of a participant by verbalizing his/her unprocessed stream-of-consciousness. Self-observation represents an inspection of a specific language behavior either introspectively or retrospectively. This involves description of what a participant just did while working on a task at hand, for example. Finally, self-report is the participant's report of what they do in a generalized form. An advantage of the use of think-aloud procedure is to elicit behaviors minimally affected by processing which sheds light on the participant's thought processes.

Moreover, distinctions are made among verbal protocols with regard to immediacy of reporting. The verbal protocols produced in the process of thinking aloud may be obtained introspectively, retrospectively, or concurrently. Introspective protocols include subjects' thoughts about their actions, reasons for doing them, and explanations as to how they are carried out (Pressley & Afflerbach, 1995). Retrospective protocols occur after a task and include subjects' thoughts about what they remember doing and thinking during the completion of the designated task (Afflerbach & Johnston, 1984; Olshavsky, 1975). Similar to retrospective protocols, concurrent protocols include the subjects' thoughts about the task and the processes used to perform the task; however, concurrent protocols occur on-line with the performance of the task while retrospective protocols occur at the end of the task.

Providing concurrent protocols may be obtrusive, while it often yields more fine-grained data about specific behaviors. On the other hand, producing retrospective protocols may not hamper the natural flow of information processing, while the downside of it is that less information about specific behaviors is accessible for reporting due to forgetting on the part of the participant. Moreover, reconstruction of what one just did may lead to inaccuracy of reporting, such as reporting what the participant should have done rather than what he/she actually did (Cohen, 2000).

### **2.5.3. Limitations of think-aloud technique**

In spite of these benefits, acceptance of think-aloud as a valid tool is controversial (Ericsson & Simon, 1993) Pressley and Afflerbach (1995) discuss their

concerns with the challenges to the validity of verbal protocols. They identify the constructive nature of language comprehension and the variability of language as both an asset and liability in the use of verbal protocols. This variation is the gap between researcher and subject and the ensuing potential differences of worldview, vocabulary and inference on protocol analysis. Ericsson and Simon (1993) express concerns about the limited capacity of short-term memory and the critical nature of the verbal protocols and the recency of the action. The greater the distance between the event and the report, the greater the chance for embellishment or inaccuracy of information (Ericsson & Simon, 1993).

Pressley and Afflerbach (1995) provide additional concerns to verbal protocol analysis validity. They urge researchers to provide specific descriptions of the methods used in reading verbal protocols and analysis. This includes giving details coding interpretation and category development. Other concerns center on the validity of protocol analysis in that there is a potential for the research to make inferences about reports based on the researcher's theoretical constructs of reading. Additionally, the impact of instructions given to the subject may impact the degree of validity of the reports. These concerns and others regarding the limitations of the use of verbal protocols should not preclude their use, but provide guidelines for strengthening methodologies, thereby providing further information on existing and new research (Pressley & Afflerbach, 1995).

## **2.6. Chapter summary**

The review of literature has illustrated research in extensive reading and self-regulated learning. Extensive reading instruction in both first and second language is described as an approach to reading instruction which emphasizes on the role of comprehensible input. Students' reading comprehension can improve as a result, and their language proficiency can benefit tremendously from this. It can be seen from recent research that extensive reading instruction leads to gains in reading comprehension, vocabulary, writing skills, and positive reading attitude.

The literature review on self-regulation provides information on the descriptions of self-regulated learning as an interdependent interaction of three categories: person, behavior, and environment. They constantly change during the course of learning and influence the other categories. Many theorists have tried to

define the self-regulated learning processes. Some general characteristics of these processes are three phases: planning, monitoring, and reflecting. Concerning the measurement, self-regulated learning needs to be assessed in both aptitude and event properties. An aptitude refers to the cognition which students use in future activities; an event property refers to the employment of strategies in an actual performance.

The role of reading proficiency has also been explored. Research has indicated that proficient readers can choose and utilize different strategies more effectively than non-proficient readers. Reading instruction needs to provide opportunities for students to practice employing reading strategies through teaching techniques such as think-aloud.

The last topic of the literature review covers the think-aloud technique which was employed in this study. Think-aloud requires students to verbalize their thoughts without trying to explain or justify what they do while reading. Since there are some limitations in implementing think-aloud such as the validity of analysis, a careful exploration of this research technique from previous studies is crucial.

The theories and research of extensive reading and self-regulated learning form the research framework for the current study. The review of literature on reading proficiency helps shape the research design, and the think-aloud technique provides guidelines for data collection. In the next chapter, research methodology will be presented.

## CHAPTER III

### RESEARCH METHODOLOGY

This chapter describes the research design, population and sampling method, research and instructional instruments, data collection, and data analysis.

#### 3.1. Research design

As this study was conducted in a university setting, it was difficult for each subject to be randomly selected and assigned to the control and experimental groups. Therefore, it was more feasible to adopt the quasi-experimental design, which provides reasonable control over most sources of invalidity (McMillan & Schumacher, 1997). The two groups of students were randomly assigned to the ERSRL and ER groups. Table 3.1 illustrates the research design of this study; O represents dependent variables while X represents independent variables.

**Table 3.1 Pretest-posttest quasi-experimental design**

	Pre-test	Treatments	Post-test
<b>ERSRL</b>	$O_1$	$X_1$	$O_2$
<b>ER</b>	$O_1$	$X_2$	$O_2$

From Table 3.1,  $O_1$  is the English reading comprehension pre-test administered to the two groups to examine whether they were homogeneous and comparable in their reading comprehension. The pre-test scores were also used for later comparison with the scores from the English reading comprehension post-test represented here as  $O_2$ .

$X_1$  represents the ERSRL treatment. In ERSRL, students were required to select books within their reading levels and read five days a week to reach the goal of 1,000 pages. During a one-week cycle, students had to provide a brief summary of what they read. They set goals before they read. While they read, they self-monitored their understanding and noted any problems and solutions. At the end of each week, students engaged in self-reflecting, determining strategies which contributed to the success or failure of their performance.

For the ER group represented by  $X_2$ , students took part in regular extensive reading instruction, which required reading 1,000 pages of graded readers and

authentic materials. Each week, they provided a brief description of their reading and reflections of the story.

### 3.2. Population and sampling

The population of this study was 588 university students from the Faculty of Commerce and Accountancy at a Thai public university in Bangkok. During the first semester, they were randomly assigned to 14 sections of a foundation level English course by the Office of the Registrar. The objectives of this course aim at developing students' skills in reading, understanding, analyzing, and synthesizing information in English from different sources.

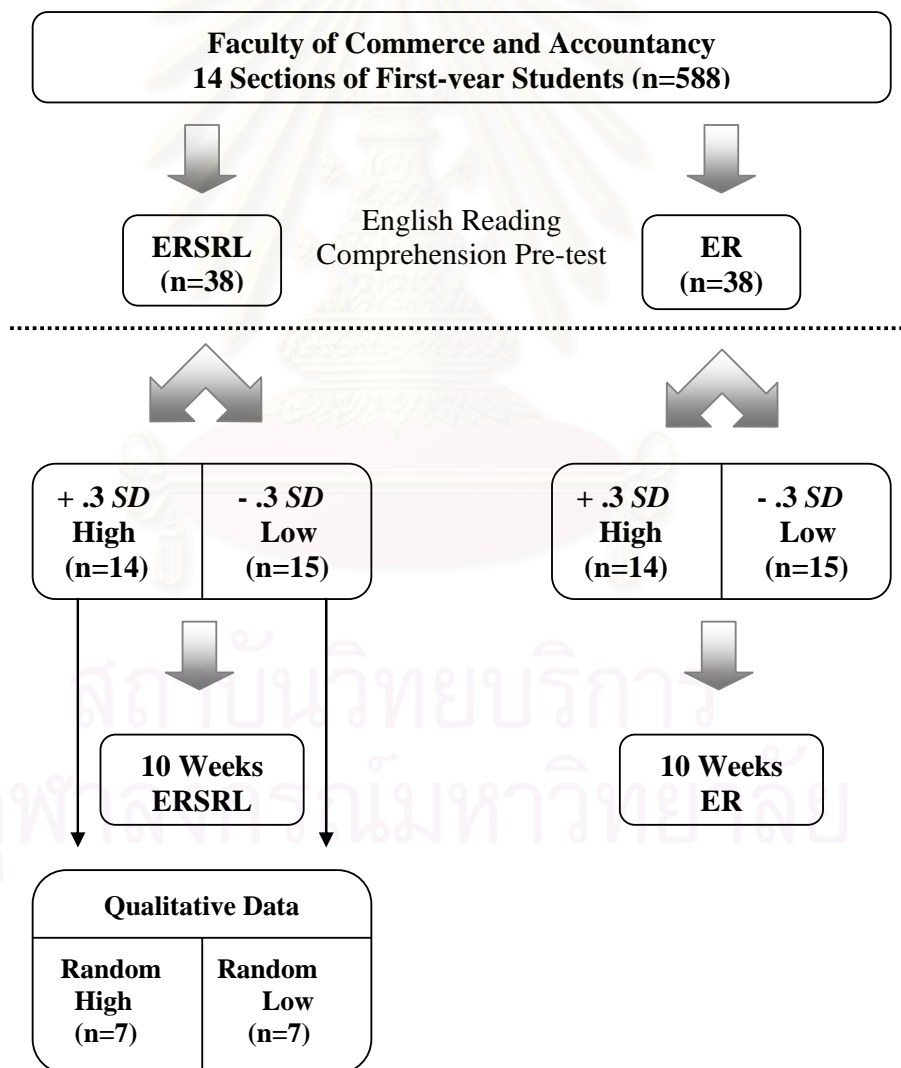


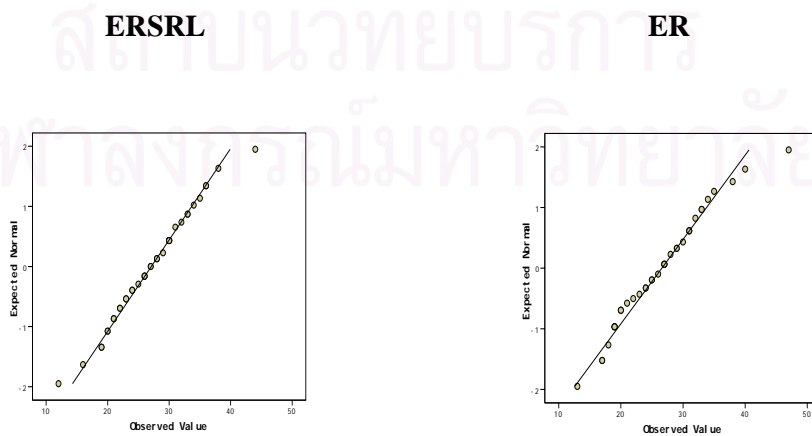
Figure 3.1 Population and sampling

Students from this faculty have to read a large number of textbooks in English in their major; accordingly, students are required to register in four English courses: two foundation level English courses, an English for specific purpose course, and an English for academic purpose course.

As illustrated in Figure 3.1, of all the 14 sections, two sections were purposively chosen to participate in this study. There were 38 students in both groups from the business management major. The class met twice a week at around the same time in the morning. The two groups were then randomly designated to the two treatment groups—ERSRL and ER.

### 3.2.1. Test of equivalent groups

Since the ERSRL and ER groups were purposively chosen, the English reading comprehension pre-test scores were used to observe the normal distribution within both groups by the Quantile-Quantile Plot (Q-Q Plot) to ensure that they could represent the normal population. The Q-Q plot shows the distribution of the data along the expected normal line in the middle of the X, Y Axis. The closer dispersion along the line represents the normal distribution of the data. From Figure 3.2, the Q-Q plot of the ERSRL group shows a straight line close to the expected normal line demonstrating the normal distribution of the group. The ER group's Q-Q plot shows a similar pattern of normal distribution although with some dispersion from the expected normal line. Accordingly, both groups were good representatives of the normal population.



**Figure 3.2 The normal quantile-quantile plot**

Once the distribution of ER and ERSRL groups was proven to be normal, the English reading comprehension pre-test mean scores of both groups were compared to ensure that their levels of reading comprehension were similar before the treatments were introduced.

During the first week of the semester, the English reading comprehension pre-test mean scores of ERSRL and ER groups were examined using independent samples t-test. Table 3.2 shows that there was no significant difference  $t(74) = .316, p > 0.05$  between the two groups' English reading comprehension pre-test mean scores. This suggests that the ERSRL and ER groups' reading comprehension were comparable.

**Table 3.2 A comparison of English reading comprehension pre-test scores**

<b>Group</b>	<b><i>n</i></b>	<b><i>Min</i></b>	<b><i>Max</i></b>	<b><i>Mean</i></b>	<b><i>SD</i></b>	<b><i>t</i></b>	<b><i>df</i></b>	<b><i>Sig.</i></b>
<b>ERSRL</b>	38	12	44	27.11	6.58	.316	74	.753
<b>ER</b>	38	13	47	26.61	7.19			
<b>ERSRL High</b>	14	29	44	33.71	3.97	.307	26	.957
<b>ER High</b>	14	29	47	33.21	4.61			
<b>ERSRL Low</b>	15	12	24	19.93	3.08	.243	28	.896
<b>ER Low</b>	15	13	24	19.67	2.92			

Afterwards, students in each group were classified as high and low reading comprehension groups. The middle group was excluded since students near the cut-off point may be too similar to show any differences in their reading comprehension abilities (Hudson, 2007). Originally, the cut-off point was set at  $+1.0 SD$  above and below the mean score; however, once the English reading comprehension pre-test mean scores were calculated, there were not sufficient students. The cut-off point was then adjusted; therefore, students in the high reading comprehension group consisted of those at  $+0.3 SD$  above the mean score, while students in the low reading comprehension group consisted of those at  $-0.3 SD$  below the mean score (see Figure 3.1, page 56).

From Table 3.2, the comparison of the English reading comprehension pre-test



mean scores of the high reading comprehension students in ERSRL and ER groups did not show any significant difference  $(26) = .307, p > 0.05$ . In other words, the high reading comprehension students in ERSRL and ER groups were similar in their reading comprehension abilities. Moreover, the comparison in Table 3.2 indicates that the difference in the English reading comprehension pre-test scores of low English reading comprehension students in ERSRL and ER groups was not significant  $(28) = .243, p > 0.05$ . This indicates that the abilities of reading comprehension of low reading comprehension students in ERSRL and ER groups were similar.

From the comparison of the English reading comprehension pre-test mean scores, it was determined that students in ERSRL and ER groups possessed similar reading comprehension abilities at the beginning of the treatments; therefore, the students in both groups were suitable for the study.

### **3.3. Research instruments**

The study utilizes five research instruments: the English reading comprehension pre- and post-tests, self-regulated learning strategies questionnaire, self-regulated learning interview schedule, reading texts for verbal protocols, and a reading portfolio form. These instruments will be discussed in two sections: 1) the descriptions of research instruments, and 2) research instrument validation.

#### **3.3.1. Descriptions of research instruments**

Five research instruments as illustrated in Table 3.3 elicited information from students to answer the two research questions. Research question one studies students' English reading comprehension, and two parallel forms of the English reading comprehension test were used as pre- and post-tests.

Research question two deals with the use of self-regulated learning strategies, and four research instruments were involved. The measurements of self-regulated learning need to cover two properties—aptitude and event (Winne & Stockley, 1998). An aptitude property—the cognition of motivation that students will use in the future learning activities—was examined by the self-regulated learning strategies questionnaire and self-regulated learning interview schedule. An event property—the operation of cognition in an actual learning performance—was examined by verbal protocols of reading and reading portfolio forms.

**Table 3.3 Research instruments**

<b>Objectives</b>	<b>Instruments</b>	<b>Distribution</b>	<b>Data analysis</b>
Research question 1: To compare reading comprehension before and after the treatment	1. English reading comprehension pre- and post-tests	Before and after the treatment	- Descriptive statistics - Independent samples t-test - Dependent samples t-test - Cohen's <i>d</i>
Research question 2: To study self-regulated learning strategies as an aptitude	2. Self-regulated learning strategies questionnaire	After the treatment	- Descriptive statistics
Research question 2: To study self-regulated learning strategies as an aptitude	3. Self-regulated learning interview schedule	After the treatment	- Descriptive statistics - Transcribing, coding & categorizing
Research question 2: To study self-regulated learning strategies as an event	4. Reading texts for verbal protocols	After the treatment	- Transcribing, coding & categorizing
Research question 2: To study self-regulated learning strategies as an event	5. Reading portfolio forms	Weekly	- Coding & categorizing

### **1. English reading comprehension pre- and post-tests**

The English reading comprehension pre- and post-tests came from the reading comprehension test of Chulalongkorn University Test of English Proficiency (CU-TEP), an institutional standardized English proficiency test. *Kuder-Richardson formula 20* (KR-20) was used to calculate the reliability coefficient of the English reading comprehension pre- and post-tests. The reliability coefficient of the English reading comprehension pre-test is .83, and .87 for the English reading comprehension post-test indicating that both tests are reliable. The English reading comprehension test assessed students' reading comprehension ability before and after the treatments. There are 60 questions which target different aspects of reading comprehension: word

recognition, reading comprehension, referencing, finding main ideas and details, inferencing, identifying types of writing, predicting, and identifying purposes. Parallel forms were administered as the English reading comprehension pre- and post-tests, and mean scores and standard deviation were used to calculate independent samples t-test and dependent samples t-test to study changes in the students' English reading comprehension.

## **2. Self-regulated learning strategies questionnaire**

The self-regulated learning strategies questionnaire was used to measure an aptitude property of self-regulated learning strategies—metacognitive regulation, performance regulation, and learning environment regulation. It was adapted from the Motivated Strategies for Learning Questionnaire (MSLQ) which was developed from a social cognitive view of motivation and learning strategies (Pintrich et al., 1991).

The MSLQ includes 81 items consisting of a motivation section and a learning strategies section. The motivation section comprises 31 items that assess students' goals and value beliefs for a course, their beliefs about their skills to succeed in a course, and their anxiety about tests in a course. The learning strategy section contains 31 items regarding students' use of different cognitive and metacognitive strategies. In addition, the learning strategies section includes 19 items concerning students' management of different resources. Items are scored on a 7-point Likert-type scale, from 1=not at all true of me to 7=very true of me. The questionnaire can be used in its entirety or its subscales (Pintrich, Smith, Garcia & McKeachie, 1991).

For the current study, three subscales of MSLQ were selected. Twelve items in the metacognitive self-regulation subscale measures metacognitive regulation category, 4 items in the effort regulation subscale measures performance category, and 7 items in the time and study environment management measures learning environment regulation category. Altogether twenty-three questions were selected, translated into Thai, and adjusted to the extensive reading contexts for this study (see Appendix A). Descriptive statistics were used to examine the findings.

## **3. Self-regulated learning interview schedule (SRLIS)**

The self-regulated learning interview schedule measures an aptitude property of self-regulated learning strategies. First, the interview questions were adapted from

the Self-regulated Learning Interview Schedule (SRLIS) by Zimmerman & Martinez-Pons (1986). The SRLIS requires students to describe strategies that they would use under six learning situations. In this study, these six situations were adjusted to contexts relating to ERSRL: 1) Reading in class, 2) Completing a reading portfolio, 3) Finishing a book, 4) Preparing for exams, 5) Lacking motivation to read, and 6) Reading outside of the classroom (see Appendix B). As this is a free response interview format, students will not be influenced by any specific factor (Zimmerman & Martinez-Pons, 1986 p. 616).

To examine the three categories of self-regulated learning, the 15 strategies were classified as: 1) metacognitive regulation—Organizing and Transforming, Rehearsing and Memorizing, Goal-Setting and Planning, and Keeping Records and Monitoring; b) performance regulation—Self-Evaluation and Self-Consequences; and c) learning environment regulation—Environment Structuring, Seeking Information, Reviewing Tests, Notes and Textbooks, and Seeking Assistance from Peers, Teachers and Adults (Zimmerman, 1989). When a strategy was mentioned, students had to estimate the frequency of the strategy use: seldom = 1, occasionally = 2, frequently = 3, and most of the time = 4. Data from the interview was transcribed, coded, and analyzed through descriptive statistics.

#### **4. Reading texts for verbal protocol**

The researcher selected three reading texts for experts' validation. These texts were from graded readers level 6 which were not available to students during the treatments. The first passage was *The Runaway Jury* by John Grisham (2001), the second one was *Memoirs of a Geisha* by Arthur Golden (2000), and the third one was *Business at the Speed of Thought* by Bill Gates (2001). The length of the passage was 500 words with readability measured by Flesch-Kincaid formula at grade level 12, or an equivalent of a reading passage for 12<sup>th</sup> grade readers. The texts were presented to the students in a similar form to the graded readers with illustrations and two words in the glossary.

Although the reading passages were all in English, students performed verbal protocols in Thai to ease their cognition process and communication. Data from verbal protocols were transcribed, coded, and categorized into three phases of self-regulated learning strategies—planning, self-monitoring, and self-reacting.

## **5. Reading portfolio form**

The reading portfolio form was used to capture an event property of self-regulated learning strategies in three phases—planning, self-monitoring, and self-reacting (see Appendix C). It monitored students' progress in extensive reading and self-regulating learning strategies according to the three phases. The reading goals examined the planning phase. The use of reading strategies or reading problems informed the self-monitoring phase. The evaluation of successful and unsuccessful strategies, and a plan for subsequent performance described the self-reacting phase. Data was coded and categorized, and these three sets of information explored students' progress.

### **3.3.2. Research instrument validation**

The English reading comprehension pre- and post-tests are standardized tests which have already been validated by the Chulalongkorn University Academic Testing Center. Therefore, only four research instruments were validated

The contents of the three research instruments—the self-regulated learning strategies questionnaire, self-regulated learning interview schedule, and a reading portfolio form—were validated by five experts in the field of English language instruction, English language evaluation and assessment, and educational psychology. Suggestions from experts were taken to improve the content validity of each instrument.

For the reading texts for verbal protocols, three experts in the field of English language instruction validated three reading texts. Only the most appropriate reading text agreed by the majority of the experts was chosen for the verbal protocols.

#### **1. Self-regulated learning strategies questionnaire**

The questionnaire was first sent to five experts for the verification of content validity. Each item was rated on a three point scale, 0 = rejected, 1 = not sure, and 2 = accepted. Mean scores from five experts were calculated, and items which did not score between 2.00 – 1.50 were revised according to suggestions from the experts.

As shown in Table 3.4, the mean scores of twenty-two items from the five experts were above 1.50, and only question 2 needed to be revised. Experts suggested that the phrase “make up questions” was not specific enough, so the researcher

rephrased the question to “When I read books / graded readers, I set a reading goal by posing questions about information I would like to know from this reading.”

After the researcher revised the self-regulated learning strategies questionnaire, 98 copies of the questionnaire were distributed to students from the Faculty of Commerce and Accountancy in July 2007 to examine the reliability of the questionnaire. The Cronbach’s alpha coefficient reliability value ( $\alpha$ ) is .724, indicating that the questionnaire is reliable and appropriate for the study.

**Table 3.4 Experts' validation of self-regulated learning strategies questionnaire**

Questions		Mean
Metacognitive regulation		
Question 1	While I'm reading, I often miss important points because I'm thinking of other things. (Reverse)	1.80
Question 2	When I read books / graded readers, I make up questions about information I would like to know from this reading.	1.40
Question 3	If I get confused about some parts of the texts I just read, I will go back and try to understand them.	2.00
Question 4	If a book I'm reading is too difficult for me, I will try to change the way I read it.	2.00
Question 5	Before I start reading a new book, I often browse through the book to overview the story.	2.00
Question 6	I often ask myself questions about the texts to make sure that I understand a book I have been reading.	2.00
Question 7	I try to adjust the way I read to fit different course requirements and instructor's teaching style.	1.60
Question 8	When I read I often do not understand some parts and lose track of the story. (Reverse)	2.00
Question 9	While reading, I try to think through a story and decide what I am supposed to understand from it rather than just reading it over.	2.00

<b>Questions</b>		<b>Mean</b>
Question 10	While reading, I try to think and determine which parts of the story I don't understand well.	2.00
Question 11	I set goals of how much I should be able to cover for each time I read a book.	1.80
Question 12	If I don't understand the story while I am reading, I will try to figure it out afterwards.	2.00
<b>Performance regulation</b>		
Question 13	I often feel bored or tired when I read, and I quit reading before I can finish what I have planned to cover. (Reverse)	2.00
Question 14	I try very hard to read as many books as I can even though I usually don't like to read.	2.00
Question 15	When I find some parts of a book too difficult, I either give up or only read the easy parts.	2.00
Question 16	I manage to keep reading and finish a book even when I find the story dull and boring.	2.00
<b>Learning environment regulation</b>		
Question 17	I usually read at a place where I can concentrate on my reading.	1.80
Question 18	I make good use of my reading time for this course.	1.80
Question 19	I find it hard to follow a reading schedule I have set.	1.80
Question 20	I have a regular place set aside for reading.	1.80
Question 21	I make sure that I keep up with the weekly reading for this course.	1.80
Question 22	I read regularly for this course.	1.80
Question 23	I often find that I don't spend much time reading for this course because of other activities.	1.80

2 – 1.50 = Accepted, 1.49 – 1.00 = Revised

Reverse: the score of students' responses will be reversed, e.g. 1 = 7 and 2 = 6.

## 2. Self-regulated learning interview

The interview situations and follow-up questions were rated on a three point scale, 0 = rejected, 1 = not sure, and 2 = accepted. Mean scores from five experts were calculated, and items which did not score between 2.00 – 1.50 were revised according to suggestions from experts.

**Table 3.5 Experts' validation of self-regulated learning interview schedule**

Questions	Mean
<b>Situation 1: Reading in class</b>	1.80
Assuming that a teacher is giving you time to read in class, he or she says that you will have to do an activity about what you have just read. Do you have any method to help you understand what you have read?	
Question 1.1 If the story is very long, what will you do to help yourself understand the story?	2.00
Question 1.2 What do you normally do in class when the teacher gives you time to read?	1.80
Question 1.3 What will you do if you still cannot understand the story once you have finished reading?	2.00
<b>Situation 2: Completing a reading portfolio</b>	2.00
The teacher often assigns you to write a summary of a book outside class, and these assignments are accounted for a major part of the grade. In such cases, do you have any method to help you plan and complete a book summary?	
Question 2.1 What do you normally do before you start writing a summary of a book?	2.00
Question 2.2 While writing a book summary, have you encountered any problems and how did you solve these problems?	2.00
Question 2.3 What are your procedures or methods in writing your book summary?	1.80



Questions	Mean
<b>Situation 3: Finishing a book</b>	2.00
Is there any particular methods you usually use to finish reading your book?	
Question 3.1 If you feel bored and don't want to continue reading a book, what will you do to help yourself finish reading that book?	2.00
Question 3.2 While reading, if you come across problems such as unknown vocabulary or complicated storyline, what will you do to help yourself finish reading that book?	1.80
Question 3.3 If a book you choose to read is especially long, what will you do to help yourself finish reading that book?	2.00
<b>Situation 4: Preparing for exams</b>	1.60
You are trying to read for exams, but other activities come up and interrupt your reading, what will you do?	
Question 4.1 While reading for exams, you need to do some errands for your family. What will you do?	1.60
Question 4.2 Have you asked for friends or teachers' help in preparing for an examination?	1.40
Question 4.3 Do you focus on anything in particular while preparing for an examination and what will you do?	1.40
<b>Situation 5: Lacking motivation to read</b>	1.40
Many times you cannot read a book as much as you plan to because there are other more interesting things you would rather do. Do you have any particular method for motivating yourself to finish reading what you have planned under these circumstances?	
Question 5.1 While you are reading, if it gets noisy and distracts your concentration, what will you do?	1.80
Question 5.2 if a matter comes up before you finish reading, what will you do?	1.80

Questions	Mean
Question 5.3 If your favorite TV program is on while you read, what will you do?	1.40
<b>Situation 6: Reading outside of the classroom</b>	1.20
Most students find it necessary to finish reading a book or prepare for the class at home. Do you have any particular methods for improving your reading at home?	
Question 6.1 Do you have any regular time for your reading?	2.00
Question 6.2 Do you have a favorite spot for your reading?	1.80
Question 6.3 Do you have any problem reading at home? How do you solve these problems?	1.80
2 – 1.50 = Accepted, 1.49 – 1.00 = Revised	

From the six situations and eighteen questions, items with mean scores lower than 1.50 were question 4.2, 4.3, 5.3, and situation 5 and 6 (see Table 3.5). Suggestions from experts were adopted to help improve the content validity of all situations and questions. The revision was made according to suggestions from five experts as summarized in Table 3.6.

**Table 3.6 Revision of self-regulated learning interview**

Original	Revised
Question 4.2	
Have you asked for friends or teachers' help in preparing for an examination?	You would like to do well on your final exam, and vocabulary knowledge is very important to achieve high scores. If you realize that you do not know enough vocabulary for this exam, what would you do?
Question 4.3	
Do you focus on anything in particular while preparing for an examination and what will you do?	If you did not do well on your English mid-term exam, what will you do to get an A from this course?

Original	Revised
Question 5.3	
If your favorite TV program is on while you read, what will you do?	If your favorite TV program is rescheduled and will be on during your regular reading time, what will you do?
Situation 5	
Many times you cannot read a book as much as you plan to because there are other more interesting things you would rather do. Do you have any particular method for motivating yourself to finish reading what you have planned under these circumstances?	Many times you cannot read as much as you plan to because you are busy or distracted by other things. What do you do to motivate yourself to finish reading as you have planned?
Situation 6	
Most students find it necessary to finish reading a book or prepare for the class at home. Do you have any particular methods for improving your reading at home?	While reading a book or reader outside class, do you have any particular routine for your reading?

Question 4.2 was commented as not clearly portraying the same quality of effort regulation as other questions in the same category. The question was revised and geared more towards reading and performance regulation.

Question 4.3 was not specific enough and might not generate any answer for this study, so the examination was changed to an English mid-term exam. The researcher also rephrased the question to “What will you do to get an A from this course?” to elicit answers regarding effort regulation.

Question 5.3 was judged by experts that it was open to different interpretations, and some students may offer responses relating to performance regulation instead of learning environment regulation. Therefore, the question was rephrased from “a favorite TV program being on while students read” to “a favorite TV program being rescheduled.”

Situation 5 was also not specific and experts suggested that the phrase “There are other more interesting things,” be changed to “You are busy and distracted by other things.” Also the question was tightened to “What do you do to motivate yourself to finish reading as you have planned?”

Situation 6 was ambiguous and experts suggested that it could also fall into the metacognitive regulation category, so revision was made and the researcher focused more on students' routine while reading outside of the classroom.

### 3. Reading portfolio form

Five experts reviewed and validated the reading portfolio form in terms of content, directions, and organization. Each item was rated on a scale of 1-4, and any item that scored above 3.00 was considered good, and those below 3.00 were revised.

**Table 3.7 Experts' validation of reading portfolio form**

	Experts					Mean
	N	O	P	Q	R	
<b>Content</b>	3.40	2.80	3.20	3.60	3.40	3.28
<b>Directions</b>	3.11	3.00	3.00	3.11	3.33	3.11
<b>Organization</b>	2.50	3.00	2.50	3.50	3.50	3.00

4.00 – 3.50 = Excellent, 3.49 – 3.00 = Good, 2.99 – 2.50 = Average, > 2.49 = Poor

The mean scores of all three items as presented in Table 3.7 were above 3.00 which implied that the reading portfolio form was acceptable for the study. However, suggestions for improvement from experts were adopted. Expert P suggested that instead of asking for overall opinions towards a story and characters, students may find it easier to respond to an impression on specific points. Therefore, the question “What are your opinions towards this story?” was revised to “Which parts of this story or which characters were you impressed with? Explain.” In addition, expert N suggested that the question “Did you achieve all the goals you set?” which only required yes/no answers should have a follow-up question. The researcher then added another question “What has helped you achieved or not achieved these goals?”

#### 4. Reading texts for verbal protocol

To find the most suitable reading text for verbal protocols, three reading texts from graded readers level 6 were selected for experts' validation. The length of each one was about 500 words. The first passage was *The Runaway Jury* by John Grisham (2001), the second one was *Memoirs of a Geisha* by Arthur Golden (2000), and the third one was *Business at the Speed of Thought* by Bill Gates (2001). The readability of the three reading texts was calculated through Flesch-Kincaid formula. All of the reading texts were at grade 12 level. That is, the texts were appropriate for university students.

Three experts validated these reading passages, and the areas for validation included reading difficulty judged by experts, vocabulary difficulty, cultural background knowledge, and levels of interestingness. The rating was on a scale of 1-5, and the mean scores from three experts were calculated. The passage scoring between 3.00-3.50 was used for the verbal protocols. Pressley and Afflerbach (1995) suggests that reading texts for verbal protocols should be slightly above students' reading comprehension level and may be from an unfamiliar field which will trigger students to employ more strategies. As a result, the students' strategy use will be more noticeable for a researcher to observe.

**Table 3.8 Validation of reading texts for verbal protocols**

	Mean		
	1. <i>The Runaway Jury</i>	2. <i>Memoirs of a Geisha</i>	3. <i>Business at the Speed of Thought</i>
<b>Reading Difficulty</b>	3.33	2.67	3.67
<b>Vocabulary Difficulty</b>	3.33	2.33	3.33
<b>Background Knowledge</b>	3.00	2.33	3.33
<b>Interestingness</b>	3.33	4.33	4.67
<b>Overall</b>	3.25	2.92	3.75

5.00 – 3.51 = Rejected, 3.50 – 3.01 = Accepted, 3.01 – 2.00 = Rejected

The mean scores shown in Table 3.8 indicate that passage one is the only one that met the criteria with an overall mean score of 3.25. The mean scores of the four items were between 3.00 and 3.33. Passage two has the lowest mean score of 2.92, indicating that the text might be too easy. The last passage had the highest mean score of 3.75 which is above the criteria, indicating that the text may be too difficult. As a result, passage one—*The Runaway Jury* by John Grisham, was used for verbal protocols.

### **3.4. The development of ER and ERSRL**

Two types of instruction—ER and ERSRL—were developed for the study. The development involves the exploration of related theories and experts' validation.

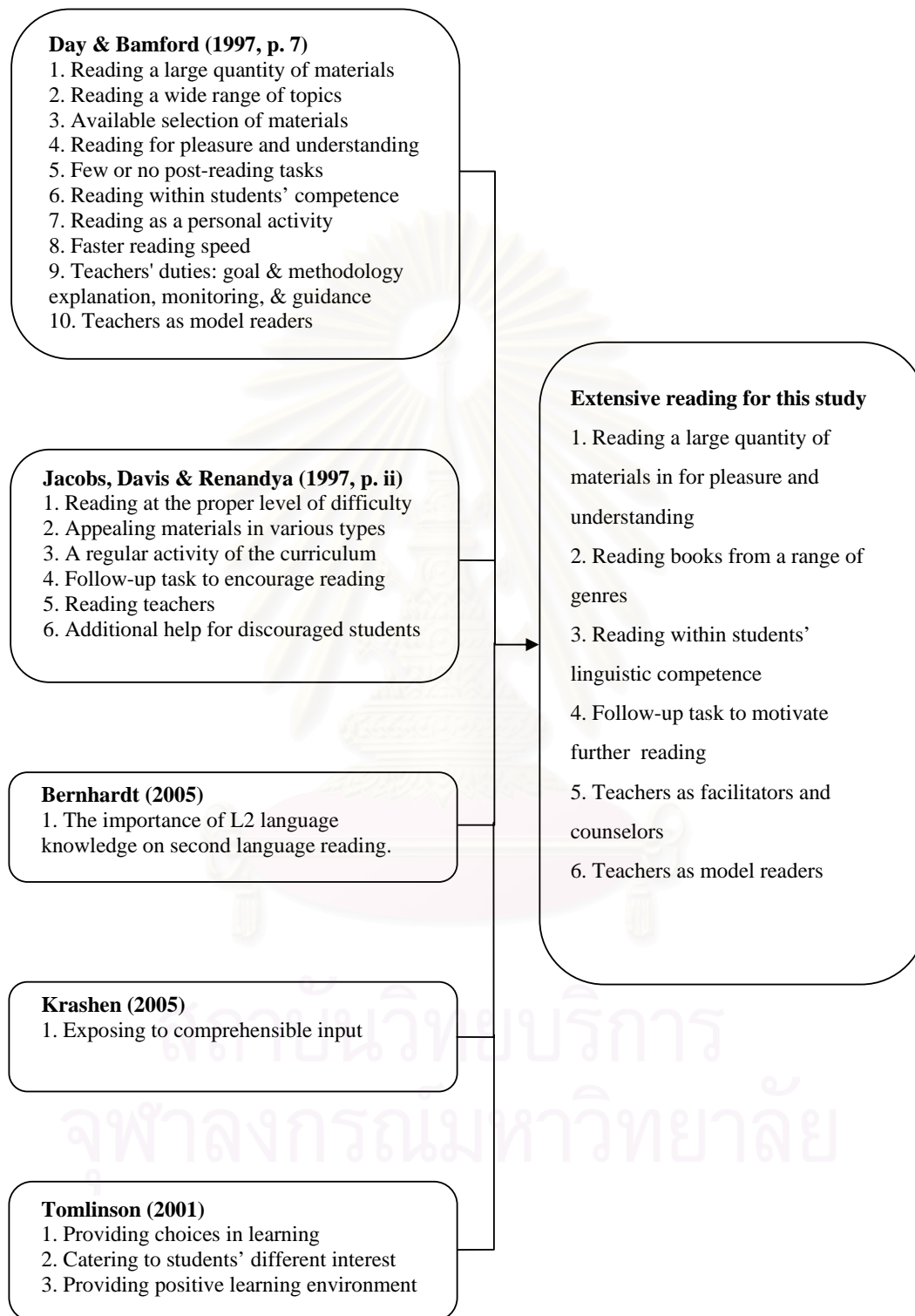
#### **3.4.1. The exploration of related theories**

To prepare extensive reading and self-regulated learning strategies instruction, related theories were explored from textbooks, journal articles and research papers. Theoretical framework can be summarized as follows:

##### **3.4.1.1. Extensive reading**

Extensive reading (ER) involves a number of reading and language learning theories as shown in Figure 3.3. Bernhardt (2005) proposes that students need to possess sufficient L2 language knowledge to read and understand texts. Sharing this view, Krashen (2003) suggests that the exposure to comprehensible input can contribute to the development of second language reading. Therefore, extensive reading can provide the comprehensible input which develops students' L2 language knowledge.

Day & Bamford (1997) and Jacobs, Davis & Renandya (1997) explain that ER is mainly characterized by reading a large quantity of materials for pleasure and understanding. Although the purpose is not to study language, students reading abilities can be improved in terms of reading speed, vocabulary knowledge, and reading comprehension.



**Figure 3.3. Characteristics of extensive reading**

Moreover, ER emphasizes the choice of books which caters to students' different interests and reading levels. Students must be able to choose what they want to read, and there should be a wide range of books. The difficulty levels of texts should vary so that students can choose to read material within their linguistic competence. This aspect of extensive reading is also consistent with differentiated instruction (Tomlinson, 2001). By offering choices that address to students' differences, extensive reading creates a positive learning environment that fosters the regular habit of reading.

#### **3.4.1.2. Self-regulated learning**

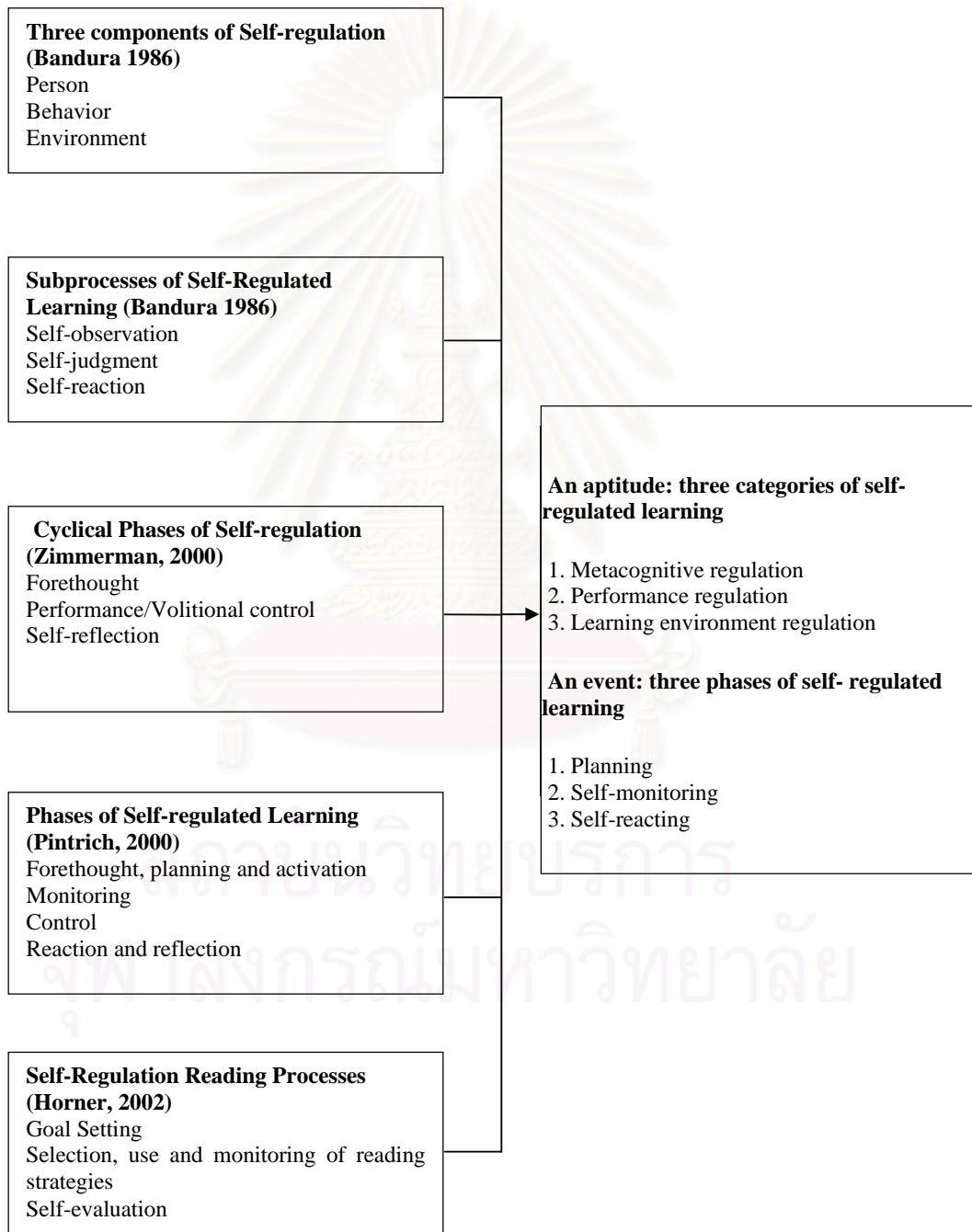
Frameworks by Bandura (1986), Zimmerman (2000), Pintrich (2000) and Horner (2002) have been adopted to construct language curriculum and lesson plans as presented in Figure 3.4. Self-regulated learning includes two properties—*aptitude* and *event* (Winne & Stockley, 1998). An aptitude property of self-regulated learning describes the cognition or motivation that will be involved when students participate in future learning activities (Winne & Stockley, 1998). For example, if students report reading the title and book covers, this may indicate students' goal-setting and planning in the metacognitive regulation category. In this study, an aptitude property of self-regulated learning refers to an interdependent interaction of three categories: metacognitive regulation, performance regulation, and learning environment regulation. Each component provides feedback to the other to adjust performance and attain learning goals

An event property of self-regulated learning describes the operations of cognition in learning activities, or what students actually do when they learn (Winne & Perry, 2000). For example, students may be asked to think aloud and report their thoughts while reading. In this study, an event property refers to the self-regulated learning process which occurs under the influence of these three phases:

First, the *planning* phase consists of goal-setting and planning. Students learn to plan what they want to achieve, and how they will do a task. They can aim at two types of goals: mastery and performance goals. A mastery goal focuses on knowing and becoming an expert of the subject matter while a performance goal focuses on outcomes like grades or scores. Second, the *self-monitoring* phase happens when students monitor their performance. This can be done through self-recording of



problems and solutions while participating in this study. Third, the *self-reacting* phase includes self-evaluation and self-reaction. Students evaluate their performance by reflecting on their learning and goal achievement. Then, they should try to identify factors which contribute to success or failure, so effective ones will be adopted and problematic ones will be avoided in subsequent performance.



**Figure 3.4. Self-regulated learning framework**

### 3.4.2 Extensive reading instruction (ER)

Extensive reading instruction was created based on the earlier exploration of extensive reading theory. The aim was to provide a positive reading environment for students. The main focus was to allow students to read and be exposed to comprehensible input through reading as much as possible. The goal for the students was to read 1,000 pages of books that they liked at an appropriate reading comprehension level. The post-reading task was minimal to take the least time away from reading. Each week, the ER students provided a brief summary of what they read during that week in five lines and wrote about their impression of the story.

**Table 3.9 Scope and sequence of extensive reading instruction**

Unit	Objectives
1	To understand the concept of extensive reading by completing the Intensive / Extensive Reading Diagram
2	To determine what reading level is appropriate for them to start by choosing the appropriate graded reader for themselves
3	To recognize relevant details from the title and illustration on the book cover
4	To examine understanding of a story and problems which may occur while reading by completing the comic strips
5	To check comprehension through summarizing
6	To learn how to effectively guess the meaning of unfamiliar vocabulary
7	To check comprehension understanding of the story by completing a pictogram summary
8	To inspect qualities of characters in the story by comparing them in the grid reference
9	To improve comprehension and writing skills by writing an email to a character which reflects an insightful understanding of the story
10	To expand the understanding of the story by choosing a song to accompany the story and provide logical reasons

The classroom routine was that the first 15 minutes was for silent reading, and the last 15 minutes was for returning and borrowing books. The scope and sequence of ER instruction are shown in Table 3.9.

### 3.4.3. An extensive reading with the integration of self-regulated learning framework (ERSRL)

The ERSRL instruction is similar to ER instruction but there is also a self-regulated learning component. As shown in Figure 3.5, the theoretical framework form a foundation for the integration of extensive reading and self-regulated learning strategies instruction. Extensive reading instruction aims at fostering second language reading. Students' L2 language knowledge is improved through exposure to comprehensible input. A positive learning environment is fostered since students can choose what they want to read.

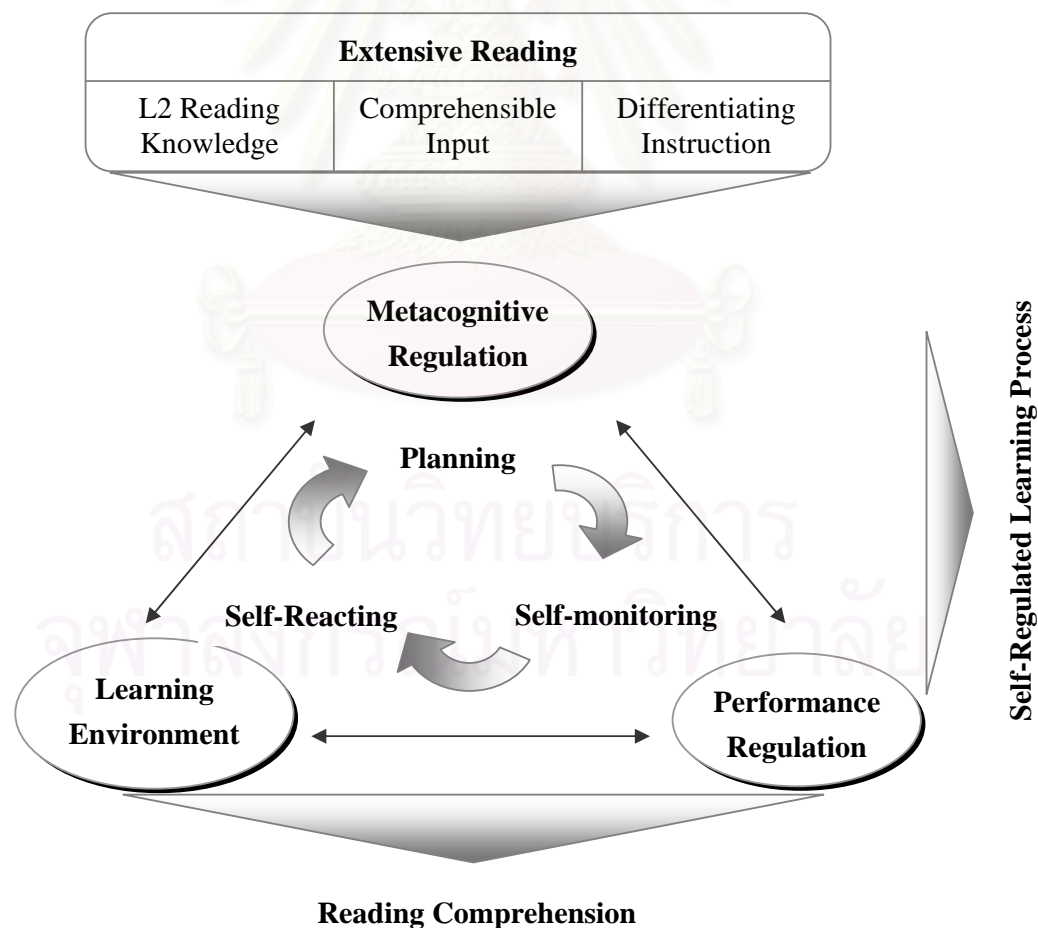


Figure 3.5 ERSRL framework

In a cycle of one week, the instruction included three phases. In planning, students planned and set a goal such as the number of pages. Then, in self-monitoring, students observed their own learning process by keeping records of success and problems they experienced while reading. The third phase referred to self-reacting during which students reflected and thought what contributed to the success or failure of their performance. They used the feedback to form a goal for the following week to improve their learning. These three phases progressed under the influence of three self-regulated learning categories: metacognitive regulation, performance regulation, and learning environment regulation. The outcomes were both process and product. For the process, students learned how to self-regulate their learning. For the product, students improved their reading comprehension abilities. The components of ERSRL include: 1) ERSRL instructional manual, and 2) ERSRL lesson plans.

#### 3.4.3.1. ERSRL instructional manual

The instructional manual supplies an overview and includes information regarding the rationale of the instruction, instructional materials, activities, the teacher's role, students' role, assessment and evaluation, and a learning environment for the implementation of the instruction (see Appendix D). Scope and sequence of ERSRL are presented in Table 3.10

**Table 3.10 Scope and sequence of ERSRL**

Unit	Objectives	
	Extensive Reading	Self-regulated Learning
1	To understand the concept of extensive reading by completing the Intensive / Extensive Reading Diagram	To understand the concept of self-regulated learning by analyzing Taking Control story and completing the diagram
2	To determine what reading level is appropriate for them to start by choosing the appropriate graded reader for themselves	To identify the three components of self-regulated learning in the reading portfolio by practicing completing the reading portfolio sheet

Unit	Objectives	
	Extensive Reading	Self-regulated Learning
3	To recognize relevant details from the title and illustration on the book cover	To plan and set a proximal and achievable goal
4	To examine understanding of a story and problems which may occur while reading by completing the comic strips	To monitor problems and solutions which may arise while reading
5	To check comprehension through summarizing	To identify factors contributing to success and failure in comprehension
6	To learn how to effectively guess the meaning of unfamiliar vocabulary	To make students become aware of appropriate time and study environment
7	To check comprehension understanding of the story by completing a pictogram summary	To examine the three phases of self-regulated learning—planning, self-monitoring, and self-reacting
8	To inspect qualities of characters in the story by comparing them in the grid reference	To practice self-monitoring and self-reacting by giving logical reasons to the chosen song
9	To improve comprehension and writing skills by writing an email to a character which reflects an insightful understanding of the story	To monitor and react to the understanding of the story by asking questions and giving suggestions in an email
10	To expand the understanding of the story by choosing a song to accompany the story and provide logical reasons	To improve self-monitoring by examining the story and provide an alternative ending which is appropriate to the story

*Similarities and differences of ER and ERSRL*

The scope and sequence of ERSRL share similarities to those of ER. The two treatments both emphasize ER characteristics as described in Figure 3.3 (page 73). Extensive reading instruction primarily encourages students to read extensively and promotes reading comprehension (see Table 3.11). Students were oriented to read a large amount of books of their interest to gain exposure to English texts. They were taught to choose books which were appropriate to their reading levels and interests based on features of a book such as front and back covers, a synopsis of the story, and readability levels.

**Table 3.11 Characteristics of ER and ERSRL**

	<b>ER</b>	<b>ERSRL</b>
<b>Objectives</b>	1. To improve students' reading abilities by providing exposure to English reading material	1. To improve students' reading abilities by providing exposure to English reading material 2. To develop students' self-regulated learning which comprises planning, self-monitoring, and self-reacting
<b>Procedures</b>	1. Students read 1,000 pages of books of interest at their reading level 2. Students report a brief summary of the story or a part of it that they read each week	1. Students read 1,000 pages of books of interest at their reading level 2. Students report a brief summary of the story or a part of it that they read each week 3. Students set a reading goal, self-monitor their reading and progress, and self-react according to their goal and self-monitoring
<b>Reading materials</b>	1. 450 graded readers 2. 350 authentic books	1. 450 graded readers 2. 350 authentic books
<b>Assessment</b>	1. English reading comprehension test	1. English reading comprehension test

Extensive reading instruction also promotes reading comprehension to motivate students to read. As most of the students were novice readers, they may not be familiar with reading long English texts. Activities were designed to foster reading comprehension. For example, they were taught to form summaries of a part of the book they read.

However, from Table 3.11, the primary differences between the two treatments are the objectives and procedures. The ERSRL treatment also includes the self-regulated learning component. Apart from encouraging reading comprehension and promoting the regular habit of reading, students learned how to effectively self-regulate their performance outside of the classroom through three phases: planning, self-monitoring, and self-reacting. The main purpose was to understand that the success and failure of their learning did not entirely stem from their performance but also included what happened before and after their learning. Through planning, students had a better focus for their performance. Through self-reacting, they gradually learned the most effective way to read independently outside of the classroom.

Both ER and ERSRL shared the same reading materials which consisted of 450 graded readers and 350 authentic books. The same English reading comprehension test was also used to assess students' progress in both treatments.

#### **3.4.3.2. ERSRL lesson plans**

The ERSRL lesson plans include detailed information of activities and procedures used in the classroom. Each lesson plan consists of the title of a lesson, objectives, material, time, and activities (see Appendix E, F & G).

Ten lesson plans were designed to introduce students to extensive reading and to teach them to self-regulate their learning through planning, self-monitoring, and self-reacting as shown in Table 3.10 (page 78). The lessons gradually progress from a controlled practice of the self-regulated learning strategies to an independent practice to allow students to become proficient in self-regulated learning. For ER, the lesson plans resemble those of ERSRL's excluding the self-regulated learning component. The emphasis of the lessons is on the importance of exposure to texts, an appropriate reading level, and book selection.

Silent reading was done regularly during the first 15 minutes of the class. The

last 15 minutes of the class was set aside for checking and returning books. Also, students turned in reading portfolio forms every week. The ERSRL group provided a brief summary and an impression of a book, and filled out a reading portfolio form regarding their planning, self-monitoring, and self-reacting in a cycle of one week.

#### **3.4.3.3. Reading materials**

Both ERSRL and ER groups needed access to a wide range of reading material; therefore, 150 authentic books and 300 titles of graded readers from a starter level to level 6 were available in the class. Twenty titles came with CDs to enhance reading comprehension. These books and readers cover a host of genres such as romance, drama, mystery, thriller, horror, biography, and science fiction.

To help students in choosing a book at their reading level, the reading difficulty for each authentic book was obtained through Flesch-Kincaid Index which calculates the reading difficulty from the number of syllables, words, and sentences. The difficulty levels range from 4.5 to 10. The level was printed on a sticker and put on the spine of each book.

The books were arranged on the shelves according to levels; each shelf was dedicated to only one level with both graded readers and authentic books to provide easy access for students. Library borrow-return cards were affixed to the inside of the back covers; students were allowed to check out books themselves for a period of one week with unlimited renewal until they finished reading. The purpose was to make sure that students brought books to class every week for class discussion, activities, and monitoring.

In addition to the classroom library, students also had access to the Self-Access Language Center (SALC) at the Language Institute which was open from 8.00 a.m. to 8.00 p.m during the semester. Prior to the purchase of books for the classroom library, the researcher surveyed and noted down all the titles in SALC. There were another 150 titles of graded readers and 200 titles of authentic books. Therefore, altogether the selection of graded readers included 450 titles and 500 titles of authentic books.

#### **3.4.4. ERSRL instruction validation**

The instructional manual and lesson plans were validated by 10 experts from



the field of language instruction. All experts were full-time professors of English language teaching. The rating was done on a scale of 1.00 – 4.00, and then the mean scores were computed. If any items' mean scores were below 3.00, that item had to be revised. However, even if an item's mean score was above 3.00, experts' comments and suggestions were still considered.

#### 3.4.4.1. Instructional manual validation

Five experts reviewed the instructional manual with regards to its rationale, theoretical framework, components, instructional activities, and assessment and evaluation. In Table 3.12, the scores from each expert are presented with the mean scores in the last column.

**Table 3.12 Experts' validation of the instructional manual**

	Experts					Mean
	A	B	C	D	E	
<b>Rationale</b>	4.00	3.00	3.25	2.75	3.00	3.20
<b>Theoretical Framework</b>	3.50	3.50	3.50	3.00	3.00	3.30
<b>Components</b>	3.00	4.00	3.00	2.67	3.00	3.27
<b>Instructional Activities</b>	3.00	4.00	3.33	3.00	3.00	3.27
<b>Assessment and Evaluation</b>	2.60	3.60	3.40	3.00	3.00	3.12

4.00 – 3.50 = Excellent, 3.49 – 3.00 = Good, 2.99 – 2.50 = Average, > 2.49 = Poor

The mean scores in Table 3.12 illustrates that all of the five items' mean scores were from 3.12 – 3.30 which indicates that the instructional manual is acceptable. The experts offered some comments for the improvement of the instructional manual.

Expert A suggested that the three phases of self-regulated learning—planning, self-monitoring, and self-reacting—be introduced repeatedly through different activities to students as this was a new learning concept for them. Within each lesson, teacher could focus on one or two steps to make sure that students could master all the three phases. Therefore, the introduction of self-regulated learning was rearranged and

students were taught the full cycle of self-regulated learning from the first lesson. The second lesson reviewed self-regulated learning again with an emphasis on planning and self-monitoring. The third one placed an emphasis on self-reacting. Afterwards, students practiced the three steps of self-regulated learning with different emphases on each step.

Expert C suggested that there should be two main objectives for each lesson, one focusing on extensive reading and the other on self-regulated learning. This would help guide both the teacher and students to progress in the same direction. Therefore, within each lesson, the objectives for both extensive reading and self-regulated learning were made explicit.

#### **3.4.4.2. Lesson plans validation**

The lesson plans and worksheets used in the two groups were validated by another five experts. The main items for validation were objectives, time allocation, directions, activities, and worksheets. Only three lesson plans from ERSRL were reviewed by experts. This is because the lesson plans of the ER group followed those of the ERSRL group, but the self-regulated learning component in ERSRL lesson plans was replaced by silent reading.

The mean scores from experts' validation and suggestions were used to make improvement on the lesson plans; thereafter, the other seven lesson plans for ERSRL were designed following the three revised lesson plans after the validation.

#### **Lesson one: Do you read?**

Lesson one was similar for both groups. ERSRL students reviewed their reading habits, learned the concepts of extensive reading and self-regulated learning; on the other hand, ER students only studied the concept of extensive reading.

The mean scores from experts' validation are shown in Table 3.13. The mean scores of the five items for this lesson plan were above 3.00 ranging from 3.13 to 3.60. The time allocation was the only item that was rated excellent while the rest was rated good. This implies that overall, this lesson is appropriate for the study. Suggestions from experts were taken to improve the lesson. Expert G and J suggested that some sentences in the worksheet were ambiguous and might not be able to elicit answers from students.

In the worksheet Do You Read?, the first question was adjusted from asking how much time students spend reading in an average week to how much time they spend reading in Thai and in English. Also, the question “Do you enjoy reading?” was revised into two questions: “Do you enjoy reading in Thai? Why or why not?” and “Do you enjoy reading in English? Why or why not?”

**Table 3.13 Experts' validation of lesson one**

	Experts					Mean
	F	G	H	I	J	
<b>Objectives</b>	3.33	2.67	4.00	4.00	3.33	3.47
<b>Time allocation</b>	3.00	4.00	4.00	3.00	4.00	3.60
<b>Directions</b>	3.25	2.75	3.75	3.25	3.50	3.30
<b>Activities</b>	3.00	1.67	3.67	3.33	4.00	3.13
<b>Worksheets</b>	4.00	2.00	4.00	3.00	4.00	3.40

4.00 – 3.50 = Excellent, 3.49 – 3.00 = Good, 2.99 – 2.50 = Average, > 2.49 = Poor

The worksheet Taking Control was perceived as too difficult for the first class by expert F and G. Some words and expressions were changed to aid students' comprehension. The setting of the story in “a small liberal arts college” was changed to “a university.” An expression “needless to say” was changed to “obviously.” To simplify the activity, instead of having students read and find the habits that demonstrate planning, self-monitoring, and self-reacting, number 1- 4 were inserted into different areas of the reading text that showed these qualities. Students only had to match the numbers to the corresponding qualities.

### **Lesson two: In search of your level**

In this lesson, the main objectives were to choose a book at an appropriate reading level and to learn how to set goals in the planning phase and to self-monitor. The mean scores of all the five items of lesson two were between 3.40 and 3.60

indicating that the objectives, time allocation, activities and worksheets are excellent and the directions are good (see Table 3.14).

**Table 3.14 Experts' validation of lesson two**

	Experts					Mean
	F	G	H	I	J	
<b>Objectives</b>	3.67	3.00	4.00	4.00	3.33	3.60
<b>Time allocation</b>	3.00	4.00	4.00	3.00	4.00	3.60
<b>Directions</b>	3.00	3.25	3.75	3.50	3.50	3.40
<b>Activities</b>	3.33	3.67	3.67	3.33	4.00	3.60
<b>Worksheets</b>	4.00	3.00	4.00	3.00	4.00	3.60

4.00 – 3.50 = Excellent, 3.49 – 3.00 = Good, 2.99 – 2.50 = Average, > 2.49 = Poor

Suggestions from experts were in two areas. First, experts G and I commented that students might not understand how to rate their understanding of the excerpts in percentage, so a guideline was created:

100 % - Completely understand everything.

80% - Understand almost the entire page. A few difficult words,

60% - Understand some main parts. Many difficult words.

40% - Many parts are not understood.

20% - Do not understand the story.

Expert F also noted that some students might not be able to set an appropriate goal as this was too early for them to master the skill. Therefore, it was suggested that a common goal be shared by everyone this week and students' main duties were trying to monitor their reading. The goal was for students to read for pleasure everyday for at least one hour without the use of a dictionary.

### Lesson three: Judge the book from its cover.

Lesson three explores more on the topic of book selection. Students learned to notice information available on the front and back covers to help them decide whether this book was of their interest and within their linguistic level.

**Table 3.15 Experts' validation of lesson three**

	Experts					Mean
	F	G	H	I	J	
<b>Objectives</b>	3.33	3.67	3.00	4.00	3.67	3.53
<b>Time allocation</b>	4.00	4.00	4.00	4.00	4.00	4.00
<b>Directions</b>	3.50	3.00	3.00	4.00	3.50	3.40
<b>Activities</b>	4.00	3.33	3.00	2.67	4.00	3.40
<b>Worksheets</b>	4.00	3.00	3.00	4.00	4.00	3.60

4.00 – 3.50 = Excellent, 3.49 – 3.00 = Good, 2.99 – 2.50 = Average, > 2.49 = Poor

From the mean scores of the validation in Table 3.15, the lesson was at a good level. The directions and activities were rated good, and objectives, time allocation and worksheets were rated excellent. The mean scores ranged from 3.40 to 4.00.

Expert I recommended that the lesson could be more practical if it included a situation in which students did not have much information from the covers, or the reviews may be too difficult for them to understand. Therefore, the last 15 minutes of the class was changed to book selection and explanation. Students paired up and helped select one book for their partners. They had to persuade a partner to choose one book and the partner had to agree and accept the book to read for that week.

After the validation by experts, the lesson plans were then used in a classroom setting to examine if the plans and procedures were practical. This will be discussed in details in the pilot study.

### 3.5. Pilot study I

The pilot study I had been carried out for three weeks in June 2007 with 18

students. The purpose was to validate the three lesson plans which formed the teaching procedures for other lessons. An expert in English language instruction observed the classes and provided feedback for further improvement.

### **3.5.1. Lesson plans**

#### *Lesson one: Do you read?*

In the first lesson, students reflected on their own reading habits, likes, and dislikes. The expert suggested that there should be another warm up activity before students started to complete the survey, so an easy classification activity was created. The teacher presented 18 phrases of authors, reading strategies and famous novels, and students had to group them. The first group that finished the task shared their answers with friends.

#### *Lesson two: In search of your level*

For this lesson, the main focus was that students had to find an appropriate reading level and to become oriented with the planning and self-monitoring. The expert noticed that students were not active enough in choosing their levels and made a suggestion that students needed to move around. Therefore, instead of providing six excerpts from each level of graded readers, the excerpts were enlarged and mounted on the walls around the classroom. Students had to walk around the class in groups.

#### *Lesson three: Judge the book from its cover*

The third session's objectives were to make students more aware of their book selection, and to know how to self-evaluate and self-react. The expert suggested that instead of having students review their own books, assign only one book to students and have them discuss in groups to make the class more dynamic.

The suggestions from the expert for all three lessons were beneficial for delivering effective lessons and improving a classroom environment. The lessons were more dynamic and students should be more engaged in these lessons.

### **3.5.2. Self-regulated learning interview schedule**

After the revision, the self-regulated learning interview schedule was validated by four students. The students were able to understand and respond to the six situations and questions very well. However, there were some changes to improve the quality of the interview and to adjust the questions to suit extensive reading.

Situation 1: The word “activity” was changed to “summarize a story you have read”, and question 5.2 was revised from “If a matter comes up before you finish reading, what will you do?” to “If you have to stay at the university to finish writing a report and it has passed your regular reading time, what will you do?”

### **3.5.3. Reading portfolio form**

The weekly reading portfolio form was distributed to the 18 students. They were asked to check out a book for one week, filled out the form, and returned it in the following week. From the observation of the researcher, the students were able to complete most of the items. However, the students did not use information from the self-reacting phase as a basis to set a reading goal for the following week. Therefore, the researcher made a note to explain this point to students in the main study.

### **3.6. Pilot study II: validation of self-regulated learning strategies questionnaire**

The purpose of pilot study II was to validate the self-regulated learning strategies questionnaire. After the validation by experts, in July 2007, the self-regulated learning strategies questionnaires were distributed to 98 undergraduate students from the Faculty of Accountancy and Commerce to examine the reliability coefficient. From the calculation of Cronbach’s alpha coefficient, the reliability value ( $\alpha$ ) is .724 indicating that the questionnaire is reliable and acceptable to be used in the main study.

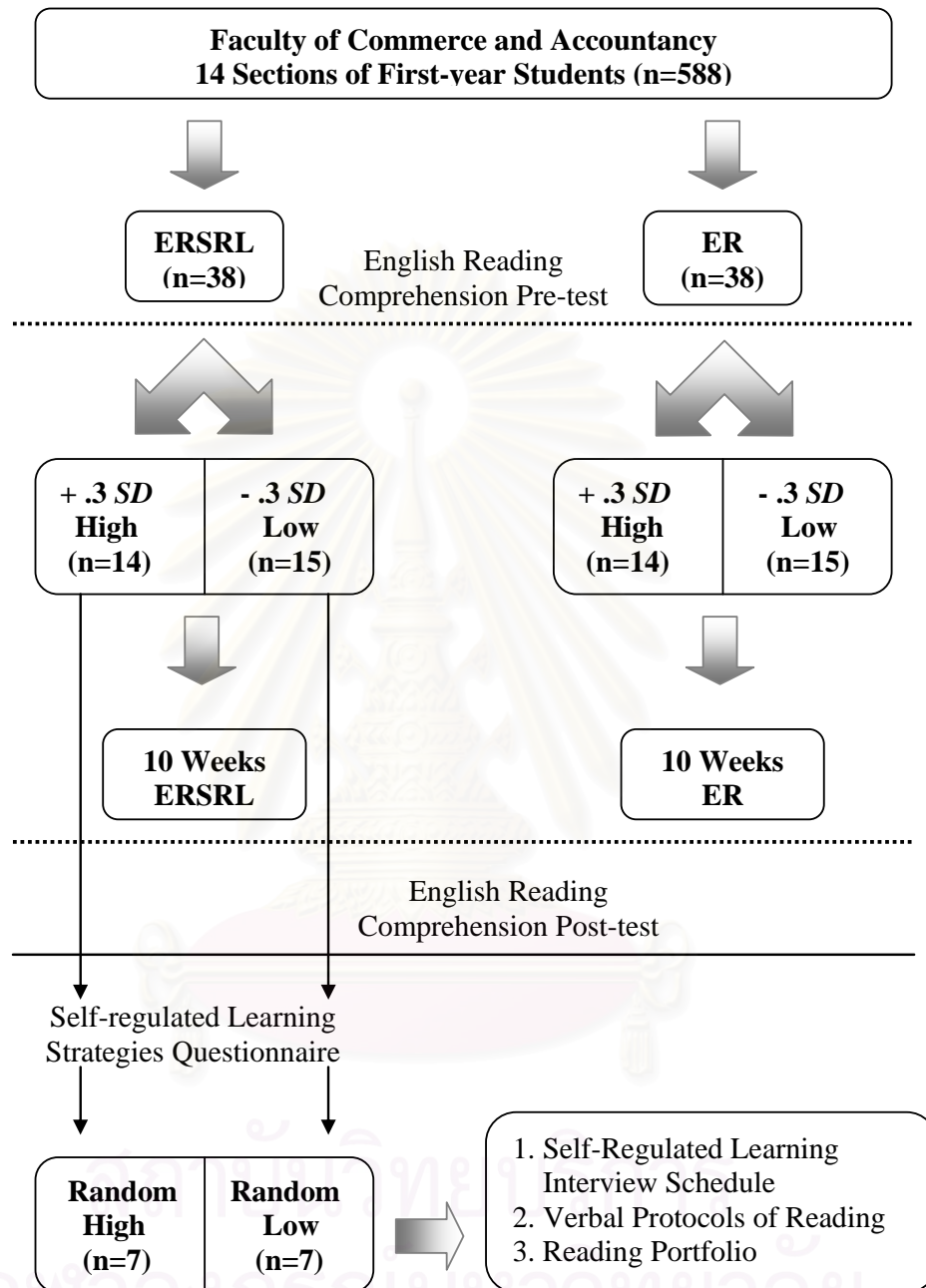
### **3.7. Data collection**

The data collection is illustrated in Figure 3.6 which consists of three phases: before, during, and after the treatments.

#### **3.7.1. Before the treatments**

##### *English Reading Comprehension Pre-test*

During the first week, the English reading comprehension pre-test was administered to both groups of students. The scores were used to examine the normal distribution, to find out whether they were comparable in their reading comprehension abilities, and to classify students as high and low reading comprehension groups.



**Figure 3.6. Outline of data collection**

### 3.7.2. During the treatments

Both groups received the treatments for 10 weeks. For ERSRL, students were oriented to extensive reading and self-regulated learning while the ER students were exposed to only extensive reading.



### *Reading portfolio forms*

Reading portfolio forms were placed on all the shelves, and students were asked to complete the forms and turn them in at the beginning of each week for the period of 10 weeks. They were not required to finish the book first and filled out the form, but they needed to provide information of what they read during that week. The teacher checked the form regularly each week to provide feedback and monitor students' reading. The reading portfolio forms of 7 students from the ERSRL high reading comprehension and 7 students from the ERSRL low reading comprehension groups were randomly selected. Only the reading portfolio forms from week 2, 7 and 11 were selected. The reading portfolio forms from week 2 provided information of students' self-regulated learning strategies at the beginning of the treatment. After students had been introduced to all components of the self-regulated learning in week 7, their reading portfolio forms provided information on the progress of their self-regulated learning strategy use. The reading portfolio forms from week 11 provided information on students' self-regulated learning strategies after the completion of the treatment. All their reading portfolio forms were photocopied for data collection and analysis.

### **3.7.3. After the treatments**

#### *English reading comprehension post-test*

After the treatments of 10 weeks, all of the students took the English reading comprehension post-test which was administered by the Academic Testing Center, Chulalongkorn University. The scores were compared with their pre-test scores within and between groups to answer research question one.

#### *Self-regulated learning strategies questionnaire*

The questionnaires were distributed to the ERSRL high and low reading comprehension groups during the last week at the end of the class. Students spent approximately 20 minutes completing all 23 items.

#### *Self-regulated learning interview*

ERSRL high and low reading comprehension groups were informed that they were going to be asked questions regarding what they usually did during the ten weeks under these six situations. The researcher assured students that this was strictly for a research purpose and all their answers would not affect their grades since the

interview took place on week 13 after all their scores had already been submitted. The researcher provided six situations to students and each situation was followed by another three questions. Answers from students were digitally recorded. Each interview session lasted around 20 minutes.

#### *Verbal protocols of reading*

After the SRLIS, verbal protocols were carried out to the ERSRL high and low reading comprehension groups. Two reading passages, one for a rehearsal and the other for data collection, were provided to the students.

First, students rehearsed verbalizing their thoughts with an excerpt from *Memoirs of a Geisha* by Arthur Golden. The researcher explained to students that the research was done to study their reading strategies both when they understood the material, and when they had problems and solved them. To do so, the researcher needed to know what the students were thinking which was invisible to others. The method that is used to relay students' thoughts to the researcher is called verbal protocols, which is reporting their thoughts out loud to the researcher. Any thoughts which occurred while reading should be said aloud and would be recorded. Students were reminded to read loudly and not to remain silent. After the explanation, the researcher modeled verbal protocols to students and then let them practice with one page of a graded reader.

Once students were familiar with the method, an excerpt from *The Runaway Jury* by John Grisham was handed to the students. Students reported their thoughts and the researcher limited his role to an observer. Only the question "What are you thinking right now?" was asked when students remained silent. This was done to control factors which might influence students' understanding and thinking. Ericsson and Simon (1999) caution that students should only attend to their thinking while verbalizing their thoughts. If students are prompted to explain or describe their thoughts, additional processing may take place and the sequence of thought may be changed. On average, each verbal protocol session lasted 30 minutes.

### **3.8. Data analysis**

The data analysis was briefly mentioned in Table 3.8 (Page 59) for all the research instruments. The discussion of data analysis will be guided by the research questions to show the relationship of the analysis and research questions which

provide a framework for this study.

*Research question 1: To what extent does ERSRL improve English reading comprehension of Thai university students?*

Answers to research question one came from the English reading comprehension test. Scores from the English reading comprehension pre- and post-tests were used to examine effects of the treatments on ERSRL and ER groups. Their English reading comprehension pre- and post-test scores were compared using dependent samples t-test. The English reading comprehension post-test scores of the ERSRL and ER high reading comprehension groups were also compared using independent samples t-test to examine differences from the two types of treatments.

In addition, the effect size of these two mean scores was calculated. Effect size measures the relationship of the two variables regardless of the sample size (Cohen, 1988). It is different from the test of significance in that it examines the size of observed effects. Cohen's  $d$  is an appropriate effect size measure for t-test.  $d$  is defined as the difference between two means divided by the pooled standard deviation for those means (see Figure 3.7). The interpretation of effect size can be in statements. An effect size of .20 is a small effect, .50 a medium effect, and .80 a large effect.

$$d = \frac{\text{mean}_1 - \text{mean}_2}{\sqrt{(\text{SD}_1^2 + \text{SD}_2^2)/2}}$$

**Figure 3.7 Cohen's  $d$**

For the low reading comprehension groups, the ERSRL low English reading comprehension pre- and post-test scores were compared using dependent samples t-test. Cohen's  $d$  was also used to study effects of the treatment on their reading comprehension. The English reading comprehension post-test scores of the ERSRL and ER low reading comprehension groups were then compared using independent samples t-test.

*Research question 2: What are self-regulated learning strategies used by Thai university students at high and low levels of English reading comprehension while participating in ERSRL?*

Answers for research question two came from four research instruments. *The self-regulated learning strategies questionnaires* and *self-regulated learning interview schedule* measure an aptitude aspect of self-regulated learning—a cognition that will be involved in the future activities. *Verbal protocols of reading* and *weekly reading portfolio forms* measure an event property of self-regulated learning—an operation of cognition in actual performance.

*The self-regulated learning strategies questionnaire* and its three subscales—metacognitive regulation, performance regulation, and learning environment regulation—were analyzed with descriptive statistics. The data measured an aptitude property or the three categories of self-regulated learning—metacognitive regulation, performance regulation, and learning environment regulation. Items which scored between 1.00 – 3.00 were classified as infrequent, 3.01 – 5.00 as moderate, and 5.01 – 7.00 as frequent.

Data from *the self-regulated learning interview schedule* were transcribed, coded, and analyzed with descriptive statistics. The data added further details and examples to data from the self-regulated learning strategies questionnaire according to the three categories of self-regulated learning. Items which scored between 1.00 – 2.00 were classified as infrequent, 2.01 – 3.00 as moderate, and 3.01 – 4.00 as frequent.

In addition, the *verbal protocols of reading* measured an event property of self-regulated learning or the three self-regulated learning phases: planning, self-monitoring, and self-reacting. The protocols were first transcribed. Then the transcription was coded according to the constructively responsive reading strategies by Pressley and Afflerbach (1995). Last, the data were categorized and emerging patterns of reading strategies among different groups were analyzed and reported.

*Reading portfolio forms* from week 2, 7 and 11 were gathered to examine the self-regulated learning progress. The reading portfolio forms from week 2 indicated students' self-regulated learning strategies at the beginning of the treatment. The reading portfolio forms from week 7 were chosen to indicate students' use of self-

regulated learning strategies after every category and phase of self-regulated learning had been taught to students. The reading portfolio forms from week 11 revealed students' self-regulated learning strategies after the treatment was complete. The researcher examined three phases of self-regulated learning—planning, self-monitoring, and self-reacting. Data was coded, categorized, and compared. The three sets of data from each week were then examined for any patterns or progress in self-regulated learning strategies.

### **3.9. Chapter summary**

This study was conducted with two groups of students based on the pre-test post-test quasi-experimental design. Instructional instruments and research instruments were developed and validated by experts. Pilot studies were carried out to verify the practicality of the instructional treatments and the validity of research instruments. The two groups of students were designated to the two treatments, ERSRL and ER, for the period of ten weeks. Within each group, the English reading comprehension pre-test mean scores were used to classify students as high and low reading comprehension groups.

During the treatments of ten weeks, students completed weekly reading portfolio forms which provided data on students' progress on the use of self-regulated learning strategies. After the treatments, English reading comprehension post-test mean scores were compared with the pre-test mean scores and between the two treatment groups. The self-regulated learning was examined in two aspects: aptitude and event properties. The self-regulated learning strategies questionnaire and self-regulated learning interview measured an aptitude property of self-regulated learning. Verbal protocols of reading and reading portfolio forms measured an event property.

The next chapter reports the results of this study according to the two research questions. The first one examines the effects of ERSRL on students' reading comprehension by examining English reading comprehension mean scores. The second one focuses on students' use of self-regulated learning strategies from the questionnaire, interview, verbal protocol, and portfolio.

## CHAPTER IV

### RESULTS

This chapter examines the data collected from the English reading comprehension test, self-regulated learning strategies questionnaire, self-regulated learning interview, verbal protocols of reading, and reading portfolio. Descriptive and inferential statistical procedures were employed to analyze the data and the findings were examined in light of two research questions:

- 1) To what extent does ERSRL improve English reading comprehension of Thai university students?
  - 1.1 To what extent does ERSRL improve English reading comprehension of students at a **high level** of reading comprehension?
  - 1.2 To what extent does ERSRL improve English reading comprehension of students at a **low level** of reading comprehension?
- 2) What are self-regulated strategies used by Thai university students at high and low levels of English reading comprehension while participating in ERSRL?

Research question 1 focuses on the improvement of English reading comprehension test scores after the intervention, and the mean scores of English reading comprehension pre- and post-test were used. Research question 2 studies the participants' self-regulated learning strategies and data were gathered from self-regulated learning strategies questionnaire, self-regulated learning interview schedule, verbal protocols of reading, and reading portfolio.

#### 4.1 Results of research question 1

*Research question 1 - To what extent does ERSRL improve English reading comprehension of Thai university students?*

This research question explores the effects of extensive reading instruction and self-regulated learning framework on English reading comprehension by examining the English reading comprehension scores.

**Table 4.1 Findings of English reading comprehension pre- and post-tests of ERSRL and ER groups**

		<i>n</i>	<i>Mean</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>Sig.</i>	<i>Mean difference</i>	<i>d</i>
ERSRL	Pre-test	38	27.11	6.58	4.826	37	.000	2.13	.30
	Post-test	38	29.24	6.34					
ER	Pre-test	38	26.61	7.19	2.923	37	.006	1.97	.21
	Post-test	38	28.08	6.78					

The results in Table 4.1 indicate that the ERSRL students made a significant improvement,  $t(37) = 4.826$ ,  $p < 0.05$ , on their English reading comprehension pre- and post-tests after 10 weeks of the treatment. The effect size of these two mean scores was calculated. The effect size of the ERSRL group's pre- and post-test mean scores using Cohen's  $d$  suggested that the difference was small ( $d = .30$ ). In addition, ER students' English reading comprehension post-test mean score was significantly higher than the pre-test mean score  $t(37) = 2.923$ ,  $p < 0.05$ . However, the effect size suggests that the improvement was small ( $d = .21$ ).

To investigate the improvement of English reading comprehension more in details, the two research sub-questions guide the examination of the English reading comprehension scores.

*1.1. To what extent does ERSRL improve English reading comprehension of students at a **high level of reading comprehension**?*

Research question 1.1 examines the English reading comprehension scores of the high English reading comprehension group. Two research hypotheses guide the comparison of English reading comprehension pre- and post-test mean scores.

**Table 4.2. Findings of English reading comprehension pre- and post-tests of the high reading comprehension students in ERSRL and ER**

		<i>n</i>	<i>Mean</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>Sig.</i>	<i>Mean difference</i>	<i>d</i>
ERSRL high	Pre-test	14	33.71	3.97	3.170	13	.007	1.15	.30
	Post-test	14	34.86	4.26					
ERSRL High	Post-test	14	34.86	4.26	.441	26	.666	.50	.10
ER high	Post-test	14	34.36	6.08					

***Hypothesis 1:** The English reading comprehension post-test mean scores of high reading comprehension students in ERSRL will be significantly higher than the English reading comprehension pre-test mean scores.*

The English reading comprehension pre- and post-test scores were compared using dependent samples t-test. The findings in Table 4.2 shows that the ERSRL high reading comprehension group performed significantly better,  $t(13) = 3.170$ ,  $p < 0.05$ , on the English reading comprehension post-test (Mean=34.86, SD=4.26) than their pre-test (Mean=33.71, SD=3.97) scores. An effect size of the pre-test and post-test mean scores of the ERSRL high reading comprehension group was small ( $d = .30$ ). Therefore, research hypothesis one was accepted.

***Hypothesis 2:** High reading comprehension students in the ERSRL will have significantly higher English reading comprehension post-test mean scores than those of high reading comprehension students in ER at the significance level of 0.05*

To further understand the improvement of the ERSRL high reading comprehension group, independent samples t-test was employed to compare the post-test scores of the ERSRL high reading comprehension and ER high reading



comprehension groups. Table 4.2 shows that the post-test scores of the two groups did not have any statistically significant difference  $t(26) = .441, p > 0.05$ . Research hypothesis two was then rejected. The difference in their post-test mean scores was only .50. The effect size of the mean scores from the two groups was very minimal ( $d = .10$ ).

*1.2. To what extent does ERSRL improve English reading comprehension of students at a low level of English reading comprehension?*

This research question studies the improvement of low English reading comprehension group. Two research hypotheses also guide the comparison of English reading comprehension pre- and post-test mean scores.

**Hypothesis 3:** *The English reading comprehension post-test average scores of low reading comprehension students in ERSRL will be significantly higher than the English reading comprehension pre-test average scores.*

**Table 4.3. Findings of English reading comprehension pre- and post-tests of the low reading comprehension students in ERSRL and ER**

		<i>n</i>	<i>Mean</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>Sig.</i>	<i>Mean difference</i>	<i>D</i>
ERSRL low	Pre-test	15	19.93	3.08	3.040	14	.009	2.60	1.0
	Post-test	15	22.53	2.20					
ERSRL low	Post-test	15	22.53	2.20	.871	28	.398	1.07	.30
ER low	Post-test	15	23.60	4.69					

Table 4.3 shows a significant increase of the ERSRL low reading comprehension group's English reading comprehension post-test scores. ERSRL low reading comprehension group's English reading comprehension post-test mean score

was significantly higher,  $t(14) = 3.04$ ,  $p < 0.05$ , than their pre-test mean score. The research hypothesis three was accepted. The post-test mean score was 2.60 points higher than the pre-test mean score and the effect size was very large ( $d = 1.0$ ). This suggested that the ERSRL low reading comprehension group can improve their English reading comprehension greatly.

Additionally, to address research hypothesis four, the English reading comprehension post-test mean scores of ERSRL low and ER low groups were compared.

***Hypothesis 4:*** *Low reading comprehension students in ERSRL will have significantly higher English reading comprehension post-test mean scores than those of low reading comprehension students in ER at the significance level of 0.05*

Table 4.3 indicates no statistical significant difference between the mean scores of the two groups,  $t(28) = .871$ ,  $p > 0.05$ . The research hypothesis four was rejected. The English reading comprehension post-test mean scores of ER low group was slightly higher, and the effect size ( $d = .30$ ) was small.

Thus, the findings of research question one suggest that ERSRL group improved their English reading comprehension significantly after the treatment. The difference was particularly more noticeable in the ERSRL low reading comprehension group as indicated by a large effect size. However, there was no significant difference between the English reading comprehension post-test mean scores of both ERSRL and ER groups. This indicates that self-regulated learning did not have any significant impact on the students' reading comprehension.

## **4.2 Results of research question 2**

***Research question 2 - What are self-regulated learning strategies used by Thai university students at high and low levels of English reading comprehension while participating in ERSRL?***

The second research question studies the ERSRL students' self-regulated

learning strategies use. Winne and Perry (2000) propose that self-regulated has two properties: *aptitude and event*. An *aptitude* describes the cognition or motivation that will be involved when students participate in future learning activities (Winne & Stockley, 1998). An *event* describes the operations of cognition in learning activities, or what students actually do when they learn (Winne & Perry, 2000).

#### **4.2.1. Measurements of an aptitude property of self-regulated learning**

In this study, an aptitude property of self-regulated learning comprises three categories of self-regulated learning: metacognitive regulation, performance regulation, and learning environment regulation. The aptitude measurements of self-regulated learning were covered by self-regulated learning strategies questionnaire and self-regulated learning interview schedule.

##### **4.2.1.1 Self-regulated learning strategies questionnaire**

The self-regulated learning strategies questionnaires were distributed to 38 ERSRL students in week 11 after the completion of the treatment. The students responded to the questionnaire in a likert scale of 1 (extremely disagree) to 7 (extremely agree). The questionnaire consists of 23 questions exploring three components of self-regulated learning: 1) person—metacognitive regulation, 2) behavior—performance regulation, and 3) environment—learning environment regulation. The reliability value of the questionnaire from the main study was also estimated by Cronbach's alpha coefficient at a set point of .82 implying that the questionnaire is reliable. The data were analyzed by means of descriptive statistics.

The mean scores of the self-regulated learning strategies questionnaire were moderate for the ERSRL high reading comprehension group (see Table 4.4). The mean score for all categories was 4.94, and the *SD* was .76. They reported using metacognitive regulation the most often (Mean=5.00, *SD*=.86) and performance regulation the least (Mean=4.79, *SD*=.89).

The overall mean score for the ERSRL low reading comprehension group was also moderate. They reported using performance regulation the most often (Mean=5.23, S.D.=.51) which was slightly higher than that of the ERSRL high reading comprehension group. The least often one was learning environment regulation (Mean=4.86, S.D.=.42).

**Table 4.4 Self-regulated learning strategies questionnaire result**

Categories	Items	ERSRL high			ERSRL low		
		n	Mean	SD	N	Mean	SD
<b>Metacognitive regulation</b>	12	14	5.00	.86	15	5.20	.62
<b>Performance regulation</b>	4	14	4.79	.89	15	5.23	.51
<b>Learning environment regulation</b>	8	14	4.92	.85	15	4.86	.42
<b>TOTAL</b>	23	14	4.94	.76	15	5.11	.39

Although the results from the self-regulated learning strategies questionnaire have shown that there were some differences between the ERSRL high and low reading comprehension groups, it should be noted that the differences were not large. Both groups reported using self-regulated learning strategies at a moderate level.

#### **4.2.1.2 Self-regulated learning interview schedule**

A Self-regulated learning interview schedule (SRLIS) measured an aptitude property of self-regulated learning. The SRLIS was translated into Thai and the six learning contexts were adjusted to the extensive reading program: 1) Reading in class, 2) Completing a reading portfolio, 3) Finishing a book, 4) Preparing for exams, 5) Lacking motivation to read, and 6) Reading outside of the classroom. Fourteen students from the ERSRL high reading comprehension group (n=7) and the ERSRL low reading comprehension group (n=7) participating in the SRLIS were randomly chosen. They were asked to report what they would usually do in each of the six situations (see Appendix H for a sample of coding).

For example, in situation 3: Is there any particular methods you usually use to finish reading your book? A student may report that they divided the number of pages that should read everyday. This signifies that the student used goal-setting strategy in the metacognitive regulation. Table 4.5 shows the fifteen self-regulated learning strategies proposed by Zimmerman & Martinez-Pons (1986) which guide the coding.

Once a strategy was mentioned, students had to estimate the frequency of the strategy from seldom=1 to most of the time=4 (see Appendix H).

**Table 4.5 Self-regulated learning strategies**

<b>Strategies</b>	<b>Definitions</b>
1. Self-Evaluation	Statements indicating student-initiated evaluations of the quality or progress of their work.
2. Organizing and Transforming	Statements indicating student-initiated overt or covert rearrangement of instructional materials to improve learning.
3. Goal-Setting and Planning	Statements indicating student setting of educational goals or subgoals and planning for sequencing, timing, and completing activities related to those goals.
4. Seeking Information	Statements indicating student-initiated efforts to secure further task information from nonsocial sources when undertaking an assignment.
5. Keeping Records and Monitoring	Statements indicating student-initiated efforts to record events or results.
6. Environment Structuring	Statements indicating student-initiated efforts to select or arrange the physical setting to make learning easier.
7. Self-Consequences	Statements indicating student arrangement or imagination of rewards or punishment for success or failure.
8. Rehearsing and Memorizing	Statements indicating student-initiated efforts to memorize material by overt or covert practice.
9-11. Seeking Social Assistance	Statements indicating student-initiated efforts to solicit help from <i>Peers</i> (9), <i>Teachers</i> (10), and <i>Adults</i> (11).
12-14. Reviewing Records	Statements indicating student-initiated efforts to reread <i>Tests</i> (12), <i>Notes</i> (13), or <i>Textbooks</i> (14) to prepare for class or further testing.
15. Other Persons	Statements indicating learning behavior that is initiated by other persons such as teachers or parents, and all unclear verbal responses.

Zimmerman & Martinez-Pons (1986, pp.618)

Thereafter, to examine the three categories of self-regulated learning, the 15 strategies were classified into self-regulation of 1) metacognitive regulation—

Organizing and Transforming, Rehearsing and Memorizing, Goal-Setting and Planning, and Keeping Records and Monitoring; b) performance regulation—Self-Evaluation and Self-Consequences; and c) learning environment regulation—Environment Structuring, Seeking Information, Reviewing, and Seeking Assistance (Zimmerman, 1989). Descriptive statistics were used to analyze the data from SRLIS

### **Inter-rater reliability**

Coded interview transcriptions were randomly selected from ERSRL high and low reading comprehension groups and sent to two independent raters to assess the reliability of the coding. The reliability coefficient was .83 for the SRLIS which indicates that the coding for both sets of data was highly consistent.

The findings of the three categories of self-regulated learning are discussed with examples of students' responses.

**Metacognitive Regulation** – In this phase, the ERSRL high reading comprehension group reported using strategies for metacognitive regulation slightly more regularly than the ERSRL low reading comprehension group. Both ERSRL high and low reading comprehension most often employed Goal-Setting and Planning ( $Mean=3.86$ ,  $SD=0.38$ ) (see Table 4.6).

Students reported setting a goal such as the number of page, or the amount of time they would spend reading each day. They also mentioned creating a short outline before they completed their portfolio entries. For example, ERSRL high reading comprehension student #1 described how he planned his reading by dividing the number of pages. The ERSRL low reading comprehension students #7 explained how she adjusted her reading goals.

ERSRL high student #1: *“Each week, I tried to calculate how many pages I need to cover. Say 100 pages. I would try to read about 20 pages for five days.”*

ERSRL Low student #7: *“In the beginning, I read very slowly, so I tried to set a modest goal like 10 pages. But later on, maybe I felt better about reading, so I increased the number of pages.”*

**Performance regulation** – from Table 4.6, the ERSRL high reading comprehension group used strategies to regulate their performance slightly more frequently than the ERSRL low reading comprehension group. ERSRL high reading comprehension group ( $Mean=3.57, SD=0.53$ ) and ERSRL low ( $Mean=3.43, SD=0.53$ ) groups relied on Self-Consequences more frequently than Self-Evaluation. For instance, students in the ERSRL high and low reading comprehension indicated how they remained motivated to read by rewarding themselves afterward.

**Table 4.6 Findings from self-regulated learning interview schedule**

<b>An aptitude: self-regulated learning interview schedule</b>				
<b>Items</b>	<b>High (n=7)</b>		<b>Low (n=7)</b>	
	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>
<b>1. Metacognitive regulation</b>				
1.1. Goal-setting & planning	3.86	0.38	3.43	0.53
1.2. Organizing & transforming	3.14	1.46	3.00	.820
1.3. Keeping records & monitoring	2.86	0.90	2.71	1.50
1.4. Rehearsing and memorizing	1.14	1.95	2.00	1.53
<b>2. Performance regulation</b>				
2.1. Self-evaluation	3.00	1.41	2.57	1.13
2.2. Self-consequences	3.57	0.53	3.43	0.53
<b>3. Learning environment regulation</b>				
3.1. Environmental structuring	3.86	0.38	3.86	0.38
3.2. Seeking peer assistance	0.71	1.25	1.71	1.70
3.3. Seeking teacher assistance	0.00	0.00	0.57	0.98
3.4. Seeking adult assistance	0.86	1.46	0.71	1.25
3.5. Reviewing tests	0.00	0.00	0.00	0.00
3.6. Reviewing notes	0.00	0.00	1.29	1.25
3.7. Reviewing textbooks	0.00	0.00	0.00	0.00
3.8. Other persons' initiations	0.00	0.00	0.57	0.98

ERSRL high student #2: *“I told myself If I kept reading and reached 100 pages, I would allow myself to go see a movie.”*

ERSRL low student #8: *“My goal was usually about 20 pages a day and I tried to finish reading before my favorite TV program was on.”*

**Learning environment regulation** – Both ERSRL high and low reading comprehension groups frequently used strategies to regulate their physical environment; however, they rarely used strategies to structure social environment such as Seeking Assistance from Peers, Teachers, and Adults (see Table 4.6). The high reading comprehension group did not make use of reviewing strategies at all while the low reading comprehension group seldom used reviewing notes. Students in the ERSRL high and low reading comprehension groups explained how they structured their reading environment at home to help them read.

ERSRL high student #5: *“I did all my reading in the living room since it was very comfortable. I tried to get home early and finished reading before other people came back; otherwise, I would read in my bedroom before I went to bed.”*

ERSRL low student #12: *“I sometimes read at the university, but it was usually too noisy. Most of the time, I ended up reading in my bedroom and got more reading done.”*

To sum up, the findings from SRLIS indicates that ERSRL high and low reading comprehension groups reported using more self-regulated learning strategies in the SRLIS than in the self-regulated learning strategies questionnaire. The strategies use in the self-regulated learning strategies questionnaire was only moderate; however, the findings from SRLIS shows that these students often employed self-regulated learning strategies. Self-regulated learning strategies which both ERSRL high and low reading comprehension groups often used are Goal-Setting and Planning, Environment Structuring, and Self-Consequences.

In the next section, the focus is on an event property of self-regulated learning strategies. The findings were from verbal protocols of reading and reading portfolios.



#### **4.2.2. Measurements of an event property of self-regulated learning**

An event property of self-regulated learning examines the three self-regulated learning phases: planning, self-monitoring, and self-reacting. An event measurement of self-regulated learning includes verbal protocols of reading and reading portfolio entries.

##### **4.2.2.1 Verbal protocols of reading**

Data from the protocols were transcribed and coded which was guided by the constructively responsive reading (Pressley & Afflerbach, 1995) portraying an ideal skilled reader who employs all reading strategies and processes. Students report their thoughts in Thai to lessen the demand on the cognitive processing (see Appendix I & J for a sample of coding).

From the first coding of eight protocols, it was found that strategy 2.8 (Using Recall Strategies) was widely used by the students but was not specific enough to capture details of the strategies; therefore, the coding of strategy 2.8 was revised and six sub-strategies were assigned and listed as shown in Table 4.7.

##### **Inter-raters reliability**

Afterwards, the reading text, the coding scheme, and four transcribed protocols from each group were sent to two independent raters. The independent raters read and checked the coded protocols to ensure the consistency of the coding by the researcher. Any differences in the coding were marked and suggestions for alternative coding were recorded. The reliability coefficient was .87 for the verbal protocols which indicates that the coding of data was highly consistent.

According to the verbal protocols, not all of the 15 strategies were clearly evident. From Table 4.7, nine strategies were utilized by the students in both groups to some varying degrees and four were not found in the data—Overviewing Text, Revising Prior Knowledge, Conversing with the Author, and Anticipating Use of Knowledge.

The most frequently used strategies were Using Recall Strategies, Determining Word Meaning, and Reflecting while the least frequently used strategies were Evaluating Text, Looking for Important Information, and Activating Prior Knowledge (see Appendix K for the full analysis of verbal protocols).

**Table 4.7. Findings from the verbal protocols of reading**

<b>An event: Verbal protocols of reading</b>		
<b>Items</b>	<b>Upper (n=7)</b>	<b>Lower (n=7)</b>
	<i>Frequency</i>	
<b>1. Planning</b>		
1.1. Overviewing Text	0	0
1.2. Activating Prior Knowledge	0	2
<b>2. Self-monitoring</b>		
2.1. Looking for Important Info	1	1
2.2. Relating Text to Text	7	4
2.3. Relating Text to Prior Knowledge	1	1
2.4. Revising Meaning	1	8
2.5. Revising Prior Knowledge	0	0
2.6. Inferring	6	4
2.7. Determining Word Meaning	18	60
2.8. Using Recall Strategies	384	552
2.8.1 Interpretive Conclusion	339	401
2.8.2 Rereading	4	9
2.8.3 Paraphrasing	2	2
2.8.4 Self-Questioning	6	33
2.8.5 Deliberating	17	24
2.8.6 Making Notes	16	53
2.9. Changing Strategies	2	13
<b>3. Self-Reacting</b>		
3.1. Evaluating Text	0	2
3.2. Reflecting	20	24
3.3. Anticipating Use of Knowledge	0	0
3.4. Conversing with Author	0	0

**Planning phase**

In the planning phase, none of the students reported using Overviewing Text strategies, and Activating Prior Knowledge strategies was used only twice by the low reading comprehension group.

### **Self-monitoring phase**

In the self-monitoring phase, students reported using more strategies. Both high and low reading comprehension groups relied on Using Recall Strategies most often. Specifically, four strategies were more frequently used than others.

*Interpretive Conclusion (strategy 2.8.1.)*— as presented in Table 4.7, this is the most frequently used strategy by the students to help them monitor their comprehension of text. The strategy was used 339 times by the high reading comprehension group and 401 times by the low reading comprehension group.

Text: *Trial lawyers are ready, witnesses are prepared, all our experts are already in town.*

ERSRL high student #6: *“So they know this is going to be difficult and try to prepare themselves for this. It looks like their legal team to fight this cigarette case is ready. Everyone who is involved seems to have been working on this for a while.”*

ERSRL low student #8: *“So both the lawyers and witnesses are ready. They look very well-prepared for the trial and that's probably why they have been waiting for Fitch.”*

The students read one segment of the text and stopped to summarize the meaning. They also connected the summary to information in other parts of the story to aid their comprehension of the story.

*Self-Questioning (strategy 2.8.4.)*—Self-Questioning accentuates meaningful processing of text and understanding is improved as a result of this active engagement. The strategy was more frequently used by the low reading comprehension group with 33 occurrences (see Table 4.7).

Text: *Normally their work required them to be enemies.*

ERSRL high student #11: *“Enemies? So maybe these people are competitors, but why are they having a meal together?”*

ERSRL low student #7: *“Normally their work required them to be enemies. What is this? Why do they have to be enemies? They are together but they are enemies? What are they going to do?”*

These students recognized the contradiction of information in the text. The four men were socializing but they were also enemies. Questions which emerged were verbalized and students may return to this part to reconsider the meaning.

*Deliberating (strategy 2.8.5.)*— Table 4.7 indicates that the high reading comprehension group used the strategy 17 times, while the low reading comprehension group used it 24 times.

Text: *The survivors of dead smokers were suing them, claiming that cigarettes caused lung cancer.*

ERSRL high student #12: *“So they have to go to court to fight about smoking. I guess it was not clear that smoking causes cancer. Are they the smokers or are they relatives?”*

ERSRL low student #12: *“The politicians are not supporting them and this. The survivors of dead smokers. So the people who survived are trying to do something to them. This is probably something very negative. I guess they are trying to get the company to do something for them.”*

These students appeared to understand most part of this segment, but there were some structure or vocabulary which they could not understand, so they collected all information they had and generated the best conclusion they could to comprehend the text.

*Making Notes (strategy 2.8.6.)*—the high reading comprehension group used Making Notes strategy 16 times, and the low reading comprehension group used it 53 times.

Text: *Before a trial, the jury consultants' job was to find out all they could about possible jurors, so they could predict whether they might be sympathetic to the tobacco companies' case or not.*

ERSRL high student#2: *"Jury consultants? I never heard of this before. They need to predict too? I don't know if this makes any sense to me right now. Maybe this is not that important to understand right now."*

ERSRL low student #3: *"I could not understand this right now. I will just pass and come back here later."*

These students obviously could not generate a good conclusion of this segment. They made a mental note to themselves to come back and try to understand this segment later.

### **Self-reacting**

In the self-reacting phase, both upper and low reading comprehension groups relied mainly on Reflecting strategy. The low reading comprehension group, however, made use of Evaluating strategy two times.

*Reflecting (strategy 3.2)* –from Table 4.7, the high reading comprehension group used the strategy 20 times while the low reading comprehension group used the strategy 24 times.

### **Post-reading**

ERSRL High student #11: *"This story is about a trial of tobacco corporations. They have prepared a lot, everything. There was warning and a lot of effort was put into this trial. However, even though they have won all the trials, their products are not as popular and they are not in a very good position."*

ERSRL low student #3: *"This story is a little difficult. So they are trying to prepare themselves because some people are saying that the cigarettes cause cancer. Their business also suffers."*

These students tried to arrange information from text together to make a logical story and form a conclusion. The reflection forced them to actively process information they had and rationalize the role of each piece of information and fit them together.

The verbal protocols show that both upper and low reading comprehension groups employed similar self-regulated learning strategies in the self-monitoring phase. The two groups also used similar self-regulated learning strategies, but the low reading comprehension group tended to use most of the strategies more frequently.

#### **4.2.2.2 Reading portfolio**

To study the progress of self-regulated learning, portfolio entries from week 2, 7 and 11 of ERSRL high reading comprehension (n=7) and ERSRL low reading comprehension groups (n=7) were collected. The researcher specifically examined the three phases of self-regulated learning—planning, self-monitoring, and self-reacting—by comparing students' portfolio entries in the beginning, during, and at the end of the treatment to characteristics of skillful self-regulators proposed by Zimmerman (1998).

1. *Planning*: skillful self-regulated learners form specific and proximal goals which enable them to reach distal goals. The goals are challenging but still achievable, and they serve as guidelines to learners. Skillful self-regulated learners also adopt mastery goals which aim at becoming proficient in skills and learning is perceived as opportunities to enhance abilities.

The examples of specific and proximal goals in the reading portfolio were goals aiming at improving summarizing skills, strategies to deal with unfamiliar vocabulary, and reading speed.

2. *Self-monitoring*: skillful self-regulators can focus their attention on learning performance and are aware of when they perform well and when they need to adapt their strategies. On the other hand, naïve self-regulators can be easily distracted by other thoughts such as errors and emotions, and they depend on general awareness or fragments of information to maintain their efforts.

In the reading portfolios, the performance self-monitoring was

exemplified by students' expressing concerns with vocabulary, poor time management, and an environment unfriendly to reading which might affect their understanding of the story.

3. *Self-reacting*: skillful self-regulators systematically use information from planning and self-monitoring phases to adapt their performance. They learn to attribute negative outcomes to ineffective strategies and try to discover effective ones which foster positive self-reactions.

In the reading portfolios, the positive self-reactions were demonstrated when students recognized effective strategies and intended to use them for the next reading such as relying on context clues to guess meaning of unfamiliar vocabulary and expressions, structuring reading environment to minimize distractions, and managing time to achieved the desired goals.

The findings (see Table 4.8) show that the students in both the ERSRL high and low reading comprehension groups were progressing towards becoming self-regulated learners. The reading portfolio forms from week 2 were chosen to demonstrate students' use of self-regulated learning strategies at the beginning of the treatment. After all the components of self-regulated learning strategies had been taught to students in week 7, the reading portfolio forms were collected to examine students' progress. In week 11, the last week of the treatment, the reading portfolio forms were collected to study students' improvement on the use of self-regulated learning strategies after the treatment.

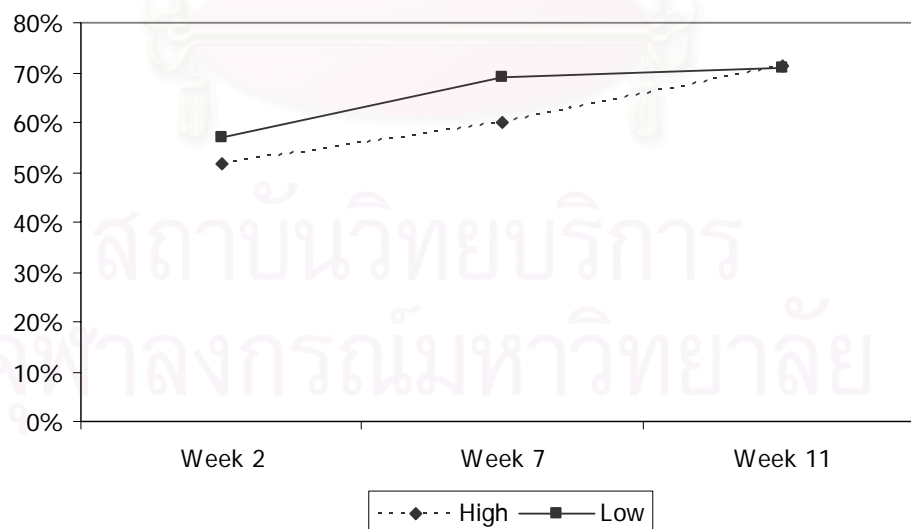
Since the reading portfolio forms were reported by the students, it should be cautioned that the students' reported use of self-regulated learning strategies may not always reflect their actual performance. The interpretation of the findings in this section should then be viewed as a prediction of students' performance.

**Table 4.8 Reading portfolio of ERSRL**

Phases	Groups	Week 2	Week 7	Week 11
<b>Planning</b>	High	51.72 %	60.00 %	71.43 %
	Low	57.14 %	69.23 %	70.83 %
<b>Self-monitoring</b>	High	65.22 %	71.43 %	79.17 %
	Low	66.67 %	75.00 %	75.00 %
<b>Self-reacting</b>	High	64.71 %	71.43 %	82.35 %
	Low	71.79 %	79.59 %	80.85 %

### Planning phase

In the *planning* phase, in week 2, only 51.72 percent of the ERSRL high reading comprehension group's goal-setting was specific (see Table 4.8). Almost half of the ERSRL high reading comprehension group stated goals which emphasized rather on outcomes such as the number of pages or the hours spent reading than becoming proficient in reading. The ERSRL low reading comprehension group started in week 2 with 57.14 percent of specific goal-setting.

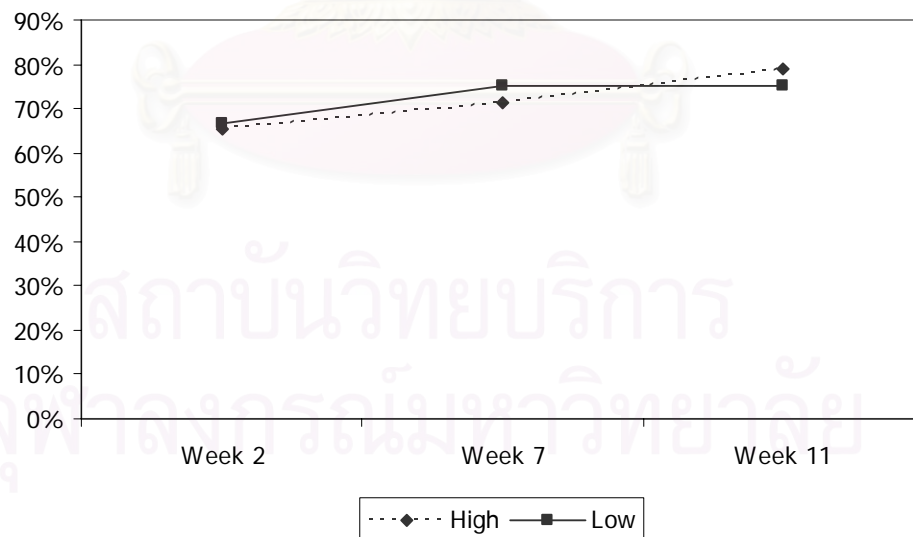
**Figure 4.1. Planning phase in reading portfolios**



However, the ERSRL high reading comprehension group progressed steadily, and in week 11 they reported to be more proactive and become self-regulated learners. While the ERSRL low reading comprehension group appeared to decelerate their progress in goal-setting strategy and reached 70.83 percent, the ERSRL high reading comprehension group continued to progress to 71.43, surpassing the ERSRL low reading comprehension group (see Figure 4.1).

### Self-monitoring phase

For the *self-monitoring* phase, in week 2 both groups started at a similar level indicated by 65.22 percent of self-monitoring for the high reading comprehension group and 66.67 percent for the low reading comprehension group. The students reported trying to regulate their performance by using strategies such as determining word meaning, and managing their time and environment to optimize their learning. The two groups steadily progress in week 7, but in week 11 the ERSRL low reading comprehension reading comprehension group appeared to level off at 75 percent while the ERSRL high reading comprehension group progressed to 79.17 percent (see Figure 4.2).

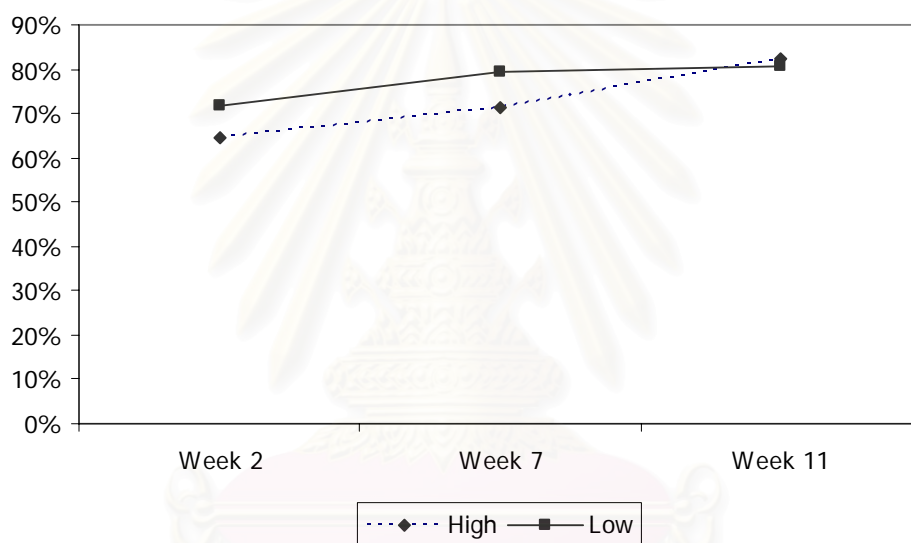


**Figure 4.2 Self-monitoring phase in reading portfolios**

### Self-reacting phase

In the *self-reacting* phase, the ERSRL high reading comprehension group

started in week 2 with 64.71 of positive self-reaction while the ERSRL low reading comprehension group started at 71.79 percent. Both groups continued to progress in week 7, and again the ERSRL high reading comprehension group surpassed the low reading comprehension group in week 11 and reached 82.35 percent of positive self-reaction (see Figure 4.3). The positive self-reaction was demonstrated when students recognized effective strategies and intended to use them for the next reading such as relying on context clues to guess meaning of unfamiliar vocabulary and expressions, structuring reading environment to minimize distractions, and managing time to achieved the desired goals.



**Figure 4.3 Self-reacting phase in reading portfolios**

### 4.2.3 Summary of self-regulated learning results

The findings of self-regulated learning can be summarized as follows:

#### 4.2.3.1 An aptitude property

An aptitude property of self-regulated learning was measured with self-regulated learning strategies questionnaire and self-regulated learning interview schedule. From Table 4.9, the results from the two instruments were somewhat contradicting. ERSRL high and low reading comprehension groups reported moderately using strategies to regulate their metacognition, performance, and learning environment in self-regulated learning strategies questionnaire. However, the findings

from self-regulated learning interview schedule show that both groups frequently used self-regulated learning strategies.

**Table 4.9 An aptitude property of self-regulated learning**

Categories	Self-regulated learning strategies questionnaire		Self-regulated learning interview schedule	
	High	Low	High	Low
<b>Metacognitive</b>	Moderate	Moderate	Frequent	Frequent
<b>Performance</b>	Moderate	Moderate	Frequent	Frequent
<b>Learning environment</b>	Moderate	Moderate	Frequent	Frequent

The self-regulated learning categories which ERSRL high and low reading comprehension groups relied on was the metacognitive regulation. They reported using the Goal-Setting strategies most often in both instruments. For performance regulation, both groups reported using Self-Consequences most often. For the learning environment regulation, although the findings from the self-regulated learning strategies questionnaire were moderate, the regulation of physical environment in SRLIS was frequently employed.

#### **4.2.3.2 An event property**

An event property of self-regulated learning was measured with verbal protocols of reading and reading portfolios. From Table 4.10, the findings of verbal protocols of reading show that ERSRL high and low reading comprehension groups only used strategies in the self-monitoring phase.

However, the findings from the weekly reading portfolio show that ERSRL high reading comprehension group made a steady progress in using self-regulated learning strategies in all three phases of self-regulated learning.

**Table 4.10 An event property of self-regulated learning**

Phases	Verbal protocols of reading		Reading portfolio	
	High	Low	High	Low
<b>Planning</b>	Rare	Rare	Steady Progress	Progress &slow down
<b>Self-monitoring</b>	Frequent	Frequent	Steady Progress	Progress &level off
<b>Self-reacting</b>	Rare	Rare	Steady Progress	Progress &slow down

On the other hand, the ERSRL low reading comprehension group appeared to slow down in their progress especially during week 7 to 11 in all the three phases. In the planning and self-reacting phases, the progress during week 7 to 11 was minimal. However, in the self-monitoring phase, the ERSRL low reading comprehension group did not make any progress and leveled off during week 7 to 11.

### 4.3 Chapter Summary

The findings offered insight into both research questions regarding the students' improvement on English reading comprehension and the use of self-regulated learning strategies after having participated in ERSRL. After the treatments, both ERSRL high and low reading comprehension groups significantly improved their reading comprehension. However, the improvement of ERSRL high and low reading comprehension groups was not significantly different from that of ER high and low reading comprehension groups. Thus, the findings of research question one indicate that ERSRL did not lead to a major difference in students' reading comprehension based on the English reading comprehension test mean scores.

The findings of research question two reveal the self-regulated learning strategies used by ERSRL high and low reading comprehension groups. From the measurement of an aptitude property of self-regulated learning, the findings from the self-regulated learning strategies questionnaire show that ERSRL high and low reading comprehension groups moderately used the strategies in all three components—metacognitive regulation, performance regulation, and learning

environment regulation. However, the findings from self-regulated learning interview schedule demonstrate that the students frequently used self-regulated learning strategies to control every category of self-regulated learning. Particularly, the students in both ERSRL high and low reading comprehension groups reported relying on Goal-Setting, Structuring of Physical Environment, and Self-Consequences most often.

The measurement of an event property of self-regulated learning shows that from the verbal protocols of reading, ERSRL high and low reading comprehension groups only used strategies in the self-monitoring phase. However, the weekly reading portfolios show that ERSRL high reading comprehension group progressed steadily towards becoming self-regulated learners. The ERSRL low reading comprehension group appeared to make progress during week 2 to 7, but the progress seemed to slow down and even leveling off in the self-monitoring phase.

In conclusion, after the extensive reading instruction with an integration of self-regulated learning framework, although students made significant progress in their reading comprehension, the improvement may not be noticeable between the ERSRL and ER groups. The findings of self-regulated learning provided insightful information of the strategies used by ERSRL high and low reading comprehension groups. Discussion of findings, pedagogical implications and recommendations for future research will be discussed in the next chapter.

## CHAPTER V

### DISCUSSION AND CONCLUSION

This chapter concludes the current study by summarizing the study and research findings, elaborating on discussion, pedagogical implications drawn from the findings, and providing recommendations for further studies.

#### 5.1 Summary of the study

This study explores the impact of extensive reading instruction with the integration of self-regulated learning framework (ERSRL) on Thai university students' English reading comprehension and the use of self-regulated learning strategies. This study also examines how ERSRL students in the high and low reading comprehension groups responded to the treatments with respect to the self-regulated learning framework.

The study attempts to answer the following research questions:

1. To what extent does ERSRL improve English reading comprehension of Thai university students?
  - 1.1. To what extent does ERSRL improve English reading comprehension of students at a **high level** of reading comprehension?
  - 1.2. To what extent does ERSRL improve English reading comprehension of students at a **low level** of reading comprehension?
2. What are self-regulated learning strategies used by Thai university students at high and low levels of English reading comprehension while participating in ERSRL?

#### *Participants*

There were 76 Thai university students from two groups participating in this study. The two groups were randomly assigned to the two treatments: extensive reading instruction with self-regulated learning framework (ERSRL) (n=38), and regular extensive reading instruction (ER) (n=38). Then, the English reading comprehension pre-test scores were used to observe the normal distribution within the two groups and to assure that the two groups were similar in their English reading comprehension level. Students in each group were classified as high and low reading

comprehension groups based on their English reading comprehension pre-test scores. In each treatment group, fourteen students were classified as the high reading comprehension groups and 15 as the low reading comprehension groups.

### *Procedures*

The instruction for this study was prepared according to two relevant theories: extensive reading and self-regulated learning. Over 10 weeks, extensive reading instruction was introduced to both ERSRL and ER groups, but the ERSRL students were also taught how to plan, self-monitor, and self-react to become self-regulated learners.

### *Data collection*

To answer research question one, the English reading comprehension pre- and post-tests mean scores were compared to study the effects of the treatments on students' reading comprehension. Scores from the English reading comprehension pre- and post-test were computed using dependent samples t-test to study ERSRL group's improvement after participating in ERSRL. Independent samples t-test was used to compare the English reading comprehension post-test mean scores of ERSRL and ER groups. Cohen's *d* was also used to calculate the effect size.

Research question two was addressed through the four research instruments. The self-regulated learning strategies questionnaire and self-regulated learning interview schedule were used to observe an aptitude property of self-regulated learning relating to the three categories—metacognitive regulation, performance regulation, and learning environment regulation. The verbal protocols of reading and reading portfolios were used to study an event property of self-regulated learning relating to the three phases—planning, self-monitoring, and self-reacting. Data was transcribed, coded and analyzed with descriptive statistics.

### *Summary of findings*

This study sought for answers to the research questions in two areas: English reading comprehension and self-regulated learning strategies.

*English reading comprehension*

The difference of English reading comprehension pre- and post-test mean scores of ERSRL was significantly different. There was also significant difference in the English reading comprehension pre- and post-test scores of the ERSRL high and low reading comprehension groups. However, the comparison of the English reading comprehension post-test mean scores between the ERSRL and ER high reading comprehension groups, and between the ERSRL and ER low reading comprehension groups were not significantly different. That is, the students significantly improved their reading comprehension, but the self-regulated learning strategies did not have a significant impact on the students' reading comprehension.

*Self-regulated learning strategies*

For the self-regulated learning strategies, the aptitude measurements reveal that both the ERSRL high and low reading comprehension groups employed most of the strategies in all of the three categories of self-regulated learning—metacognitive regulation, performance regulation, and learning environment regulation. The strategies that they relied on the most were Goal-Setting and Planning, Environment Structuring, and Self-Consequences, but they rarely made use of strategies to regulate their social environment such as Seeking Assistance from Peers or Teachers.

Concerning the measurement of an event property, the data from verbal protocols of reading and reading portfolio forms show that both ERSRL high and low reading comprehension groups did not actively use strategies in the planning phase while reading. However, the reading portfolio forms show that the ERSRL students set goals for their learning when prompted to do so.

In the self-monitoring phase, the low reading comprehension group reported using Determining Word Meaning and Using Recall Strategies in verbal protocols more frequently than the high reading comprehension group. Nonetheless, the reading portfolio forms illustrate that both groups steadily progressed and actively monitored their performance.

In the self-reacting phase, ERSRL students reported using only Reflecting strategy in the verbal protocols, but from the reading portfolio forms, the students constantly reflected on their performance through positive self-reaction. For instance, ERSRL students attributed unsuccessful performance to the ineffective strategy use,



an ability that they can improve, instead of attributing to their intelligence.

## **5.2. Discussion**

The discussion will be presented according to the two research questions.

### **5.2.1. ERSRL and gains in reading comprehension**

Research question one studied the improvement on reading comprehension. The comparison of the mean scores from English reading comprehension pre- and post-tests shows that the ERSRL group significantly improved its English reading comprehension. This is consistent with other studies in which extensive reading helped improve reading comprehension (Tanaka & Stapleton, 2007; Sheu, 2003; Bell, 2001; Hayashi, 1999; Lituanas, Jacobs & Renandya 1999; Walker, 1997; Sims, 1996; Schackne, 1994). By exposing students to rich comprehensible input through extensive reading, students can gain reading fluency and comprehension. Additionally, Anderson (1996) explains that the amount of book reading is significantly associated with the improvement in reading comprehension. In particular, students in an EFL setting can benefit to a great extent from this exposure to reading books in extensive reading instruction (Anderson, 1996). In Thailand, students may read English texts only in schools, and this may limit their opportunities or access to rich English reading texts. Therefore, extensive reading can be a viable solution to help improve Thai students' English reading comprehension.

The notion that one book doesn't fit all may also be applied to this study. Students in most classrooms vary greatly in readiness, from those who struggle to learn to those who excel in all aspects of their learning. Teachers need to provide various means of instruction that can be differentiated to suit students' differences (Gregory & Chapman, 2005; Tomlinson, 2001). Extensive reading instruction can respond effectively to the students' varying reading comprehension levels, differences in their interest, strengths, and weaknesses. In traditional EFL reading instruction, these factors are rarely recognized, and every student has to read the same text at the same pace. Consequently, in extensive reading instruction, teachers can address these issues and try to provide choices to differentiate EFL reading instruction. To illustrate, with access to a variety of reading levels and genres, high proficient students can continue to reap the benefits of reading enjoyable and engaging texts while low

proficient students would not be threatened by struggling with texts which are beyond their levels and interest. Accordingly, students may be more motivated to read in this learning environment. If teachers can create a positive reading environment in and outside of classroom, EFL students at various reading levels can all get what they need to succeed.

Bernhardt (2005) explains that second language reading may attribute to 20 percent of L1 literacy knowledge and 30 percent of L2 literacy knowledge. The other 50 percent may come from other external variables such as students' comprehension strategies, interest, motivation, or reading engagement. It is also possible that such external variables as a learning environment may account for part of that. Tella and Akande (2007) point out that students may not read extensively because they have limited access to interesting reading materials in their reading environment. In her study, Mulholland (2006) also concurs and highlights the importance of structuring a positive environment. She suggests that only the choice of books may not be sufficient to promote reading comprehension. From the self-regulated learning interview schedule in this study, the key variable may be the influence of a positive reading environment which helps students control their reading, enhance reading comprehension, and eventually break away from the vicious cycle of reading (Nuttall, 1996).

#### **5.2.1.1 Levels of reading ability.**

The increase on the English reading comprehension pre- and post-test mean scores of the low English reading comprehension students in ERSRL group was large. This supports the results of other studies in extensive reading. The studies by Sheu (2004), Takase (2003) Maxim (1999) and Kern (1989) also found that low reading comprehension students responded better to research treatments and resulted in gains in their reading comprehension. This implies that students particularly at a low reading comprehension level should be encouraged to participate in extensive reading instruction to obtain the potential benefits of reading comprehension improvement.

On the contrary, the English reading comprehension of the high reading comprehension minimally increased. This may be due to the short duration of the extensive reading instruction in this study. Krashen (2007) and Smith (2006) suggest that extensive reading instruction should last longer than 7 months to be effective.

Other studies with extensive reading instruction that was shorter than 7 months did not find any significant differences in the comparison of the mean scores between an extensive reading group and a comparison group (Krashen, 2004, 2007; Smith, 2006). Students may need more time to gain exposure to texts before any sign of reading improvement may emerge. This minimal increase in reading comprehension may be that the students started to make progress; however, if they stay longer in an extensive reading instruction, their reading progress may be more apparent.

Moreover, there is also a statistical explanation regarding this phenomenon. Since students in this study were from the low and high reading comprehension groups, it is possible that regression towards the mean may occur. Fraenkel and Wallen (2000) explain that the post-test scores of the extremely high or low ability groups will regress closer to the mean. In this study, the students' performance on the English reading comprehension may be slightly affected by this statistical phenomenon. The increase on the English reading comprehension pre- and post-tests scores of the ERSRL low reading comprehension group was large; on the other hand, the increase on the English reading comprehension pre- and post-tests scores was minimal for the ERSRL high reading comprehension group.

The comparison of the English reading comprehension post-test mean scores of the ERSRL and ER groups in both high and low reading comprehension groups also did not yield any significant difference. That is, self-regulated learning strategies did not have any significant impact on the English reading comprehension for the students in this study. This may be due to the fact that the students in ERSRL and ER groups were exposed to similar amount of texts. Both treatments required students to achieve 1,000 pages of reading in 10 weeks, and students had access to the same class library. The same amount of class time was devoted to the treatments in both groups. The only difference between the two treatments was that the ER instruction did not include the self-regulated learning framework. The correlation between the amount of reading and an increase in reading comprehension has been documented in many ER studies (Kim, 2003; Lee, 2006; Hayashi, 1999). The students who read more books have been found to score significantly higher on their reading comprehension test. Thus, with these similar conditions in the amount of book reading, the English reading comprehension of both ERSRL and ER groups may progress at a similar pace.

In conclusion, the findings on gains in reading comprehension show that extensive reading instruction can help enhance students' reading comprehension. When students are provided a positive reading environment through easy access to reading material, they can obtain the benefits from exposure to rich comprehensible input. The findings from the high and low reading comprehension groups also reveal that in extensive reading instruction, low reading comprehension group may benefit to a greater extent.

### **5.2.2. Self-regulated learning strategies**

Research question two explored ERSRL groups' self-regulated learning strategy use. The findings will be discussed regarding the two properties of self-regulated learning strategies: aptitude and event.

#### **5.2.2.1 An aptitude property of self-regulated learning strategies**

The findings from an aptitude measurement of self-regulated learning strategies demonstrate that among the three categories—metacognitive regulation, performance regulation, and learning environment regulation—Goal-Setting and Environment Structuring strategies were the most frequently used strategy reported by students in both high and low reading comprehension groups.

Goal-Setting strategy in metacognitive regulation is crucial and influential for other categories of self-regulated learning framework. Locke and Latham (1990) assert that allowing students to set learning goals can enhance their commitment to attaining them, which is necessary for goals to affect performance. Zimmerman (1989) further explains that high achieving students use Goal-Setting to guide their learning. In this study, the frequent report of Goal-Setting by both ERSRL high and low reading comprehension groups indicates that they were aware of the importance of Goal-Setting in metacognitive regulation which may impact the regulation of other categories.

In addition, from the triadic view of self-regulation proposed by the social cognitive theorists, the social and physical environment can influence how a person perceives his/her ability and how he/she performs a task (Bandura, 1986). Zimmerman (2000) suggests that if environmental resources are perceived as an impediment, self-regulated learning will be less effective. A self-regulated learner

regulates his/her environment to promote his/her learning (Zimmerman, 2000; Perry, Phillips, Hutchinson, 2006). From this study the frequent use of Environment Structuring may suggest that the students recognize the influence of academic learning environment. For example, according to the self-regulated learning interview schedule, ERSRL students had a regular place for reading. They explained that they usually read in a room or a place where there was no one around to read without any interruption. Tomlinson and Cooper (2006) state that when students try to alter the study environment to fit their needs, they create a positive environment that fosters their learning. Therefore, it is important that students be able to choose and exert control over their learning environment to become self-regulated readers.

However, the low or non-existing report of social environment regulation by both high and low reading comprehension groups is inconsistent with the theory that self-regulated learners actively seek out information and assistance when needed (Zimmerman & Martinez-Pons, 1988). This may be due to the nature of extensive reading instruction. The main objective of extensive reading is to read for pleasure (Day & Bamford, 1998). Students read at or slightly below their level with little or no difficulty in interpreting texts. Reading in extensive reading is fast and considered individual and silent. Therefore, the students may not need to seek assistance from other people.

#### **5.2.2.2 An event property of self-regulated learning strategies**

The findings from an event measurement of self-regulated learning through the verbal protocols of reading and reading portfolio forms show the actual use of self-regulated learning strategies. Both high and low reading comprehension groups reported contradictory use of self-regulated learning strategies in the two research instruments.

In the planning phase, both high and low reading comprehension groups did not plan or overview texts in the verbal protocols, but the reading portfolio forms show that the students made a steady progress in their goal setting. At the end of ERSRL, they adopted goals which were specific, proximal, and oriented towards mastery of learning. This is consistent with the aspect of goal setting in self-regulated learning. Bandura (1991) explains that high achieving students form learning goals which are specific and proximal to progress towards the distant goals. These students

also report having a mastery goal orientation or trying to understand the subject rather than just the outcomes or grades (Pintrich & DeGroot, 1990). Therefore, as revealed by the verbal protocols of reading, EFL students tend not to set goals in their learning. They may only do so when they are instructed to plan and set a learning goal. This suggests that EFL students may not be familiar with setting goals, and they need to be explicitly taught how to set goals to guide their reading comprehension progress.

During the self-monitoring phase, low reading comprehension group reported using self-regulated learning strategies more often than high reading comprehension group. This supports Janzen's study (2003) in that the low reading comprehension group reported using the strategies in verbal protocols more frequently than the high reading comprehension group. The higher frequent use of Determining Word Meaning strategy also indicates that low reading comprehension group struggles more with unfamiliar vocabulary. This suggests that the low reading comprehension group may use more self-regulated learning strategies to compensate their limited language proficiency. This is consistent with Stanovich's (2000) compensatory processing. The model proposed that students' deficient knowledge source in one area will be automatically assisted by other knowledge source. From the verbal protocols, low reading comprehension group may rely on more strategies to assist their comprehension, thus, resulting in frequent use of self-monitoring strategies such as Using Recall Strategies to understand and remember information they read.

According to the verbal protocols, some of the strategies were commonly found in the two groups. Both ERSRL high and low reading comprehension groups reported using Interpretive Conclusion, Deliberating, and Making Notes. This commonality between the two English reading comprehension groups exists because there is no strategy, which is inherently good or bad (Kern, 1997 cited in Hudson, 2007 p. 127). Both good and poor readers can employ similar reading strategies, but the difference is in how effectively they can orchestrate and employ various reading strategies to facilitate comprehension (Anderson, 1991).

However, based on the verbal protocols, ERSRL low reading comprehension group employed Self-Questioning strategies more often than the ERSRL high reading comprehension group. This may suggest that students started to become more regulated in their reading by actively asking questions. Jimenez (1997) found that

Self-Questioning may emerge in low ability readers who made progress and improved their reading comprehension. This could signify that students began to shift their focus from relying on word level strategies to looking at a discourse or a higher level. (Auerbach & Paxton, 1997).

In the self-reacting phase, both high and low reading comprehension groups only used Reflecting in the verbal protocols, but the reading portfolio forms show that the students gradually used the positive Self-Reaction to regulate their reading. The evidence of positive self-reaction is a particularly important sign of self-regulated learners. Zimmerman and Kitsantas (1997) assert that high achieving students will attribute unsuccessful performance to strategy use, learning method, and insufficient practice rather than limited abilities. This promotes positive self-reaction in return since students can always improve their strategy use or methods of learning.

From the verbal protocols, the students did not use strategies in all phases of the self-regulated learning cycle—planning, self-monitoring, and self-reacting. Most of the strategies occurred during the self-monitoring phase. This may be viewed from the aspect of *procedural*, *declarative*, and *conditional* knowledge (Pressley & Harris, 2006). The students may have the declarative knowledge of the strategies. For example, from the self-regulated learning strategies questionnaire, the ERSRL group stated that they set goal for their reading, but they did not overview texts when they read in verbal protocols. This suggests that students may not have perfected the procedural knowledge—knowing how to use the strategies, and the conditional knowledge—knowing when and where to use particular cognitive strategies. After only one semester, the students may only start to recognize self-regulated learning strategies, but they may not know how and when to use these strategies effectively.

Additionally, the frequent strategy use does not always translate into successful learning (Yamamori, Isoda, Hiromori & Oxford, 2003). In contradiction to the verbal protocols of reading, the findings from reading portfolio forms indicate that students in both ERSRL high and low reading comprehension groups regulated their learning and made progress towards becoming self-regulated learners. It is possible that high achievers may not be aware that they actually set goals before they commence their task; or else, Goal Setting strategies may not be the only indicator . Other strategies may influence the self-regulated learning strategies in the self-monitoring and self-reacting phases.

Farrell (2001) contends that EFL reading strategy instruction takes time to lead to noticeable change in reading comprehension. Since EFL students do not have constant opportunities to practice their reading strategies, it may require a longer period of time for them to effectively implement reading strategies. If extensive reading instruction last longer and students have sufficient time to practice using strategies, their reading comprehension will improve. Ee and Moore (2004) add that students, especially the low reading comprehension group, need sufficient opportunities to practice self-regulated learning strategies to ensure effective employment of these strategies. Hence, with short extensive reading instruction, an English reading comprehension may not be able to reveal noticeable differences among students, but changes in their reading comprehension may emerge in their self-regulated learning strategies, a small step towards becoming proficient in reading.

In sum, the findings of this study show that reading extensively can help improve students' reading comprehension. More importantly, this study has provided an insight into how students regulate themselves while reading outside of the classroom, an area of extensive reading instruction which lacks research. The analysis of self-regulated learning strategies data shows that to create the regular habit of reading, simply providing reading material may not be adequate. The role of goal-setting and a positive reading environment is crucial. Students need to set a goal that is practical and achievable. They can use this goal to monitor their reading and to maintain their reading motivation. The reading environment should also be regulated to facilitate reading. Students need to be able to exert control over their physical environment. The place and time of reading can have an influence on students' attaining their reading goals. The social environment also needs to support extensive reading. Teachers, parents, and friends can help foster an environment where reading for pleasure is valued.

### **5.3. Conclusion**

The present study investigates the impact of an extensive reading instruction with an integration of self-regulated learning framework on Thai first-year undergraduate students' reading comprehension and self-regulated learning strategies. The conclusion that can be drawn from the study is that there is evidence to support the benefits of extensive reading instruction. The instruction offers a positive reading



environment to students of different reading abilities and interests; as a result, both high and low reading comprehension students can improve their reading comprehension.

The findings also highlight the role of exposure to comprehensible input. Due to similar requirements to read extensively, both ERSRL and ER groups improved their reading comprehension at a similar pace. In addition, extensive reading instruction can be particularly beneficial to the low reading comprehension group as indicated by the large increase in their reading comprehension test scores. However, extensive reading instruction should be sustained over a long period of time, especially for such an EFL context as Thailand. Thai students have limited access or exposure to English reading texts outside of the classroom. For reading comprehension to improve, students may need time to gain more exposure to reading texts.

The findings of self-regulated learning strategies emphasize the influence of metacognitive and learning environment regulation. Both high and low reading comprehension groups indicated that Goal-Setting strategy in metacognitive regulation and Environment Structuring in learning environment regulation were the most frequently used self-regulated learning strategies. Moreover, during the three phases of self-regulated learning—planning, self-monitoring, and self-reacting—the students reported inconsistent use of self-regulated learning strategies in the verbal protocols and reading portfolios. This shows that explicit instruction of self-regulated learning strategies is crucial for Thai students. They may know what self-regulated learning strategies are but may not readily know how or when to employ them unless instructed.

The high frequent use of self-regulated learning strategies in verbal protocols also demonstrates that ERSRL low reading comprehension group may use compensatory processing to assist their low language proficiency. The findings from both research questions eminently suggest prolonged extensive reading instruction and explicit instruction of self-regulated learning strategies.

#### **5.4. Pedagogical implications**

The findings of this study suggest three pedagogical implications. First, both physical and social learning environments play a significant role in promoting

students' reading comprehension. Greaney (1996) emphasizes that adverse learning environment, for example, lack of appropriate reading material and lack of space and light may contribute to the poor reading comprehension. Students may not be motivated to read if there is no opportunity or time to select interesting material and to read for pleasure. As a result, it is important that teachers, institutions, and policy makers—in other words, the whole learning community—recognize an impact of creating a positive EFL reading environment. For a positive physical reading environment, easy access to interesting reading material should be abundant and spaces for leisure reading should be provided. The library must include reading material which caters to different interest and reading levels. For a positive social reading environment, teachers and family need to encourage students to read for pleasure by being a model readers and offering assistance to students when needed.

Moreover, students should recognize that people learn to read by reading (Eskey, 1987). The exposure to reading material is an essential factor that contributes to the development of reading comprehension (Cunningham & Stanovich 1991). Therefore, students need to maintain the habit of reading regularly to improve their comprehension. Students should also learn to regulate their reading since extensive reading instruction is primarily a private and individual activity (Day & Bamford, 1998). The three phases of self-regulated learning can optimize their learning. Before reading, students can set a goal they want to achieve and draft a plan to reach that goal. While reading, they should learn to monitor their comprehension and use a variety of strategies to aid their comprehension. After reading, they need to reflect on their learning and try to select strategies which have contributed to the success or failure of their reading.

The last implication concerns the EFL reading educators. Extensive reading instruction is essential for students' reading comprehension and should be included in every EFL reading instruction. This study indicates that extensive reading instruction needs to last for at least one year to see noticeable improvement in reading comprehension (Krashen, 2007). Differentiated extensive reading instruction should also be implemented. Because ERSRL high and low proficient students perceived reading differently, reading materials need to cover a range of genres and vary in readability levels. This way, teachers provide an opportunity for students to progress at their own reading comprehension abilities. It is also important that EFL reading

educators explicitly teach students to become aware of their strategy use. For example, through think aloud, students can observe how and when a strategy should be employed. Thus, students can learn to recognize and choose appropriate self-regulated learning strategies.

### **5.5. Recommendations for further study**

According to the findings of the present study, five research recommendations can be made regarding the duration of extensive reading instruction, and extensive reading assessment, the influence of a positive reading environment, larger sample size, and multiple measurements of self-regulated learning strategies.

First, as shown in the findings of this study, a long-term study of an extensive reading instruction in Thailand should be conducted to observe its impact on students' reading comprehension. Particularly, a longitudinal extensive reading research should be conducted to examine changes in low reading comprehension abilities.

The second recommendation concerns the assessment of extensive reading. Since students in extensive reading progress varyingly according to their levels of reading comprehension, a standardized language proficiency test may not capture every aspect of students' progress in reading comprehension. Different methods of assessment should be used to examine changes in students' reading comprehension.

Relating to the positive reading environment, a study, which can include an observation of students' reading environment both in and outside of the classroom, should be carried out. Since the role of Environment Structuring can have a significant impact on reading comprehension and attitudes towards reading, an ethnographic approach to explore this area can provide insights into the influence of positive reading environment on students' reading comprehension.

Another aspect, which needs to be addressed, is the sample size. This study has its limitation in the small sample size, in particular the number of students in high and low reading comprehension groups. Therefore, a large scale or school wide extensive reading instruction can better illustrate the impact of extensive reading instruction on the improvement of reading comprehension.

Finally, since the findings of self-regulated learning strategies were sometimes inconsistent, more research is needed to find out a combination of ways to measure an aptitude and event properties of self-regulated learning.

## REFERENCES

- Ablard, K. E. & Lipschultz, R. E. (1998). Self-regulated learning in high-achieving students: relations to advanced reasoning, achievement goals, and gender. *Journal of Educational Psychology*, 90: 94-101.
- Afflerbach, P. (2000). Verbal protocol and protocol analysis. In M.L. Kamil, P.B. Mosenthal, P.D. Pearson, & R. Barr (Eds.), *Handbook of reading research*. vol. III. Mahwah, NJ: Erlbaum.
- Afflerbach, P. & Johnston, P. (1984). Research methodology on the use of verbal reports in reading research. *Journal of Reading Behavior*, 16: 307-321.
- Alderson, J. C. (2000). *Assessing reading*. New York: Cambridge University Press.
- Alexander, P.A., & Jetton, T.L. (2000). Learning from text: A multidimensional and developmental perspective. In M.L. Kamil, P.B. Mosenthal, P.D. Pearson, & R. Barr (Eds.), *Handbook of reading research*. vol. III. Mahwah, NJ: Erlbaum.
- Allington, R. L. (1997). If they don't read much, how they ever gonna get good? *Journal of Reading*, 20: 57-61.
- Allington, R. L. (2002). *The six Ts of effective elementary literacy instruction*. [online]. Available from: <http://www.readingrockets.org>.
- Anderson, N. (1991). Individual differences in strategy use in second language reading and testing. *Modern Language Journal*, 75: 460-72.
- Anderson, R. C. (1996). Research foundations to support wide reading. In V. Greaney. (Ed.), *Promoting reading in developing countries* (pp. 55-77). Newark, DE: International Reading Association.
- Anderson, R. C., Hiebert, E. H., Scott, J. A. & Wilkinson, I. A. G. (1985). *Becoming a nation of readers: the report of the commission on reading*. Washington, DC: National Institute of Education.
- Anderson, R., Wilson, P. & Fielding, L. (1983). Growth in reading and how children spend their time outside school. *Reading Research Quarterly*, 23: 285-303.
- Atwell, N. (1987). *In the middle: writing, reading, and learning with adolescents*. Portsmouth, NH: Boynton/Cook.
- Auerbach, E. R. & Paxton, D. (1997). It's not the English thing: bringing reading research into the ESL classroom. *TESOL Quarterly*, 31: 237-61.
- Baker, A. (2002). Metacognition in comprehension instruction. In C.C. Block & M.

- Pressley. (2002). *Comprehension instruction research based best practices*. New York: The Guilford Press.
- Bandura, A. (1986) *Social foundation of thought and action*. New Jersey: Prentice Hall Regents.
- Bandura, A. (1991). Social cognitive theory of self-regulation. *Organizational Behavior and Human Decision Processes*, 50: 248-287.
- Barnett, J. E. (1996). *Self-regulation of strategies in a college course*. Paper presented at the Annual Meeting of the American Educational Research Association (New York, NY, April 8-12).
- Barnett, J. E. (1997). *Self-regulation of reading college textbooks*. Paper presented at the Annual Meeting of the American Educational Research Association (Chicago, IL, March 24-28).
- Barnett, J. E. (1998). *Self-regulation textbook reading: a think-aloud study*. Paper presented at the Annual Meeting of the American Educational Research Association (San Diego, CA, April 13-17).
- Barnett, M. A. (1989). *More than meet the eye: foreign language reading*. New Jersey: Prentice Hall Regents.
- Bauman, J.F., Jones, L.A., & Seifert-Kessell, N. (1993). Using think alouds to enhance children's comprehension monitoring abilities. *Reading Teacher*, 47: 184-193.
- Bell, T. (2001). Extensive Reading: speed and comprehension. *The Reading Matrix*, (1)1.
- Bernhardt, E. B. (1991). *Reading development in a second language: Theoretical, research, and classroom perspectives*. Norwood, N.J.: Ablex.
- Bernhardt, E. B. (2005). Progress and procrastination in second language reading. *Annual Review of Applied Linguistics*, 25: 133-150.
- Biemiller, A. (1994). Some observations on beginning reading instruction. *Educational Psychologist*, 29(4): 203-209.
- Block, E. (1992). See how they read: comprehension monitoring of L1 and L2 readers. *TESOL Quarterly*, 26,: 319-43.
- Boekaerts, M., Pintrich, P.R. & Zeidner, M. (2000). *Handbook of self-regulation*. San Diego: Academic Press.
- Brown, R. (2002). Straddling two worlds: Self-directed comprehension instruction for

- middle schoolers. In C.C. Block & M. Pressley. (2002). *Comprehension Instruction Research Based Best Practices*. New York: The Guilford Press.
- Brown, A. L., Armbruster, B. B. & Baker, L. (1986). The role of metacognition in reading and studying. In J. Orasanu (Ed.), *Reading comprehension: from research to practice*. Hillsdale: Lawrence Erlbaum.
- Brown, A. L., Palincsar, A. S. (1989). Guided cooperative learning and individual knowledge acquisition. In L. B. Resnick (ed.) *Knowing, learning, and instruction: essays in honor of Robert Glaser*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Burden, M. (1994). *Using young adult literature to promote recreational reading in a senior basic English class*. [online]. Available from:  
[http://www.eric.ed.gov/ERICWebPortal/Home.portal?\\_nfpb=true&\\_pageLabel=advanced](http://www.eric.ed.gov/ERICWebPortal/Home.portal?_nfpb=true&_pageLabel=advanced)
- Carnine, D. W., Silbert, J., Kame'enui, E. J. & Tarver, S. G. (2004). *Direct instruction reading*. Ohio: Prentice Hall.
- Carrell, P. L., & Carson, J. G. (1997). Extensive and intensive reading in an EAP setting. *English for Specific Purposes*, 16: 47-60.
- Chularut, P. & DeBacker, T. K. (2004). The influence of concept mapping on achievement, self-regulation, and self-efficacy in students of English as a second language. *Contemporary Educational Psychology*, 29: 248-263.
- Coady, J. (1997). L2 vocabulary acquisition through extensive reading. In J. Coady & T. Huckin (1997). *Second Language Vocabulary Acquisition*. New York: Cambridge University Press.
- Cohen, A. D. (2000). Exploring the strategies that respondents use in test taking. In G. Ekbatani & H. Pierson (Eds.) *Learner-Directed Assessment in ESL*. MahWah, NJ: Lawrence Erlbaum.
- Cohen, E. G. (1994). Restructuring the Classroom: Conditions for productive small groups. *Review of Educational Research*, 64: 1-35.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Earlbaum Associates.
- Cunningham, A. E., & Stanovich, K. E. (1991). Tracking the unique effects of print exposure in children: Associations with vocabulary, general knowledge, and spelling. *Journal of Educational Psychology*, 83: 264-274.

- Cunningham, P. M. & Allington, R. L. (1999). *Classrooms that work: they can all read and write*. (2<sup>nd</sup> ed.). New York: Longman.
- Dawson, N. (2002). Jogging to language competence. *The Language Teacher*, 11. [online]. Available from: <http://www.jaltpublications.org/tlt/articles/2002/11>
- Day, R. & Bamford, J. (1997). Extensive reading: What is it? Why bother?. *The Language Teacher Online*. (21)5. [online]. Available from: <http://jaltpublications.org/tlt/files/97/may/extensive.html>.
- Day, R. R. & Bamford, J. (1998). *Extensive reading in the second language classroom*. Cambridge: Cambridge University Press.
- Day, R. & Bamford, J. (2000). Reaching reluctant readers. *Forum*, 38(3): 12.
- Duncan, T. G. & McKeachie, W. J. (2005). The Making of the motivated strategies for learning questionnaire. *Educational Psychologist*, 40(2): 117-128.
- Dwyer, E. & West, R. (1994). *Effects of sustained silent reading on reading rate among college students*. [online]. Available from: [http://www.eric.ed.gov/ERICWebPortal/Home.portal?\\_nfpb=true&\\_pageLabel=advanced](http://www.eric.ed.gov/ERICWebPortal/Home.portal?_nfpb=true&_pageLabel=advanced)
- Educational Testing Service. (2007). *Test and score data summary for TOEFL computer-based and paper-based tests*. [online]. Available from: <http://www.ets.org/Media/Research/pdf/TOEFL-SUM-0506-CBT.pdf>
- Ee, J. & Moore, P. J. (2004). Motivation, strategies, and achievement: A comparison of teachers and students in high, average, and low achieving classes. In J. Ee., A. Chang & O. Tan (2004) *Thinking about thinking what educators need to know*. Singapore: McGraw Hill.
- Eom, W. & Reiser, R. A. (2000). The effects of self-regulation and instructional control on performance and motivation in computer-based instruction. *International Journal of Instructional Media*, 27(3): 247-260.
- Eoseewong, Nidhi. (2006). Midday University. Bangkok: Matichon.
- Ericsson, K. A. & Simon, H. A. (1999). *Protocol analysis: verbal reports as data, revised edition*. Cambridge, MA: MIT Press.
- Eskey, D. E. (1987). Conclusion. In J. Devine, P.L. Carrell & D.E. Eskey. *Research in reading in English as a second language*. Washington, DC: Teachers of English to Speakers of Other Languages.
- Eskey, D. (2002). Reading and the teaching of L2 reading. *TESOL Journal*, 11: 5-9.

- Farrell, T. S. C. (2001). Teaching reading strategies. 'It takes time!' *Reading in a Foreign Language*, 13(2): 631-646.
- Flavell, J. H., Miller, P. H. & Miller, S. A. (2002). *Cognitive development*. (4<sup>th</sup> ed.). NJ: Prentice-Hall.
- Fraenkel, J. R. & Wallen, N. E. (2000). *How to design and evaluate research in education*. Boston: McGraw-Hill Higher Education.
- Gaskins, I. W. (1998). There's more to teaching at-risk and delayed readers than good reading instruction. *The Reading Teacher*, 51(7): 534-547.
- Gates, B. (2001). *Business at speed of thought*. England: Pearson Education.
- Golden, A. (2000). *Memoirs of a Geisha*. England: Pearson Education.
- Grabe, W. (1991). Current development in second language reading research. *TESOL Quarterly*, 25(3): 375-406.
- Grabe, W. (1999). Developments in reading research and their implications for computer-adaptive reading assessment. In M. Chalhoub-Deville. (1999). *Studies in language testing: issues in computer-adaptive testing of reading proficiency*. New York: Cambridge University Press.
- Grabe, W. (2002). Reading in a second language. In R.B. Kaplan (2002) *The Oxford handbook of applied linguistics*. New York: Oxford University Press.
- Grabe, W. & Stoller, F. (2001). Reading for academic purposes: guidelines for the ESL/EFL teacher. In M. Celce-murcia. (2001). *Teaching English as a second or foreign language*. Boston: Heinle & Heinle.
- Greaney, V. (1980). Factors related to amount and type of leisure reading. *Reading Research Quarterly*, 15(3): 337-357.
- Greaney, V. (1996). Reading in developing countries: Problems and issues. In V. Greaney. (Ed.) (1996). *Promoting reading in developing countries*. Delaware: International Reading Association.
- Gregory, G. & Chapman, C. (2005). *Differentiating instruction to meet the needs of all students*. The Video Journal of Education & TeachStream.
- Grisham, J. (2001). *The Runaway Jury*. England: Pearson Education.
- Gu, Y. & Johnson, R. K. (1996) Vocabulary learning strategies and language learning outcomes. *Language Learning*, 46: 643-679
- Hacker, D.J. (1998). Self-regulated comprehension during normal reading. In D.J. Hacker, J. Dunlosky & A. C. Graesser (eds.) *Metacognition in educational*



- theory and practice*. Marwah, NJ: Lawrence Erlbaum Associates.
- Harrison, C. (2004). *Understanding reading development*. London: SAGE Publications.
- Hayashi, K. (1999). Reading strategies and extensive reading in EFL Classes. *RELC Journal*, 30(2): 114-131.
- Hitosugi, C. I. & Day, R. R. (2004). Extensive reading in Japanese. *Reading in a Foreign Language*, 16(1). [online]. Available from: <http://nflrc.hawaii.edu/rfl/April2004/hitosugi/hitosugi.html>
- Hopkins, G. (1997). *Sustained silent reading helps develop independent readers (and writers)*. [online]. Available from: <http://www.education-world.com>.
- Horner, S. L. & Shewry, C. S. (2002). Becoming an engaged, self-regulated reader. *Theory into Practice*, 41(2): 102-9.
- Hoyt, L. (2000). *Snapshots: literacy minilessons up close*. Portsmouth, N.H.: Heinemann.
- Hudson, T. (2007). *Teaching second language reading*. New York: Oxford University Press.
- Jacobs, G. M., Davis, C. & Renandya, W. A. (1997). *Successful strategies for extensive reading*. Singapore: SEAMEO Regional Language Center.
- Janzen, J. (2003). Developing strategic readers in elementary school. *Reading Psychology: an International Quarterly*, 24: 25-55.
- Jimenez, R. (1997). The strategic reading abilities and potential of five low-litarcy Latina/o readers in middle school. *Reading Research Quarterly*, 31(1): 224-243.
- Jimenez, R., Garcia, E. & Pearson, P. D. (1996). The reading strategies of bilingual latina/o students who are successful English readers: Opportunities and obstacles. *Reading Research Quarterly*, 31(1): 90-112.
- Kembo, J. (1993). Reading: Encouraging and maintaining individual extensive reading. *Forum*, 31(2): 36.
- Kern, R. G. (1989). Second language reading strategy instruction: Its effects on comprehension and word inference ability. *The Modern Language Journal*, 73: 135-49.
- Kim, J. (2003). *Summer reading and the ethnic achievement gap*. Paper presented at the American Educational Research Association, Chicago, April 21.

- Kim, H., & Krashen, S. (1998). The author recognition and magazine recognition tests, and free voluntary reading as predictors of vocabulary development in English as a foreign language for Korean high school students. *System*, 26: 515-523.
- Komindr, Chatsuda. (2002). *A small scale investigation of the role of extensive reading in the Thai EFL classroom*. Unpublished Thesis, Assumption University.
- Kragler, S. & Nolley, C. (1996). Student choices: book selection strategies of fourth graders. *Reading Horizons*, 36: 354-65.
- Krashen, S. D. (2003). *Explorations in language acquisition and use*. Portsmouth, NH: Heinemann.
- Krashen, S. D. (2004). *The power of reading*. Portsmouth: Heinemann.
- Krashen, S. D. (2007). Extensive reading in English as a foreign language by adolescents and young Adults: A meta-analysis. *The International Journal of Foreign Language Teaching*, 3(2): 23-29.
- Lai, F. (1993). The effect of a summer reading course on reading and writing skills. *System*, 21(1): 87 – 100.
- Lao, C. Y., & Krashen, S. (2000). The impact of popular literature study on literacy development in EFL; more evidence for the power of reading. *System*, 28: 261-270.
- Laufer, B. (1997). The Lexical plight in second language reading: words you don't know, words you think you know, and words you can't guess. In J. Coady, J. & T. Huckin. (1997). *Second language vocabulary acquisition*. Cambridge: Cambridge University Press.
- Lee, S. (2006). A one-year study of SSR: University level EFL students in Taiwan. *The International Journal of Foreign Language Teaching*, 2(1): 6-8. [online]. Available from: <http://www.tprstories.com/ijflt/IJFLTWinter06.pdf>
- Leung, C. Y. (2002). Extensive reading and language learning: A diary study of a beginning learner of Japanese. *Reading in a Foreign Language*, 14(1). [online]. Available from: <http://nflrc.hawaii.edu/rfl/April2002/leung/leung.html>
- Lituanas, P. M., Jacobs, G. M., & Renandya, W. A. (1999). A study of extensive reading with remedial reading students. In Y. M. Cheah & S. M. Ng (Eds.)

- Language instructional issues in Asian classrooms* (pp. 89-104). Newark, DE: International Development in Asia Committee, International Reading Association.
- Locke, E. A., & Latham, G. P. (1990). *A theory of goal setting and task performance*. Englewood Cliffs, NJ: Prentice Hall.
- Lovett, S. B. & Flavell, J. H. (1990). Understanding and remembering: children's knowledge about the differential effects of strategy and task variables on comprehension and memorization. *Child Development*, 61(6): 1842-1858.
- Maamouri Ghrib, E. 2003. University students' and teachers' attitudes towards an EFL reading program. *TESL Reporter*, 36(1): 41-58.
- Maguiness, C. (1999). *Show us how: a school-wide program for reluctant readers*. Paper presented at the Biennial Conference of the International Federation for the Teaching of English. Warwick, English, UK.
- Maitland, L. E. (2000). Self-regulation and metacognition in the reading lab. *Journal of Developmental Education*, 24(2): 26-36.
- Manning, G. L. & Manning, M. (1984). What models of recreational reading make a difference? *Reading World*, 23: 375-380.
- Martinez-Pons, M. (1996). Test of a model of parental inducement of academic self-regulation. *Journal of Experimental Education*, 64: 213-227.
- Mason, B. & Krashen, S. (1997). Extensive reading in English as a foreign language. *System*, 25(1): 91-102.
- Maxim, H. H. (1999). *The effects of extensive reading on first-semester German students' reading comprehension, cultural horizon and language proficiency*. Unpublished Ph.D. Thesis, The University of Texas at Austin.
- McMillan, J. & Schumacher, S. 1997. *Research in education: A conceptual introduction*. 4<sup>th</sup> ed. New York: Longman.
- McNeil, N. M. & Alibali, M. W. (2000). Learning mathematics from procedural instruction: Externally imposed goals influence what is learned. *Journal of Educational Psychology*, 92: 734-744.
- McQuillan, J. (1996). How should heritage languages be taught?: The effects of a free voluntary reading program. *Foreign Language Annals*, 29: 56-72.
- McQuillan, J. (2001). If you build it, they will come: a book flood program for struggled readers in an urban high school. In B. O. Ericson. (2001). *Teaching*

*reading in high school English classes.* Illinois: NCTE.

- Mekprayoon, T. (2001) *A comparison of using English vocabulary learning strategies of Mathayomsuksa five students with different reading abilities in demonstration schools under the Ministry of University Affairs, Bangkok Metropolis.* Unpublished Master of Education Thesis, Chulalongkorn University.
- Meloth, M.S. & Deering, P. D. (1994). Task talk and task awareness under different cooperative learning conditions. *American Educational Research Journal*, 31: 138-65.
- Meyers, R. (1998). *Uninterrupted sustained silent reading.* Long Beach, CA.
- Miranda, A, Villaescusa, M. I. & Vidal-Abarca, E. (1997). Is attribution retraining necessary? Use of self-regulation procedures for enhancing the reading comprehension strategies of children with learning disabilities. *Journal of Learning Disabilities*, 30: 503-12.
- Moore, J.C., Jones, C.J., & Miller, D.C. (1980). What we know after a decade of sustained silent reading. *Reading Teacher*, 33: 445–450.
- Morrow, L. M., & Gambrell, L. B. (2000). Literature-based reading instruction. In M. L. Kamil, P. B. Mosenthal, P. D. Pearson, & R. Barr (Eds.), *Handbook of reading research*, vol. 3, (pp. 563–586). Mahwah, NJ: Lawrence Erlbaum Associates.
- Mulholland, R. (2006). Creating the environment for middle school 8<sup>th</sup> grade to be engaged in learning. *The Reading Matrix*, 6(2): 106-115.
- Nagy, N. M., Campenni, E. C. & Shaw, J. N. (2000). *A survey of sustained silent reading practices in seventh-grade classrooms.* [online]. Available from: <http://www.readingonline.org>.
- Najaikong, P. (2001). *Effectis of the mind mapping and self-regulation on attitudes and Thai language learning achievement of Mathayomsuksa one students.* Unpublished Master of Education Thesis. Chulalongkorn University.
- Nassaji, H. (2003). Higher-level and lower-level text processing skills in advanced ESL reading comprehension. *The Modern Language Journal*, 87(2): 261-276.
- Nation, P. (1997). The language learning benefits of extensive reading. *The Language Teacher*, 21(5). [online]. Available from: <http://www.jaltpublications.org/tlt/files/97/may/extensive.html>.

- Nation, P. & Wang Ming-tzu, K. (1999). Graded readers and vocabulary. *Reading in a Foreign Language*, 12(2): 355-380.
- Nation, P. & Waring, R. (1997) Vocabulary size, text coverage and word lists. In N. Schmitt & M. McCarthy. (1997). *Vocabulary: description, acquisition and pedagogy*. Cambridge: Cambridge University Press.
- National Statistical Office. (2005). *The Reading Behavior of Population Survey 2005*. Bangkok: National Statistical Office.
- Nolan, T. (1991). Self-questioning and Prediction: Combining metacognition strategies. *Journal of Reading*, 35: 132-38.
- Nuttall, C. (1996). *Teaching reading skills in a foreign language*. Oxford: Heinemann.
- Olshavsky, R. W. (1975). Implications of an information processing theory of consumer behavior. In E. M. Mazze (Ed.), *Marketing in turbulent times and marketing: The challenge and the opportunities* (pp. 151-155). Chicago, IL: American Marketing Association.
- Perfetti, C. (1994). Psycholinguistic and reading ability. In M. A. Gernsbacher (Ed.). (1994). *Handbook of psycholinguistics*. San Diego, CA: L. Lawrence Erlbaum Associates Publishers.
- Perry, N.E., Phillips, L., & Hutchinson, L.R. (2006). Preparing student teachers to support for self-regulated learning. *Elementary School Journal*, 106(3): 237-254.
- Ping-ha, C. & Chi-ting, C. (2000). Evaluating sustained silent reading in reading classes. *The Internet TESL Journal*, VI(11). [online]. Available from: <http://iteslj.org/Articles/Chow-SSR.html>
- Pintrich, P. R. (1995). *Understanding self-regulated leaning*. San Francisco: Jossey-Bass Publishers.
- Pintrich, P. R. (2000). The role of goal orientation in self-regulated learning. In Boekaerts, M., Pintrich, P. R. & Zeidner, M. (2002). *Handbook of self-regulation*. San Diego: Academic Press.
- Pintrich, P. R. & De Groot, E. V. (1990). Motivational and self-regulated learning components of classroom academic performance. *Journal of Educational Psychology*, 82(1): 33-38.
- Pintrich, P.R., Smith, D., Garcia, T. & McKeachie, W.J. (1991). *A manual for the use*

- of the Motivated Strategies for Learning Questionnaire (MSLQ)*. Ann Arbor: University of Michigan, School of Education.
- Prapphal, K. & Opanon-Amata, P. (2002). An investigation of English proficiency of Thai graduates. *Chulavijai*, 21(3): 12-16.
- Pressley, M. (1995). More about the development of self-regulation: Complex, long-term, and thoroughly social. *Educational Psychologist*, 30(4): 207-212.
- Pressley, M. (2000). What should comprehension instruction be the instruction of? In M.L. Kamil, P.B., Mosenthal, P.D. Pearson, & R. Barr (Eds.), *Handbook of reading research*, vol. III. Mahwah, NJ: Lawrence Erlbaum Associates, Publishers.
- Pressley, M. & Afflerbach, P. (1995). *Verbal protocols of reading: The nature of constructively responsive reading*. Hillsdale NJ: Erlbaum.
- Pressley, M. & Harris, K. R. (2006). Cognitive strategies instruction: From basic research to classroom instruction. In Alexander, P. & Winne, P. H. (2006). *Handbook of educational psychology*. Mahwah, N.J.: Lawrence Erlbaum.
- Prowse, P. (2002). Top ten principles for teaching extensive reading: A response. *Reading in a Foreign Language*, 14(2). [online]. Available from: <http://nflrc.hawaii.edu/rfl/October2002/discussion/prowse.pdf>.
- Renandya, W. A., Rajan B. R. S. & Jacobs, G. M. (1999). Extensive reading with adult learners of English as a second language. *RELC Journal*, 30(1): 39-61.
- Rifkin, B. (2005). A ceiling effect in traditional classroom foreign language instruction: Data from Russian. *The Modern Language Journal*, 89(1): 3-18.
- Robb, T. (2002). Extensive reading in the Asian context—An alternative view. *Reading in a Foreign Language*, 14(2): 146-147.
- Robb, T. N. (2001). Extensive reading for Japanese English majors. In Murphy, T. & Byrd, P. (2001). *Understanding the course we teach. Local perspectives on English language teaching*. Ann Arbor: The University of Michigan Press.
- Rosenshine, B.V. (1980). Skill hierarchies in reading comprehension. In Spiro, R.J., Bruce, B.C. & Frewer, W.F. *Theoretical issues in reading comprehension*. Hillsdale, NJ: Lawrence Erlbaum.
- Rosenshine, B. V. & Meister, C. (1994). Reciprocal teaching: a review of the research. *Review of Educational Research*, 64: 479-530.
- Routman, R. (1991). *Invitations: changing as teachers and learners K-12*.

Portsmouth, NH: Heinemann.

- Satitporn, Nitaya. (1995). *An experimental study of the role of extensive reading on the ability to acquire vocabulary and the motivation of M.5 students at Thawangphapittayakom School in Nan province*. Unpublished Thesis, Mahidol University.
- Schackne, S. (1994). *Extensive reading and language acquisition: Is there a correlation? A two-part study*. Paper present at the Annual International Conference of the Institute of Language in Education (Hong Kong, December, 1994).
- Schoonen, R., J. Hulstijn & B. Bossers (1998). Metacognitive and language-specific knowledge in native and foreign language reading comprehension: An empirical study among Dutch students in grades 6, 8 and 10. *Language Learning*, 48: 71-106.
- Schraw, G. & Impara, J.C. (Eds.). (2000). *Issues in the measurement of metacognition*. Lincoln: Buros Institute of Mental Measurements, University of Nebraska Press.
- Schreiber, F. J. (2003). *Exploring metacognition and self-regulation in an enrichment reading program*. Unpublished Ph.D. dissertation, The University of Connecticut.pe
- Schunk, D. H. (1994). Self-regulation of self-efficacy and attributions in academic settings. In D.H. Schunk. & B.J. Zimmermann. (1994). *Self-regulation of learning and performance: Issues and educational applications*. New Jersey: Lawrence Erlbaum Associates, Publishers.
- Schunk, D. H. & Zimmermann, B. J. (1994). *Self-regulation of learning and performance: Issues and educational applications*. New Jersey: Lawrence Erlbaum Associates, Publishers.
- Schunk, D. H. & Zimmermann, B. J. (1998). *Self-regulated learning. From teaching to self-reflective practice*. New York: The Guilford Press.
- Sheorey, R. & Mokhtari, K. (2001). Differences in the metacognitive awareness of reading strategies among native and non-native readers. *System* 29(4): 431-49.
- Sheu, S. P-H. (2003). Extensive reading with EFL learners at beginning level. *TESL Reporter*, 36(2): 27-40.
- Sheu, S. P-H. (2004). Students' reflections on the physical features of EFL graded

- readers. *TESL Reporter*, 37(1): 18-33.
- Sims, J. M. (1996). *A comparative study of improvements in reading comprehension of skilled-based instruction and extensive reading for pleasure with Taiwanese freshmen university students*. Unpublished Ph.D. Thesis, The Florida State University.
- Smith, K. (2006). A comparison of “pure” extensive reading with intensive reading and extensive reading with supplementary activities. *The International Journal of Foreign Language Teaching*, 2(2): 12-15.
- Stanovich, K. E. (2000). *Progress in Understanding Reading: Scientific Foundations and New Frontiers*. New York: The Guilford Press.
- Stright, A. D. & Supplee, L. H. (2002). Children's self-regulatory behaviors during teacher-directed, seat-work, and small-group instructional contexts. *Journal of Educational Research*, 95(4): 235-45.
- Susser, B. & Robb, T. N. (1990). EFL extensive reading instruction: research and procedure. *JALT Journal*, 12(2): 161-185.
- Suzanne, H. (2003). *Teacher facilitation of self-regulated reading in ninth grade English*. Unpublished Ph.D. dissertation, The University of North Carolina Greensboro.
- Taguchi, E., Takayasu-Maass, M. & Gorsuch, G. J. (2004). Developing reading fluency in EFL: How assisted repeated reading and extensive reading affect fluency development. *Reading in a Foreign Language*, 16(2). [online]. Available from: <http://nflrc.hawaii.edu/rfl/October2004/taguchi/taguchi.html>
- Takase, A. (2003). *The effects of extensive reading on the motivation of Japanese high school students*. Unpublished dissertation. UMI AAT 3097732
- Takase, A. (2007). Japanese high school students' motivation for extensive L2 reading. *Reading in a Foreign Language*, 19(1). [online]. Available from: <http://nflrc.hawaii.edu/rfl/April2007/takase/takase.html>
- Tanaka, H., & Stapleton, P. (2007). Increasing reading input in Japanese high school EFL classrooms: An empirical study exploring the efficacy of extensive reading. *The Reading Matrix*, 7(1): 115-131.
- Taylor, B.M., Frye, B.J., & Maruyama, G.M. (1990). Time spent reading and reading growth. *American Educational Research Journal*, 27: 351-362.
- Tella, A. & Akande, S. (2007). Children reading habits and availability of books in



- Botswana primary schools: Implications for achieving quality education. *The Reading Matrix*, 7(2): 117-142.
- Theodorou, E. S. & Meyer, B. J. F. (2001). *Can self-regulated learning predict transfer of problem-solving and text structure?* Paper presented at the Annual Meeting of the American Educational Research Association (Seattle, WA, April, 10-14).
- Tomlinson, C. A. (2001). *How to differentiate instruction in mixed-ability classrooms*. (2nd Ed.) Alexandria, VA: ASCD
- Tomlinson, C. A. & Cooper, J. M. (2006). *An educator's guide to differentiating instruction*. New York: Houghton Mifflin Company.
- Topping, K. J. & Paul, T. D. (1999). Computer-assisted assessment of practice at reading: A large scale survey using accelerated reader data. *Reading and Writing Quarterly*, 15(3): 213-232.
- Truscott, D. M. (1996). Organize to motivate. *The New England Reading Association*, 32(2): 17-21.
- Tsang, W-K. (1996). Comparing the effects of reading and writing on writing performance. *Applied Linguistics*, 17: 210-233.
- Tseng, W-T., Dörnyei, Z. & Schmitt, N. (2006). A new approach to assessing strategic learning: The case of self-regulation in vocabulary acquisition. *Applied Linguistics*, 27(1): 78-102.
- Tutwisoot, W. (2003). *Use of the extensive reading program to develop reading comprehension*. Unpublished Master of Arts Thesis, Khon Kaen University.
- Urquhart, A. H. & Weir, C. J. (1998). *Reading in a second language: Process, product, and practice*. New York: Longman.
- Walker, C. (1997). A self access extensive reading project using graded readers (with particular reference to students of English for academic purposes). *Reading in a Foreign Language*, 11(1): 121-149.
- Waring, R. (1998). Graded and extensive reading -- Questions and answers. *The Language Teacher*, 21(5). [online]. Available from:  
<http://www.jaltpublications.org/tlt/files/97/may/waring.html>
- Waring, R. & Takaki, M. (2003). At what rate do learners learn and retain new vocabulary from reading a graded reader? *Reading in a Foreign Language*, 15(2). [online]. Available from:

<http://nflrc.hawaii.edu/rfl/October2003/waring/waring.html>

- Watchai, S. (1996). *Effects of learning strategies and self-regulation on English reading comprehension ability*. Master of Education Thesis. Chulalongkorn University.
- Weaver, C. (1980). *Psycholinguistics and reading*. Massachusetts: Winthrop.
- Welch, R. A. (1998) Introducing extensive reading. *The Language Teacher*, 21(5): 51-53.
- Winne, P. H., & Hadwin, A. F. (1998). Studying as self-regulated learning. In D. J. Hacker, J. Dunlosky, & A. C. Graesser (Eds.), *Metacognition in educational theory and practice* (pp. 277-304). Mahwah, NJ: Lawrence Erlbaum Associates.
- Winne, P. H. & Perry, N. E. (2000). Measuring self-regulated learning. In M. Boekaerts, P.R. Pintrich & M. Zeidner. (2002). *Handbook of self-regulation*. San Diego: Academic Press.
- Winne, P. H. & Stockley, D. B. (1998). Computing technologies as sites for developing self-regulated learning. In D. H. Schunk & B. J. Zimmermann (1998). *Self-regulated learning. From teaching to self-reflective practice*. New York: The Guilford Press.
- Wolter, C. A. (1998). Self-regulated learning and college students' regulation of motivation. *Journal of Educational Psychology*, 90(2): 224-235.
- Yang, A. (2001). Reading and the non-academic learner: a mystery solved, *System*, 29(4): 451-466.
- Yamamori, K., Isoda, T., Hiromori, T. & Oxford, R. L. (2003). Using cluster analysis to uncover L2 learner differences in strategy use, will to learn, and achievement over time. *IRAL*, 41(4): 381-409.
- Zimmerman, B. J. (1989). A social cognitive view of self-regulated academic learning. *Journal of Educational Psychology*, 81(3): 329-339.
- Zimmerman, B. J. (1998). Developing self-fulfilling cycles of academic regulation: An analysis of exemplary instructional models. In B.J. Zimmerman & D.H. Schunk (1998). *Self-regulated learning. From teaching to self-reflective practice*. New York: The Guildford Press.
- Zimmerman, B. J. (2000). Attaining self-regulation: A social cognitive perspective. In M. Boekaerts, P.R. Pintrich & M. Zeidner. (2002). *Handbook of self-*

*regulation*. San Diego: Academic Press.

- Zimmerman, C. B. (1997). Do reading and interactive vocabulary instruction make a difference? An Empirical study. *TESOL Quarterly*, 31(1): 121-40.
- Zimmerman, B. J., Bonner, S. & Kovach, R. (2003). *Developing self-regulated learners. Beyond achievement to self-efficacy*. Washington DC: American Psychological Association.
- Zimmerman, B. J. & Kitsantas, A. (1997). Developmental phases in self-regulation: Shifting from process to outcome goals. *Journal of Educational Psychology*, 89: 19-36.
- Zimmerman, B. J. & Martinez-Pons, M. (1986). Development of a structured interview for assessing students use of self-regulated learning strategies. *American Educational Research Journal*, 23: 614-628.
- Zimmerman, B.J., & Martinez-Pons, M. (1988). Construct validation of a strategy model of student self-regulated learning. *Journal of Educational Psychology*, 80: 284-290.
- Zinar, S. (2000). The relative contributions of word identification skill and comprehension-monitoring behavior to reading comprehension ability. *Contemporary Educational Psychology*, 25: 363-77.

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**APPENDICES**

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## Appendix A

## A sample of self-regulated learning strategies questionnaire

No.	Questions	Categories
1	<p>ฉันมักจะลืมเนื้อเรื่องตอนที่กำลังอ่านหนังสืออยู่เป็นประจำเพราะมัวคิดถึงเรื่องอื่น ๆ</p> <p>While I'm reading, I often miss important points because I think of other things. (Reverse)</p>	Metacognitive
2	<p>เวลาที่ฉันอ่านหนังสือ ฉันตั้งคำถามเกี่ยวกับเนื้อเรื่องที่อ่านเพื่อตั้ง เป้าหมายในการอ่าน</p> <p>When I read books / graded readers, I set a reading goal by posing questions about information I would like to know from this reading</p>	Metacognitive
3	<p>ถ้าฉันไม่เข้าใจเนื้อเรื่องที่ได้อ่านไปแล้ว ฉันจะกลับไปอ่านใหม่และ พยายามทำความเข้าใจเนื้อเรื่อง</p> <p>If I get confused about some parts of the texts I just read, I will go back and try to understand them.</p>	Metacognitive
4	<p>ถ้าเรื่องที่อ่านอยู่ยากเกินไป ฉันจะเปลี่ยนวิธีอ่านใหม่</p> <p>If a book I'm reading is too difficult for me, I will try to change the way I read it.</p>	Metacognitive

## Appendix B

### A sample of self-regulated learning interview schedule

#### 1. อ่านหนังสือในชั้นเรียน

สมมติว่าขณะอยู่ในชั้นเรียน อาจารย์ให้เวลานิสิตอ่านหนังสือในชั้นเรียน และบอกว่าจะ ให้นิสิตสรุป เรื่องที่เพิ่งอ่านไป นิสิตจะใช้วิธีใดในการทำความเข้าใจเนื้อเรื่องที่อ่านไปบ้าง

- 1.1 ถ้าเรื่องที่อ่านยาวมาก นิสิตจะมีวิธีทำความเข้าใจเนื้อเรื่องที่อ่านอย่างไรบ้าง
- 1.2 ปกติเวลาอาจารย์ให้อ่านหนังสือในชั้นเรียน นิสิตจะทำอะไรบ้าง
- 1.3 ถ้าอ่านเรื่องจบแล้วแต่ยังไม่เข้าใจเนื้อเรื่องดี นิสิตจะทำอย่างไร

#### 1. Situation – Reading in class

Assuming that a teacher is giving you time to read in class, he or she says that you will have to summarize the story you have just read. Do you have any method to help you understand what you have read?

- 1.1 If the story is very long, what will you do to help yourself understand the story?
- 1.2 What do you normally do in class when the teacher gives you time to read?
- 1.3 What will you do if you still cannot understand the story once you have finished reading?

#### 2. เขียนสรุปเนื้อเรื่องที่ได้อ่านไปแล้ว

อาจารย์ให้นิสิตอ่านและเขียนสรุปเนื้อเรื่องจากหนังสือด้วยตนเอง และงานชิ้นนี้จะเป็น คะแนนหลักใน วิชาภาษาอังกฤษ นิสิตจะวางแผนและทำงานชิ้นนี้ให้สำเร็จได้อย่างไร

- 2.1 โดยปกตินิสิตจะทำอะไรบ้างก่อนที่จะเริ่มเขียนสรุปเนื้อเรื่อง
- 2.2 ในระหว่างที่เขียนสรุปเนื้อเรื่อง นิสิตเคยประสบปัญหาหรือไม่และมีวิธีการแก้ไข อย่างไร
- 2.3 ในการเขียนสรุปเนื้อเรื่อง นิสิตได้ใช้วิธีการและขั้นตอนใดบ้าง

#### 2. Situation – Summarizing a book

The teacher often assigns you to write a summary of a book outside class, and these assignments are accounted for a major part of the grade. In such cases, do you have any method to help you plan and complete a book summary?

- 2.1 What do you normally do before you start writing a summary of a book?
- 2.2 While writing a book summary, have you encountered any problems and how did you solve these problems?
- 2.3 What are your procedures or methods in writing your book summary?

## Appendix C

### Reading Portfolio

ชื่อ-นามสกุล: \_\_\_\_\_ วันที่: \_\_\_\_\_

1. เป้าหมายที่จะทำได้ในสัปดาห์นี้ คือ \_\_\_\_\_

2. ชื่อหนังสือ: \_\_\_\_\_ ระดับหนังสือ \_\_\_\_\_

4. ผู้แต่ง: \_\_\_\_\_ 5. จำนวนหน้าที่อ่าน : \_\_\_\_\_ 6. เวลาที่ใช้ \_\_\_\_\_

7. สรุปเรื่องที่อ่านไปเป็นประโยคสั้นๆ เรื่องนี้เกี่ยวกับอะไร มีตัวละครและเหตุการณ์อะไรเกิดขึ้นบ้าง



8. คุณมีความประทับใจคอนใดของเรื่อง ตัวละครใด และอย่างไร

9. หนังสือเล่มนี้ (เลือกวงกลม 1 ข้อ): สนุกมาก อ่านได้เรื่อยๆ ไม่น่าอ่านเลย

10. ภาษาอังกฤษของเล่มนี้ (เลือกวงกลม 1 ข้อ): ง่ายเกินไป กำลังพอดี ยากเกินไป

11. คุณพบปัญหาใดๆ ในระหว่างที่อ่านหนังสือเล่มนี้บ้างหรือไม่ และคุณมีวิธีการแก้ไขอย่างไร



12. คุณเข้าใจเรื่องที่คุณอ่านไปมากแค่ไหน 0%-----20%-----40%-----60%-----80%-----100%

13. คุณสามารถทำตามเป้าหมายที่ตั้งไว้ได้สำเร็จหรือไม่                   ใช่                   ไม่ใช่

เพราะเหตุใด

14. คุณใช้กลยุทธ์ใดเพื่อช่วยให้ตนเองสามารถอ่านหนังสือได้เข้าใจมากขึ้น และแต่ละกลยุทธ์สามารถช่วยให้คุณเข้าใจเนื้อเรื่องดีขึ้นได้อย่างไร

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15. คุณคิดว่าการอ่านหนังสือเล่มต่อไป คุณจะทำอย่างไรเพื่อให้สามารถอ่านได้เข้าใจจนจบ และมีปัญหาในการอ่านน้อยที่สุด

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16. เป้าหมายสำหรับการอ่านที่จะทำให้ได้ผลในสัปดาห์ต่อไป

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## Appendix D

### A sample of the instructional manual

#### An extensive reading instruction using a self-regulated learning framework

##### I. Rationale

Extensive reading (ER) is essential for English as a foreign language (EFL) students since it provides motivating and meaningful context for reading (Nassaji, 2003). It has proven to bring about gains in vocabulary knowledge, reading speed and ability, writing ability, and a positive attitude towards reading. (Krashen, 2004; Day & Bamford, 1998; Nuttall, 1996). However, most Thai students still have low English proficiency as indicated by their TOEFL mean score of 200 during the year 2005-2006 (ETS, 2007). Also, according to Prapphal and Opanon-amata's study in 2002, Thai students scored below the standard score of 500 on the Chulalongkorn University Test of English Proficiency (CU-TEP) of which 50 percent of the test items measures students' reading comprehension. This information is alarming since L2 literacy knowledge may account to 30 percent of variances of second language reading (Bernhardt, 2005). Thai students' reading comprehension may be at the frustrating reading level because of the low English language proficiency.

Poor reading ability may impede the students from achieving comprehension. Readers at a low level require more effort and attention to the processing of decoding leaving only a fraction of resources to monitor their strategy use (Hudson, 2007). Poor readers tend to concentrate more on word level (Schoonen, Hustijn & Bossers, 1998). Furthermore, they may not recognize existing problems and insist on adopting a single interpretation of texts (Hudson, 2007 p. 124; Block, 1992; Brown, Armbruster & Baker 1986).

Eskey (1987) suggests that people learn to read by reading. A number of reading researchers suggest extensive reading as a crucial complement to a traditional reading program (Day & Bamford, 1998; Grabe, 2002; Coady, 1997; Nuttall, 1996). However, there are some problems in implementing extensive reading in Asia. Robb (2002) implemented an extensive reading program in Japan and noted that students may not have the discipline to read regularly unless there is a carefully planned tracking activity to encourage them to read. They tend to read to fulfill the

requirements of the course, not for the joy of reading. Without clear guidance, students may be confused and may not fully benefit from extensive reading.

Consequently, extensive reading in Asia seems to need another component which can help motivate students to read but requires an appropriate amount of work as a follow-up. Baker (2002) emphasized that independent reading is not sufficient and students need metacognitive strategies, specifically in knowing how to control their cognition. In a similar view, Brown (2002) supports the teaching of *self-regulation* to improve reading comprehension since poor readers cannot make use of different strategies, and they need to be taught how to effectively use these strategies. Self-regulation may provide the accountability extensive reading lacks while still maintaining the pleasurable component of reading.

Self-regulation is viewed by social cognitive theorists as a process in which individuals are metacognitively, motivationally, and behaviorally active participants in their learning process. This involves an interdependent interaction among *person, environment, and behavior*. Each component interacts with one another to modify or change behaviors so that a goal can be reached (Bandura, 1986). The learning process of self-regulation involves three major phases: *forethought* which students prepare themselves for learning by planning or setting goal, *performance or volitional control* which students focus and monitor their learning methods or strategies, and *self-reflection* which students evaluate their performance and react accordingly (Zimmerman, 1992 p.2). In actuality, only few students in every classroom are so good at regulating their own behavior (Pintrich, 1998). Most students need support and opportunities to develop the cornerstones of self-regulation. Self-regulated learning strategies should be an integral part of meaningful learning in the classroom (Schunk & Zimmerman, 1994). With the combination of extensive reading and self-regulation, students should be able to enjoy reading independently and effectively, and this leads to strategies to improve their reading abilities.

## **II. Teacher's role**

The teacher acts as a counselor who encourages and helps the students with their reading by conferences during or after class time, and by checking progress and commenting on written summaries that students do of their reading. This can be uncomfortable for some teachers who feel that they should teach something to the

class. More importantly, the teacher has to be a reading model for students. The teacher can read aloud to the class or sit and read while students read silently (Susser & Robb, 1990; ; Ping-ha & Chi-ting, 2000; Robb, 2001; Dawson, 2002).

Additionally, the effectiveness of extensive reading also attributes to students' attitudes and contributions. Students are responsible for their own learning to the extent that they must choose materials at an appropriate level and must learn to be conscientious in regularly completing assigned reading tasks (Robb, 2001).

### **III. Theoretical Framework**

The instruction involves two theories:

#### **1. Extensive Reading**

Day & Bamford (1997) and Jacobs, Davis & Renandya (1997) suggestions of the characteristics of effective extensive reading have been studied and it can be summarized that extensive reading is mainly characterized by reading a large quantity of materials for pleasure and understanding (see Figure 1). Although the purpose is to study language, students acquire language implicitly. The reading materials also play a major role in extensive reading. Students must be able to choose what they want to read. There should be a wide range of books, e.g., contemporary topics, classic titles, and non-fiction. Levels of reading difficulty should vary so that students can choose to read materials within their linguistic competence. There should be a follow-up task, which monitors understanding and motivates students to read more and continue to improve themselves. Teacher will be a model reader for students by demonstrating how expert readers handle problems while reading and that reading is not only school works for students. Additional help may be provided for weak students when needed.

#### **2. Self-regulated learning**

Frameworks by Pintrich (2000), Zimmerman (2000), Winne & Hadwin (1998), Bandura (1986), Schunk (1989) & Horner (2002) have been adopted to construct language curriculum and lesson plans which foster self-regulated learning. In this study, self-regulated learning framework refers to three stages (see Figure 1).

First, planning is an initial stage. Students learn to plan what and how they will do a task, and what they want to achieve. There are two kinds of goal. Mastery goal focuses on knowing and becoming an expert in the subject matter while

performance goal focuses on the outcome like grade or scores. The goal should be specific and not distant.

Second, self-monitoring is the second stage which happens when students pay attention to their behaviors. This can be done through self-recording of problems and solutions students have while participating in this study. Third, self-evaluation occurs when students compare their performance with goals.

Last, self-reaction refers to students beliefs about their progress. If they believe they are making progress, this will increase self-efficacy and motivation. Negative evaluation will not necessarily decrease motivation if students believe that they can make progress. Students will use these four stages to regulate four areas of learning—cognition, motivation, behavior, and context.

The acquisition of self-regulated learning will emerge in a series of regulatory skill levels. At an observational level, students will learn about major features of the skill from watching a model learn or perform. At an emulation level, students' performance will resemble the general strategic form of the model. At self-controlled level, students master the use of a skill in structured settings outside the presence of models. At self-regulated level, students can adapt their performance to changing personal and contextual conditions.

## Appendix E

### Lesson Plan: Extensive Reading Using A Self-regulated Learning Framework

**Title of lesson:** 1. Do You Read?

**Course:** Experiential English I

**Level:** First Year

**Lesson Duration:** 1 hour

**Materials:** Do You Read?  
Intensive / Extensive Reading  
Taking Control

**Objective:**

1. Students will be able to examine their general reading habits and attitudes, as well as their feelings about reading in English by completing **Do You Read?** worksheet
2. Students will be able to understand the concept of extensive reading
3. Students will be able to understand the concept of self-regulated learning

**Procedure:**

Time	Procedure	Goal
5 Min	2. Before introducing the extensive reading program, it is important to get some information about the students. Students' reflection on past and current experience with reading in English will be beneficial for both students and teacher. Distribute the <b>Do You Read?</b> worksheet and go over all the questions. Give examples of possible answers. Assure students that there is no right or wrong answer. Ask students to answer the questions.	Examine reading habits
15 Min	3. In small groups, students share their answers preferably in English. They should discuss each question and answer. Ask student to choose one representative to share some of the answers with the class.	
10 Min	4. After students finish discussing, ask each question to class and let each representative to share the answers. Collect the worksheets for evaluation.	

## Appendix F

### Lesson Plan: Extensive Reading Using A Self-regulated Learning Framework

**Title of lesson:** 2. Finding Your Reading Level

**Course:** Experiential English I

**Level:** First Year

**Lesson Duration:** 1 hour

**Materials:** Sample pages of graded readers from 6 levels  
In search of your level  
A reading portfolio sheet

**Objective:**

1. Students will be able to determine what reading level is appropriate for them to start by choosing the appropriate graded reader for themselves.
2. Students will be able to identify the three phases of self-regulated learning in the reading portfolio by practicing completing the reading portfolio sheet.

**Preparation:**

For each of the reading levels, a book that starts in a clear and interesting fashion, with language fairly representative of that level will be chosen. The first page from each selected book will be photocopied with reading levels clearly marked.

**Procedure:**

Time	Procedure	Goal
5 Min	1. Students will be new to graded readers and teacher should help them get start by finding the suitable level of reading for them. Tell students that the following activity will help them make a quick, rough estimate of a comfortable level at which to begin reading.	Determine the suitable reading level
25 Min	2. Distribute the package of graded readers. Explain to students that graded readers are divided into levels according to their difficulties, vocabulary, and genre. The 6 sample pages represent 6 reading levels and different genres. Instruct students to start reading level 4 passage.	

## Appendix G

### Lesson Plan: Extensive Reading Using A Self-regulated Learning Framework

**Title of lesson:** 3. Judge the Book from Its Cover

**Course:** Experiential English I

**Level:** First Year

**Lesson Duration:** 1 hour

**Materials:** A graded reader  
Judge the book from its cover  
A reading portfolio sheet

**Objectives:**

3. Students will be able to recognize relevant details from the title and illustration on the book cover.
4. Students will be able to plan and set a proximal and achievable goal.

**Procedure:**

Time	Procedure	Goal
5 Min	3. Explain to students that it is important to read the title and look at the cover of the book because they give a lot of information about the book. Students also have to use this information in selecting the book. Ask students to take out graded readers they are reading.	Recognize details from the book cover
20 Min	4. Students read the title of the story. They answer question number 1. Then, ask students to look at the pictures, fonts and colors, and answer question number 2-4.	

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## Appendix H

## Sample coding of self-regulated learning interview

	Transcription	Coding
T	<b>1. อ่านหนังสือในชั้นเรียน</b> สมมติว่าขณะอยู่ในชั้นเรียนอาจารย์ให้เวลานิสิตอ่านหนังสือในชั้นเรียน และบอกว่าจะให้นิสิตสรุปเรื่องที่เพิ่งอ่านไป นิสิตจะใช้วิธีใดในการทำความเข้าใจ เนื้อเรื่องที่อ่านไปบ้าง	
S	ก็อ่านคะ ก็ต้องอ่านตั้งแต่หน้าแรก อย่างเรื่อง ใ้ <i>A house of village</i> หรือ <i>The House of Village</i> มันจะมีแบบว่า ต้องอ่านข้างหน้าก่อน เพราะว่ามันจะมีแนะนำ สถานที่ จะได้ช่วยให้เข้าใจเรื่องมากขึ้น แนะนำสถานที่เรื่อง	Goa-setting & planning
T	ใช้วิธีนี้บ่อยแค่ไหนครับ	
S	ทุกครั้งที่เริ่มอ่านเรื่องใหม่ก็จะดูมาตลอด แต่ถ้าบางที่มันน่าเบื่อก็จะอ่านข้ามๆ ช่วงนี้ไปคะ	4
T	<b>2. เขียนสรุปเนื้อเรื่องที่ได้อ่านไปแล้ว</b> อาจารย์ให้นิสิตอ่านและเขียนสรุปเนื้อเรื่องจากหนังสือด้วยตนเองและงานชิ้นนี้ จะเป็น คะแนนหลักในวิชาภาษาอังกฤษนิสิตจะวางแผนและทำงานชิ้นนี้ให้ สำเร็จได้อย่างไร	
S	คือ อาจจะทำอะไรของก่อน บางทีก็จะลองนึกดูเองก่อนว่าเรื่องมันจะประมาณไหน เพราะที่เขียนสรุปเนื้อเรื่องน้อยมาก เลยจะต้องคิดก่อนว่าจะเขียนอะไรลงไปบ้าง	Goal-setting and planning
T	เฉพาะบางที่หรือครับ หรือว่าใช้การโน้ตย่อบ่อยแค่ไหน	
S	ก็ใช้บ้างคะไม่ได้ทำอย่างนี้ทุกครั้ง เพราะบางทีก็มีงานวิชาอื่นเยอะต้องรีบทำแล้วส่งเลย	2
T	<b>3. อ่านหนังสือให้จบ</b> นิสิตใช้วิธีการใดเป็นพิเศษในการอ่านหนังสือแต่ละเล่มให้จบหรือไม่	
S	ก็อยาก ก็แพลนไว้ว่าอยากแบบว่า นะ อาทิษฐ์ละร้อยก็คงครบพันพอดี แต่พอถึงเวลาแล้วเลือกเรื่องที่อ่านด้วย แล้วก็อะไรด้วย เวลา อะไรหลายๆ อย่าง คือได้แบบ	Goal-setting & planning
S	มันได้น้อยกว่านั้นนะคะแบ่งเวลาไม่ดีเองด้วย ตอนแรกคะ ไปอ่านอย่างอื่นก่อนแล้วแบบ ไหนก็ไหนๆ ก็อ่านแล้วก็เลย เอ๊ะ อ่านๆ ไปเหอะ (หัวเราะ)	Self-evaluation



## Appendix I

### Instruction of verbal protocols of reading

#### Part I: Orientation

The goal of this study is to verbalize your thoughts while reading text. When you think aloud, the objective is to say as much as possible of what you are thinking. Almost everything you say will be good information. You will not be able to verbalize everything you think, but the idea is to give the best report of your thinking processes that you can by talking aloud.

You do not have to plan what you say. Your report does not have to be well structured or perfectly sequenced. What is most important is that you accurately reflect your thoughts, or even bits and pieces of your thoughts. Ideally, you should try to echo directly out loud what is going through your mind, without paying too much attention to how it comes out.

#### Part II: Practice “Memoir of Geisha”

In part II, students will observe while the researcher perform verbal protocol first. Then, they will have to try to verbalize their thoughts while reading.

Example:

Text: Memoir of Geisha

Researcher: *“This means that this may be a real story. I know that Geisha is Japanese, but I do not have much knowledge about their tradition. It will be interesting to see their lifestyle.”*

#### Part III: Data collection

In part III, students read the text titled “The Runaway Jury” and verbalize their thoughts. The researcher sits and observes, and only speaks up when students remain quiet. Only questions such as 'what are you thinking right now?' or 'what else?' will be used to avoid any bias suggestions.

## Appendix J

## Sample coding of verbal protocols

Seg	Description	Strategies
1	High above the water in a modern beach house in Mississippi, เป็นบ้านที่อยู่เหนือแม่น้ำ เป็นบ้านที่มีชายหาดอยู่ในมิสซิสซิปปี	Interpretive conclusion
2	four gentlemen enjoyed drinks and waited for a visitor. คิดถึงคนสี่คนกำลังนั่งดื่มเหล้าแล้วคอยใครบางคน	Interpretive conclusion
3	Normally their work required them to be enemies. คิดถึงว่ากำลัง กำลังทำงานเกี่ยวกับฝ่ายตรงข้าม อะไรซักอย่าง	Deliberating
4	This afternoon, however, They'd played golf and eaten grilled seafood together. คิดถึงว่าพวกเขา กำลังสนุกสนาน เล่นกอล์ฟ แล้วก็กินอาหารกัน	Interpretive conclusion
5	The Big Four, as the four corporations were known in financial circles, were attacked by the public, the medical profession and even some politicians. ธุรกิจนี้มันพัวพันกับการเมือง ด้วยแหละ ต้องอาศัยกันไปมา ช่วยกันทำธุรกิจ ได้ผลประโยชน์ทั้งคู่ แต่ก็มาฟ้องกันเอง	Inferring

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## Appendix K

### Analysis of verbal protocols of reading

#### Introduction

According to the verbal protocols, not all of the 15 strategies were clearly evident. From Table 1, nine strategies were utilized by the students in both groups to varying degrees and four were not found in the data—overviewing text, revising prior knowledge, conversing with author, and anticipating use of knowledge. The most frequently used strategies were using recall strategies, determining word meaning, and reflecting; the least frequently used strategies were evaluating text, looking for important information, and activating prior knowledge. Each strategy is explained and described with examples of responses produced by students while reading text.

#### 1. Planning

1.1. *Overviewing text* includes responses which illustrate the reader determining what is present in the text and deciding which parts to process. This can be observed through the reader skimming the text, commenting on structure and characteristics of the text, noting on important parts, selecting parts which can be ignored or focused on. However, from the verbal protocols in this study, none of the students reported to have overviewed the text. Pressley & Afflerbach (1995, pp. 33) explained that the absence of overview in verbal protocol can be attributed to two reasons: 1) prior knowledge can be activated automatically and out of conscious, so this does not reflect in verbal protocol. 2) readers may not recognize the significance of the information they encounter, so they do not relate a new reading to prior knowledge. Still, as the reader starts reading the text, the activation of prior knowledge can be more evident.

**Table 1 Findings from the Verbal Protocols of Reading by ERSRL Group**

<b>An Event: Verbal Protocols of Reading</b>		
<b>Items</b>	<b>High (n=7)</b>	<b>Low (n=7)</b>
	<i>Frequency</i>	
<b>1. Planning</b>		
1.1. Overviewing Text	0	0
1.2. Activating Prior know.	0	2
<b>2. Self-monitoring</b>		
2.1. Looking for important info	1	1
2.2. Relating Text to text	7	4
2.3. Relating text to prior knowledge	1	1
2.4. Revising meaning	1	8
2.5. Revising prior knowledge	0	0
2.6. Inferring	6	4
2.7. Determining word mean.	18	60
2.8. Using recall strategies	384	552
2.8.1 Interpretive conclusion	339	401
2.8.2 Rereading	4	9
2.8.3 Paraphrasing	2	2
2.8.4 Self-questioning	6	33
2.8.5 Deliberating	17	24
2.8.6 Making Notes	16	53
2.9. Changing strategies	2	13
<b>3. Self-reacting</b>		
3.1. Evaluating text	0	2
3.2. Reflecting	20	24
3.3. Anticipating use of know.	0	0
3.4. Conversing with Author	0	0

1.2. Activating prior knowledge was reflected by responses when readers reported information related to their prior knowledge to interpret the text, and this also include the reader generating hypotheses about text and predicting text content.

However, the activation of prior knowledge can be difficult to detect as the process is automatic and may not be apparent in verbal protocol (Pressley & Afflerbach, 1995, pp. 33). Therefore, the verbal protocols were carefully examined for any evidence of prior knowledge activation.

***Text:** To help fight these court cases, the Big Four had put together a sum of money called The Fund. The Fund was a secret. Officially, it didn't exist. The money in it was used to hire the best defense lawyers for the trials.*

***Student's response: (ERSRL High #2)** So they have a fund to fight these trials. Now I am thinking about bribery. It sounds like this story might be about a bribe since this was very secretive. Officially, it didn't exist. So it isn't just a fund. I think it is something illegal.*

This verbal protocol reveals how the reader used activating prior knowledge to help interpret the text. The reader did not just merely interpret the text word by word but activated her prior knowledge and combined it with information from the text. Then, based on her interpretation of 'The Fund' as a bribe, she speculated that this story would involve bribery as a theme. In other words, the activation of prior knowledge has facilitated and guided this reader to create prediction.

As the activation of prior knowledge may not be obvious or appear in the verbal protocols, the strategy was detected only three times throughout the verbal protocol data. The ERSRL low group reported to use it two times (see Table 4.5).

## **2. Self-monitoring**

*2.1. Looking for important information* in text incorporates responses which demonstrate the reader paying greater attention to it than other information. This can be noticed from the reader adjusting reading speed and concentrating on certain parts of the text depending on the perceived importance of text to reading goals. Although a typical reading goal is to look for main ideas, different ideas can be considered main ideas depending on the purpose of the reader (Pressley & Afflerbach, 1995, pp. 44). Looking for important information was apparent in a few verbal protocols.

**Text:** *The tobacco business was becoming more and more unpopular. The Big Four, as the four corporations were known in financial circles, were attacked by the public, the medical profession and even some politicians.*

**Student's response: (ERSRL High #1)** *So the tobacco business was not doing very well and the Big Four where these four guys work were large companies. The Big Four, as the four corporations were known in financial circles, were attacked by the public ...They were attacked by people and politicians. So this story must be about people protesting and suing against the tobacco company..and this is probably why they met, to discuss the lawsuit against them. So this should be about people suing the tobacco companies.*

The example response demonstrates that the reader was looking for information and trying to understand the overall meaning and the direction of the story. This reader used the sentence “*(The Big Four) were attacked by the public, the medical profession and even some politicians.*” to support the interpretation of the main idea of the story. The student also tried to relate information from the beginning of the story to this part to understand the setting and verify the main idea she generated.

Although Looking for important information can help readers monitor their understanding of the text and capture the main idea, the strategy was underutilized by the students. As shown in Table 4.5, the strategy was used only once in ERSRL high and low groups.

2.2. *Relating text to text* includes responses which indicate students attempting to relate important points in text to one another in order to understand the text and create a larger meaning. This can include both mental and physical actions. Readers may reflect and try to fit pieces of information to construct meaning of text, or they may explicitly create an outline or notes by turning backward and forward (Pressley & Afflerbach, 1995, pp.54).

**Text:** *And now, the lawyers were pursuing them. The survivors of dead smokers were suing them, claiming that cigarettes caused lung cancer.*

**Student's response: (ER High #2)** Here it tells that they face a lot of opposition because these cigarettes cause lung cancer. The relatives are not happy and want to sue them. So this part explains the cause why cigarettes are becoming unpopular.

From the response, the reader related information in this part, when the lawsuit and problems faced by the tobacco companies started to unfold, to the previous part which described the tobacco business as unpopular. By establishing cause and effect relationship between these two parts, the reader was able to construct the meaning that the lawsuits against the tobacco companies led to public awareness that they are health hazard. Using portions of text and associating them to other parts in the text allow the reader to form a larger unit of understanding of the story.

This strategy was used minimally by students in all the four groups. The group which used the strategy the most frequently was ERSRL high group reporting to relate parts of text together only seven times and ERSRL low group made use of the strategy four times (see Table 4.5).

2.3. *Relating text to prior knowledge* is considered one component of inference making and can be indicated when readers trying to associate information from text to what they already know to construct better interpretations of text. Prior knowledge can include general knowledge of the world, in-depth knowledge of specific fields, author intentions, memories from previously read texts, and knowledge of an author's style and ideas (Pressley & Afflerbach, 1995, pp.50). This is different from the previous strategy—activating prior knowledge in which text content instigate prior knowledge and readers generate prediction of hypotheses of the text content.

**Text:** Before a trial, the jury consultants' job was to find out all they could about possible jurors, so they could predict whether they might be sympathetic to the tobacco companies' case or not.

**Student's response: (ERSRL High #1)** This sounds very familiar. I remember watching some of the series on UBC about lawyers and trials. Jurors help find out

*who's guilty. (They) could predict whether they might be sympathetic to the tobacco companies' case or not. I think...so the jurors are very important for them and will be the ones who say if these four companies are guilty. If the companies can influence the jurors, then they probably have a better chance of winning this.*

This reader referred to her prior knowledge of the TV series she has watched to help her construct interpretation of the text. The jury system is uncommon in Thailand, so she had to rely on her prior knowledge to understand the role of the jurors and construct her understanding of the text content. The integration of prior knowledge and text content then became a richer interpretation of the text.

According to the findings in Table 4.5, the students in this study did not make frequent use of relating text to prior knowledge which was used once by students in ERSRL high and low groups.

2.4. *Revising meaning* is demonstrated when readers are reconsidering or revising hypotheses about the meaning of text based on text content. Readers may decide to revise hypotheses when they notice that their understanding is inconsistent with information in the text (Pressley & Afflerbach, 1995, pp. 73).

**Text:** *The tobacco business was becoming more and more unpopular. The Big Four, as the four corporations were known in financial circles, were attacked by the public, the medical profession and even some politicians.*

**Student's response: (ERSRL Low #2)** *So they are not very successful. I thought that they made a lot of money. Four billion dollars. Maybe that's in the past and it's not very good now. So many people like doctors and politicians are their opposition.*

Revising meaning can be easily indicated when readers stop and/or backtrack to reconsider their interpretation of the text. For example, this reader understood that the four tobacco companies were highly successful based on profit cited in the previous part. However, the new piece of information in the text prompted her to re-examine her understanding.



In similar pattern to the previous strategy, the students reported to slightly revise the meaning of text they read as presented in Table 4.6. The ERSRL high group used the strategy only once, and the ERSRL low group used it eight times.

2.5. *Revising prior knowledge* can be indicated by reader reconsidering their prior knowledge based on new text content. While reading text, readers monitor their understanding and if new information in text contradicts with their prior knowledge, readers can adopt new information and revise their prior knowledge (Pressley & Afflerbach, 1995, pp.73). However, this strategy did not emerge in the verbal protocols. Students may be satisfied with their prior knowledge and do not recognize any discrepancy between the new information in the text and their prior knowledge.

2.6. *Inferring* can be demonstrated when readers attempting to infer information not explicitly stated in text when the information is critical to comprehension of the text. This can vary from inferences about work meanings to general understanding. Readers may notice meaning gaps and try to fill in information or patch different parts of text together to form understanding of text, and they can also look at the intentions of the author (Pressley & Afflerbach, 1995, pp. 51).

**Text:** *The money in it was used to hire the best defense lawyers for the trials. It paid for well-spoken experts to help persuade people that cigarette smoking didn't necessarily kill you*

**Student's response: (ERSRL Low #5)** *This is more like a propaganda then. People don't actually know the correct information and may think smoking is O.K. So they (the tobacco companies) have won those 16 trials because they cheated and made people believe in false information. They may even try to draw more people to smoke.*

The verbal protocol data show that this reader has both integrated different parts of story together and fill in meaning gaps in text. Information in the previous part of the text which discussed 16 trials won by the tobacco companies was connected to this part she read. Then, although the text did not state clearly the

intentions of what these companies did, she was able to identify that the tobacco companies tried to propagandize the false message to the public.

The verbal protocol data as shown in Table 4.5 indicate that students infrequently used this strategy. The ERSRL high group reported to use it only six times while ERSRL low group used it four times.

2.7. *Determining word meaning* includes readers attempting to determine the meaning of words not understood or recognized, especially when a word seems critical to meaning construction. When readers encounter unfamiliar words, it is not necessary that word meaning will be speculated if the word is not crucial to overall understanding of the story. However, if the word appears essential, the reader may attend to the word and draw different pieces of information in text such as context clues and affixes to form potential meaning of the word (Pressley & Afflerbach, 1995, pp. 70).

*Text: And now, the lawyers were pursuing them.*

*Student's response: (ERSRL Low #3) And now, the lawyers were pursuing them. Pursue...hmm I am not very sure about this word. I don't think I know the meaning of this one. But it has to be something that a lawyer can do to them, and it's probably not a good thing. They probably are investigating or examining these companies, I guess. Earlier, the politicians attacked them, so it's probably investigating.*

Readers constantly engage in determining the meaning of words. From the verbal protocol, the student was not familiar with the word “pursue” and tried to use information from other parts to predict the meaning of this word. Therefore, the word lawyer became the first clue to guide the meaning of pursue, an action relating to lawyer. Next, the context from the previous part helped scope down the meaning and projected a negative connotation. The student finally confirmed her prediction to investigating.

Students reported to rely on this strategy more frequently than the previous eight strategies according to the frequency of this strategy in Table 4.6. ERSRL high group used this strategy eight times, but ERSRL low group used it 60 times. This

could be because the low reading comprehension students have less vocabulary in their repertoire and need a strategy to help them determine the meaning of unfamiliar words.

2.8. *Using recall strategies* is indicated when readers process text in certain ways to help understand and remember text. From the verbal protocols, six reading strategies have emerged. Each strategy is defined and substantiated with examples of verbal protocols and explanation.

2.8.1. *Interpretive conclusion* is defined by general summarization of several points in text or of just one sentence or phrase. The conclusion helps readers monitor their comprehension of text and better their comprehension of text. Readers may also create generalization about mood, atmosphere, tone, theme, and author's goals (Pressley & Afflerbach 1995, pp. 56).

**Text:** *Trial lawyers are ready, witnesses are prepared, all our experts are already in town.*

**Student's response: (ERSRL Low #7)** *So they have a lawyer ready for the trial. They also have witnesses to support them, and their experts are here. They look very well-prepared for the trial and that's probably why they have been waiting for Fitch.*

As presented in Table 4.5, this is the most frequently used strategy by the students to help them monitor their comprehension of text. Students read one segment one the text and stop to summarize it. Sometimes they might connect information from other parts to generate a larger unit of meaning of text.

Students in all the two groups appear to adopt interpretive conclusion as the main strategy to help monitor their comprehension while reading. The strategy was used 339 times by the ERSRL high group and 401 times by the ERSRL low group.

2.8.2. *Rereading* occurs when readers recognize that text has not been fully understood, an interesting piece of information is found, or there is a failure to connect meaning of different parts together (Pressley & Afflerbach 1995, pp. 68-72).

**Text:** *The Big Four, as the four corporations were known in financial circles, were attacked by the public, the medical profession and even some politicians.*

**Student's response: (ERSRL Low #5)** *This is about these corporations being attacked by the public. Were attacked by the public. Let me try to understand this again. I am going to reread this sentence again. These four corporations were well-known. They were attacked. Attacked. So they were unpopular and public, medical people, and politicians are against them right now.*

The example of verbal protocol clearly indicated that the student could not fully interpret the meaning of this sentence the first time she read it. Then, she paused and reread the sentence again to re-examine information she did not have from the first reading. After rereading, meaning gaps were filled and she was able to generate a conclusion about this portion of text.

The verbal protocols as shown in Table 4.5 demonstrate that the students did not use this strategy regularly. The ERSRL high group reported using it four times and the ERSRL low group nine times.

2.8.3. *Paraphrasing* can be indicated when readers process parts of text and reproduce them into more familiar terms (Pressley & Afflerbach 1995, pp. 55).

**Text:** *These corporations were extremely successful; the smallest had sales of six hundred million dollars, the largest four billion dollars. Although they manufactured other things, their real profits came from cigarettes - the companies represented here were responsible for 98 percent of all cigarettes sold in the United States and Canada.*

**Student's response: (ERSRL High #2)** *This part right here talks about the profits and the size of these corporations. It's also about the market share. They are large size corporations.*

Instead of forming interpretive conclusion, students sometimes looked at the general purpose of text. This part elucidated the size and profits of the four corporations. In the above sample, this student paraphrased the segment and captured

its core meaning. This can be combined with interpretive conclusion as this student mentioned in the last part about the size of these corporations.

Paraphrasing was not frequently employed by the students (see Table 4.5). The ERSRL high and low groups both used the strategy two times.

2.8.4. *Self-questioning* accentuates meaningful processing of text and understanding is improved as a result of this active engagement. Readers can form question to guide their reading or to verbalize their doubts and meaning gaps (Pressley & Afflerbach 1995, pp. 59).

**Text:** *Normally their work required them to be enemies.*

**Student's response: (ERSRL Low #3)** *Normally their work required them to be enemies. What is this? Why do they have to be enemies? They are together but they are enemies? That's very unusual.*

Students sometimes post question to themselves when they could not fully understand the information present in text. In the example, this student recognized a possible paradoxical ideas in the text. The four men were socializing but they were also enemies. Questions which emerged were verbalized and students may return to this part to reconsider the meaning.

Based on the verbal protocols, the strategy was most frequently used by the ERSRL low group with 33 occurrences, and the ERSRL high group used it six times.

2.8.5. *Deliberating* is demonstrated by readers trying to construct meaning of text and considering alternative interpretation of text (Pressley & Afflerbach 1995, pp. 57).

**Text:** *The survivors of dead smokers were suing them, claiming that cigarettes caused lung cancer.*

**Student's response: (ERSRL Low #5)** *The politicians are not supporting them and this. The survivors of dead smokers. So the people who survived are trying to do something to them. This is probably something very negative. I guess they are trying to get the company to do something for them.*

Deliberating occurred somewhat frequently in the verbal protocols. When students could not interpret parts of text, but already had sufficient information to generate a more general conclusion, they might try to deliberate and produce interpretation of text based on information they have. This student in the above sample appeared to understand most of this segment, but there was some structure or vocabulary which she could not understand, so she collected all information she had and generated the best conclusion she could to comprehend the text.

Table 4.5 indicates that ERSRL high group used the strategy 17 times, while the ERSRL low group used it 24 times.

2.8.6. *Making notes* refers to comments readers make relating to text and the purpose of these notes are often to remind readers as mental notes. Readers often encounter problems during reading and may comment of difficulty of text, their limited interpretation, and parts of text they intend to backtrack and process later (Pressley & Afflerbach, 1995, pp. 67).

**Text:** *Before a trial, the jury consultants' job was to find out all they could about possible jurors, so they could predict whether they might be sympathetic to the tobacco companies' case or not.*

**Student's response: (ERSRL High #2)** *Before this trial the jury consultants' job was to find out. Consultants have to...find out all they could. They jurors have to consult...so they could predict whether they might be sympathetic... I could not understand this right now. I will just pass and come back here later.*

When students encounter parts of text they do not have sufficient information to interpret them, they might make mental notes to skip the parts and verbalize their thoughts. This usually includes comments such as I'll pass, I'll skip, I can't understand this, and I don't know this right now. In the above protocol, this student obviously could not generate a good conclusion for this segment and chose to skip to read the next part.

In somewhat similar fashion to the previous strategy, ERSRL high group used this strategy 16 times, and the ERSRL low group used it more often at 53 times.

2.9. *Changing strategies* can be demonstrated by when readers recognize that their processing of the text does not proceed smoothly and another strategy is needed to form better interpretation. Often times, this can be noticed from readers backtracking and generating another interpretation of text (Pressley & Afflerbach, 1995, pp. 64).

**Text:** *They'd picked the place, on the Mississippi coast, because juries in Biloxi could be generous in this kind of case.*

**Student's response: (ERSRL High #1)** *I don't get it. So is it Mississippi or Biloxi? I have to go back and read it again. So Biloxi is probably in the Mississippi area. The trial will be in Mississippi and they need to choose juries here because in Biloxi people are kind. They might win..or lose.*

Changing strategies may be less explicit and has to be observed indirectly. One indication can be when students generate a conclusion but then decided to read the segment again. A new strategy is used and the meaning is revised. In the above sample, this student was confused with the location of the trial, so she decided to read the sentence again, and she was able to recognize where the trial would be in her revised interpretation.

According to Table 4.5, this strategy was used infrequently throughout all verbal protocols. The ERSRL high group used this strategy only two times while the ERSRL low group used it 13 occurrence.

### 3. Self-reacting

3.1. *Evaluating text* usually but not exclusively occurs after reading and readers can remark on only particular points in text or the text as a whole. The focus is on style and content of what has been processed, and the impact of text on readers' knowledge, attitude, and behavior (Pressley & Afflerbach 1995, pp. 79).

**Text:** *There were eight lawyers at the last count, financed by eight of the largest law firms in the country, who'd each contributed a million dollars.*

***Student's response: (ERSRL Low #4)*** *There were seven...no...eight lawyers...financed by eight. Contribute, what is contribute. This story is very difficult. I don't understand much about this.*

This is another strategy that is underutilized by students as only one student evaluated the text by commenting on the difficulty. This student faced with complexity in both language and content expressed her frustration and evaluated that the text as too difficult for her level of reading.

From the verbal protocols, this appears to be a strategy which students were not familiar with. Only the ERSRL low group reported to evaluate the text two times.

3.2. *Reflecting* can be indicated when readers process text additionally after a part of text has been read or after reading. This can also be observed through reviewing, considering alternative interpretation or process, connecting different parts of text together, accepting one's understanding, and rejecting one's understanding (Pressley & Afflerbach, 1995, pp. 59).

### ***Post-reading***

***Student's response: (ERSRL High #6)*** *This story is about a trial of tobacco corporations. They have prepared a lot, everything. There was preparation and a lot of effort into this trial. However, even though they have won all the trials, their products are not as popular and they are not in a very good position.*

This student tried to arrange information from text together to make a logical story and form a conclusion. The reflection forced her to actively process information she had and to rationalize the role of each piece of information and fit them together.

From Table 4.5, ERSRL high group used the strategy 20 times while the ERSRL low group used the strategy 24 times.

3.3. *Conversing with author* refers to readers carrying on responsive conversation with the author. This can be directly observed from self-dialog or self-talk engaging in the discussion the reader believes the author tries to stimulate



(Pressley & Afflerbach 1995, pp. 57). However, this strategy has not been utilized by students from this study.

*3.4. Anticipate Use of Knowledge* includes anticipation or planning for the use of knowledge gained from the reading for future use relative to meaning construction of the text. Readers can perceive one part of text as more essential and store the information for later recall (Pressley & Afflerbach, 1995, pp. 75). However, students in this study did not report using this strategy from the verbal protocol.

From the fifteen strategies which have been described, there were a few strategies which were employed more regularly. In the performance or volitional control phase, the students in the two groups most frequently made use of interpretive conclusion followed by determining word meaning. The ERSRL high and low groups did not frequently used strategies in the forethought and self-reflection phases.

## BIOGRAPHY

Chitchon Pratontep received his B.A. in English from the Faculty of Arts, Thammasat University and an M.A. in English as an International Language, Chulalongkorn University. His research interests include second and foreign language reading, reading strategies, and vocabulary acquisition.

### Conferences:

- Pratontep, Chitchon & Chinwonno, Apasara. 2008. An integration of self-regulated learning strategies in extensive reading instruction in Thailand. Poster presented at The International Reading Association's 53<sup>rd</sup> Annual Convention, May 4-8, 2008, Atlanta, Georgia, U.S.A.
- Pratontep, Chitchon & Chinwonno, Apasara. 2008. Effects of extensive reading and self-regulation on Thai students' English reading comprehension. Poster presented at RGJ-Ph.D. Congress IX, April 4-6, 2008, Pattaya, Thailand
- Pratontep, Chitchon. 2007. The use of self-regulated learning strategies within extensive reading by Thai university students. Paper presented at the AAAL 2007 Conference, April 21-24, 2007, Costa Mesa, California, U.S.A.
- Prapphal, Kanchana, Opnon-amata, Prakaikaew, Phadvibulya, Tavicha & Pratontep, Chitchon. 2003. Enhancing English proficiency of Thai students by using web-based teaching and learning materials. Paper presented at the 5<sup>th</sup> CULI International Conference, December 15-17, 2003, Bangkok, Thailand.

### Articles:

- Pratontep, Chitchon. & Chinwonno, Apasara. (2005). Beliefs and Self-regulating Strategies in the Teaching of Vocabulary: A Study of Thai Teachers of Thai and Thai Teachers of English as a Foreign Language. *Working Papers in English as an International Language*. EIL Program, Graduate School, Chulalongkorn University.
- Prapphal, Kanchana, Opnon-amata, Prakaikaew, Phadvibulya, Tavicha & Pratontep, Chitchon. 2003. Enhancing English proficiency of Thai students by using web-based teaching and learning materials. *Proceedings of the 5<sup>th</sup> CULI International Conference*. Bangkok: Chulalongkorn University Printing House.

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