

# EFFECTS OF RECIPROCAL INSTRUCTION ON ENGLISH READING COMPREHENSION OF THAI EFL HIGH SCHOOL STUDENTS

ผลของการใช้การสอนการอ่านแบบ RECIPROCAL TEACHING ต่อความเข้าใจในการอ่านภาษาอังกฤษใน  
ชั้นมัธยมศึกษาตอนปลาย

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**ABSTRACT:** This study aimed to investigate the effects of reciprocal instruction modified from Palincsar and Brown's (1984) on the English reading comprehension of twelfth grade students in a Thai high-school classroom. The experimental group was taught by reciprocal teaching while the control group was instructed through skill-based teaching. Reciprocal instruction involves four main reading strategies: predicting, questioning, clarifying, and summarizing. The results indicated that reciprocal instruction had significantly positive effects on the English reading comprehension of Thai high-school students. The posttest's mean score of the experimental group was significantly higher than that of the control group. The reciprocal instruction also enhanced the reading comprehension of both proficient and less proficient students. Moreover, the students employed more meta cognitive reading strategies after reciprocal instruction. The findings of this study offer many vital pedagogical implications for teachers, students, and educators in an EFL reading context. The most obvious pedagogical implication is that reciprocal instruction is one of the reading strategy instructions which, through proper training on meta cognitive strategies, best enhances student readers' reading comprehension and meta cognitive awareness.

**Keywords:** Reciprocal Instruction; Reading comprehension; Meta cognitive reading strategy

**บทคัดย่อ** จุดมุ่งหมายในการวิจัยครั้งนี้เพื่อศึกษาประสิทธิภาพของการสอนการอ่านแบบ Reciprocal Instruction ต่อความเข้าใจในการอ่านภาษาอังกฤษและยุทธวิธีอภิปัญญาไทยในชั้น มัธยมศึกษาปีที่ 6 กลุ่มตัวอย่างที่ใช้ในการศึกษารั้งนี้แบ่งนักเรียนออกเป็นเป็น 2 กลุ่มคือเป็น กลุ่มทดลองและกลุ่มควบคุมโดยกลุ่มทดลองที่ได้รับการสอนการอ่านแบบ Reciprocal Instruction และกลุ่มควบคุมได้รับการสอนการอ่านแบบ Skill-based Teaching การสอนการอ่าน แบบ Reciprocal Instruction ประกอบด้วยยุทธวิธีในการอ่าน 4 ยุทธวิธีคือการทำนายการตั้งคำถามการหาความชัดเจนและการสรุป ผลการวิจัยพบว่า คะแนนเฉลี่ยของการ สอบหลังเรียนของกลุ่มทดลองมีค่าสูงกว่าคะแนนเฉลี่ยของกลุ่มควบคุมอย่างการสอนแบบ Reciprocal Instruction ช่วยเพิ่มความสามารถในการอ่านเพื่อความเข้าใจของนักเรียนที่มีความสามารถในการอ่านสูง และนักเรียนที่มีความสามารถในการอ่านต่ำนอกจากนั้นแล้ว Reciprocal Instruction มีผลต่อการใช้ยุทธวิธีอภิปัญญา นักเรียนใช้ยุทธวิธีอภิปัญญามากขึ้นผลการศึกษารั้งนี้ มีผลกระทบต่อการเรียนการสอนจำนวนมาก ที่สำคัญหรับครู นักเรียน ที่ใช้ภาษาอังกฤษในการอ่านเพื่อความเข้าใจ โดยความหมายของการเรียนการสอนที่เห็นได้ชัดเจนที่สุดก็คือการสอนการอ่านแบบ Reciprocal Instruction เป็นหนึ่งกลยุทธ์ที่เหมาะสมกับกลยุทธ์อภิปัญญา ซึ่งช่วยเพิ่มความสามารถในการอ่านเพื่อความเข้าใจได้มากขึ้น

**คำสำคัญ:** การสอนการอ่านแบบ Reciprocal Instruction, การอ่านเพื่อความเข้าใจ, ยุทธวิธีอภิปัญญา

## Background of the Study

In Thailand, English is taught as a foreign language, and the purpose of learning English is for communication (Chandavimol. 1998). To communicate efficiently, learners need the four skills of listening, speaking, reading, and writing, but of all these four skills, reading is regarded as the most vital and necessary for students in both a classroom context and an extracurricular environment (Carrell. 1989; Grabe&Stoller. 2002). In classrooms of higher education, Thai college and graduate students need

efficient reading skills to comprehend a number of reading materials from various sources related to their studies (Piyankool. 2001). More importantly, reading is highly important for high-school students since they have to be highly competitive in the English entrance examination (Chandavimol. 1998) and the National English Test. Therefore, the ability to read and comprehend texts efficiently is crucial for Thai students. In addition, because of the demanding expectations for academic success in all areas of learning, high-school students, as English foreign language (EFL) learners, need to develop strong English reading comprehension abilities to a more advanced level (Soonthornmanee. 2002).

However, these Thai high-school students do not have much opportunity to develop these abilities, since most of the time, English language teaching emphasizes on linguistic knowledge such as grammar points and vocabulary (Chandavimol. 1998). Results from previous studies have revealed that Thai students' English reading ability does not reach a very high level of proficiency. This may come from many causes including classes of a large size, limited reading strategies, and the methods of teaching reading comprehension in Thai classrooms (Chandavimol. 1998; Mejang. 2004).

### Purposes of the Study

1. Investigate the effects of reciprocal instruction on the English reading comprehension of 12<sup>th</sup> grade students at Buengnakornprachasan School by comparing the pretest scores with the posttest scores.
2. Examine the effectiveness index of students' progress.
3. Investigate the students' opinions toward Reciprocal Instruction English learning.

### Research Questions

1. Will students who learn the English reading comprehension through reciprocal instruction have higher mean scores on post-test than that of pre-test mean scores?
2. Is the effectiveness index of reciprocal instruction on the English reading comprehension of 12<sup>th</sup> grade students a high level?
3. What do the 12<sup>th</sup> grade students at Buengnakornprachasan School think about the reciprocal teaching?

### Research Methodology

**1. Research Samples:** The samples in this study were 48 grade 12 students who took fundamental English (E31102) course in the second semester in academic year 2013 at Buengnakornprachasan School, Kwaosinarin District, and Surin Province. All of classes were the classes the researcher taught. The class 12/1 will be the sample groups selected by purposively selected as the experimental and the control groups according to the highest mean scores.

#### 2. Research Instruments

**2.1 Lesson Plan** The lesson plans for both the experimental and the control groups were created based on the objectives and goals of the course Reading and Writing English (E31102) at Buengnakornprachasan School. The instruction for both groups was divided in three stages: pre-reading, while-reading, and post-reading.

The teaching materials consisted of 14 lesson plans and 12 reading passages which were adapted to meet the purpose of the study. The reading materials were taken from the four following reading books sanctioned by the website: *The Sparrows and What is a newspaper?* (<http://www.abcteach.com>). In addition, the researcher selected 12 passages from reading books for Thai high-school students based on the participants' level of English and interests, and from various fields. They consisted of ten passages for reading in the classroom and two passages for assignments. The researcher was constructed 14 lesson plans on reading.

The researcher finds out correlation between the topic and learning strands and indicators. The lesson plans were examined by advisors and 3 experts about key concepts, indicators, learning strands, activities, learning media, and learning assessment to give some comments about content validity quality. The researcher was improved the lesson plans based on the advisors' suggestions. The researcher was instructed both the experimental and the control groups for two periods (100 minutes) per week, over a 14-week period, using ten reading passages for in class tasks and two reading assignments to be worked at home. In order to prevent any threats to the internal validity of the research, the researcher used the same reading materials, the same activities, the same length of teaching time, the same classroom environment, and the same examination. In spite of, the two groups were instructed through different teaching techniques. But even so, the researcher made clear to both groups that the instructions used in this study were both efficient teaching techniques that had been designed to improve English reading.

The experimental groups were instructed through reciprocal instruction, whereas the control group will be taught through skill-based teaching. In reading classes at Buengnakornprachasan School, the teachers generally use skill-based teaching. In this study, the researcher compared the effects of reciprocal instruction to those of skill-based teaching.

**2.2 Standard Reading Test:** The reading section of a test by the Ordinary National Education Test 2008 of 12-grade students at Buengnakornprachasan School was used to assess the subjects' reading ability. The test was administered as a pre-test and post-test.

The reading test consists of ten reading passages were selected from the Ordinary National Education Test 2008, each of which was 60 – 110 words long. There will be 30 multiple-choice test items, each with five answer choices. The numbers of the test items in each passage were various. Some passages consist of 2-3 test items while others consist of 4. The period test was 50 minutes. Scores were obtained from the pre-test and the post-test was taken as the subjects' EFL reading ability. A pre-test will be administered to all the subjects a week before the subjects receive different reading treatment: The Reciprocal Instruction and skill based teaching. The post-reading test was administered again to both the experimental group and the control group after 14 weeks of training. The reading test section of the Ordinary National Education Test 2008 aimed to assess the reading comprehension of high-school students.

**2.3 Reading Materials:** The reading materials were used through the training sessions consist of 14 reading lessons. The topics of the materials mainly focused from the reading text book and other passage from the website. For example, A Surprise Job More, Launch of a Lunch Club, The Young's View of the Old, No Food in the Flat, Brainstorming Session, New Competition, How Can Animals Communicate?, Celebrating Fifteen, Lesson plan 10: Frankenstein, Earth a Living Planet, The Sparrows and What is a newspaper?.

The reading texts for both experimental group and control group were the same reading materials but the differences were in the methods of instruction used for both groups. Subjects in the experimental group were received only reading text with the Reciprocal Instruction while the control group will be received original materials which consisted of reading text and its assignment such as giving the meaning of the specified vocabulary, identifying main idea, and details of the text, and making inferences.

**2.4 Questionnaire:** The purpose of the Reading Strategies Questionnaire (RSQ) was to investigate the reading strategies the participants employed in reading. The researcher developed and adapted the RSQ from Anderson's questionnaire (2003) and Phakiti's questionnaire (2003). Phakiti's original questionnaire consisted of 40 items and was used to investigate the reading strategies students used while taking exams. Anderson's original questionnaire, on the other hand, counted 15 items and will be used to investigate students' cognitive and metacognitive reading strategies. The three main reading processes of planning, monitoring, and evaluating, were the 20 strategies that students used in English reading texts. The questionnaire was also used to examine students' reading strategies in the three main stages of reading: pre-reading, while-reading and post-reading. To develop the RSQ, the researcher selected only the strategies that were related to the four main strategies of reciprocal teaching: predicting, clarifying, questioning, and summarizing. Therefore, the questionnaire was applicable to the present study which aimed to explore the use of the metacognitive reading strategies through reciprocal teaching.

The RSQ consisted of 20 items and was divided into three parts. The first part of the questionnaire intended to obtain information about the reading strategies the students used before reading texts; the second part aimed at eliciting the reading strategies they used in the while-reading stage; and the last part investigated the reading strategies they used in the post-reading stage. This questionnaire used a five-point rating scale (1-5) built according to the frequency of use of the metacognitive reading strategies by the participants.

### 3. Data Collection Procedures

Data was collected to find out 3 types of information: English reading ability, the effectiveness index, attitudes of the students who were trained with Reciprocal instruction. To answer these 3 research questions, the study was divided into 4 main stages: pre-treatment, treatment, post-treatment and delayed data collection about strategy retention. They will be presented as follows:

1. Before the treatment period, the reading ability of the subject was assessed using the pre-reading test in order to equally divide the subjects into two groups: the experimental group and the control group. The pre-test was distributed to the subject on December of the second semester in 2013 academic year with a total of 50 minutes.
2. During the second semester in 2013 academic year, the researcher was instructed both the experimental and the control groups for two periods (100 minutes) per week, over a 14-week period, using ten reading passages for in class tasks and two reading assignments to be worked at home. Through the training periods, the researcher was used the same reading materials, the same activities, the same length of teaching time, the same classroom environment, and the same examination. In spite of, the two groups were instructed through different teaching techniques.
3. After the 14 session training, the reading ability of the subjects in both groups were assessed using the same test version as the pre-test. The assessment, the post-test, was conducted on March, 2013

with a total of 50 minutes. Also, the attitudes questionnaire will be administered to the subject on the same day with a total of 30 minutes.

#### 4. Data Analysis and Statistical Procedures

##### 4.1 Independent Variables

4.1.1 In order to evaluate the students' English proficiency before and after being taught through reciprocal instruction, the pre-test and post-test was computed to find out the mean ( $\bar{x}$ ) and standard deviation (S.D.).

4.1.2 The scores obtained from the assignments and a post-test was calculated to find out the efficiency of process (E1) and the efficiency of the outcomes (E2), respectively.

4.1.3 Dependent samples t-test was used to compare the difference between pre-test and post-test mean scores to detect a significant difference set at .05.

4.1.4 The effectiveness index (E.I) was employed to find out learners' progress from learning through reciprocal instruction of English reading for grade 12 students after learning.

##### 4.2 Dependent Variables

4.2.1 In order to evaluate the students' attitude toward learning English reading by reciprocal instruction, the data from five-rating scales will be computed for the mean ( $\bar{x}$ ) and standard deviation (S.D.).

4.2.2 Qualitative data for the final part of questionnaire, the data obtained by learners' opinions and suggestions were interpreted to find out their satisfactions and reactions towards learning English reading on reciprocal instruction.

#### Results

This study was conducted with the purpose of investigating the effects of reciprocal instruction on the English reading comprehension and reading strategies of students in Thai high-school classrooms. It was conducted to answer the following research questions: 1) Will students who learn the English reading comprehension through reciprocal instruction have higher mean scores on post-test than that of pre-test mean scores? 2) Is the effectiveness index of reciprocal instruction on the English reading comprehension of 12<sup>th</sup> grade students a high level? 3) What do the 12<sup>th</sup> grade students at Buengnakornprachasan School think about the reciprocal teaching?

The data serving as the basis for this study were of two kinds: quantitative and qualitative. The statistical data consisted of a) the pretest and posttest scores of the reading comprehension section of the National English Entrance Examination 2008, and of b) a list of the meta cognitive reading strategies the participants employed as collected from their answers to the Reading Strategies Questionnaire administered before and after instruction. Both the control and the experimental groups took a pretest before and a posttest after the instruction, but only the experimental group answered the Reading Strategies Questionnaire, also before and after the instruction.

The data from the pretest and posttest were analyzed to answer research questions 1 and 2. The findings were based on the mean scores of these tests for both the control and the experimental groups. The pretest and posttest mean scores and standard deviations of the participants in the reciprocal instruction group are shown in Table 4.1. Table 4.2 shows the mean scores in reading comprehension and the standard deviations of the proficient and less proficient students in the reciprocal instruction group. Table 4.3 details the posttest mean scores and standard deviations of the reciprocal and skill-based

groups for reading comprehension. Table 4.4 shows the average profile of the sub-metacognitive reading strategies used by the 12th- grade students at Buengnakornprachasan School before and after reciprocal instruction.

**Table 4.1 Research Question One : Will students who learn the English reading comprehension through reciprocal instruction have higher mean scores on post-test than that of pre-test mean scores?**

Teaching method	Experimental Group				<i>t</i>	<i>p</i>
	Before training		After training			
	Mean	SD	Mean	SD		
Reciprocal Instruction	14.73	5.55	17.70	5.56	5.783	.000**

As shown in Table 4.1, the posttest mean score of the participants instructed through the reciprocal instruction method (the experimental group) was significantly different from their pretest mean score, at a level of 0.01. Since, in this study, the level indicating a significant difference in results had been set at 0.05, it can thus be concluded that the level of 0.01 is pointing to a significant difference in reading comprehension before and after instruction through reciprocal instruction. This result strongly supports the fact that the participants instructed through reciprocal instruction developed better metacognitive reading awareness, self-regulation, and reading comprehension.

\*\**p* < 0 .01

**Table 4.2 Reading Comprehensions Mean Scores and Standard Deviations (SD) of the Proficient and Less Proficient Students in the Reciprocal Instruction Group**

Students' Ability	Pretest		Posttest		<i>t</i>	<i>p</i>
	Mean	SD	Mean	SD		
Proficient students (N=15)	21.00	2.32	23.80	3.45	3.698	.034*
Less proficient students (N=15)	9.50	4.13	13.10	4.14	3.959	.003*

\**p* < 0 .05

As shown in Table 4.2, both proficient and less proficient students in the experimental group gained a significantly higher mean score in the posttest compared with the pretest score. The difference between the two tests stands at 0.05 level for the proficient students and at 0.01 levels for the less proficient students. This indicates that reciprocal instruction enhanced the English reading ability of both proficient and less proficient students.

#### 4.2 Research Question Two: Is the effectiveness index of reciprocal instruction on the English reading comprehension of 12<sup>th</sup> grade students a high level?

In order to find out which of the two groups, the one instructed through reciprocal teaching and the one instructed through skill-based teaching, showed greater gain in English reading ability, the posttest mean scores of both were compared using the independent t-test to determine the presence of a significant difference. The results are presented below.

**Table 4.3 Reading Comprehension Mean Scores and Standard Deviations (SD) of the Participants in the Reciprocal Instruction and Skill-based Teaching Groups**

Teaching Method	Pretest Mean Score	Posttest Mean Score	SD	<i>t</i>	<i>p</i>
Reciprocal instruction	14.22	17.73	5.62	4.537	0.026*
Skill-based teaching	14.02	14.86	4.07		

\**p* < 0.05

The data in Table 4.3 point to significant differences between the posttest mean scores of the experimental group and of the control group, at 0.05 levels. The students in the reciprocal instruction group (the experimental group) achieved a higher mean score than those in the skill-based teaching group (the control group). Thus, it can be concluded that reciprocal instruction better assisted the students in enhancing their English reading ability than skill-based teaching did.

#### 4.4 Research Question Three: What do the 12<sup>th</sup> grade students at Buengnakornprachasan School think about the reciprocal instruction?

To compare the meta cognitive reading strategies the 12th-grade students at Buengnakornprachasan School employed before and after reciprocal instruction, all the data from the pre-questionnaires and post-questionnaires were analyzed using the paired t-test to determine the presence of a significant difference in the frequency of use of the meta cognitive strategies. The results are presented in Tables 4.4 shows the average profile of the sub-meta cognitive reading strategies used by the 12th- grade students at Buengnakornprachasan School before and after reciprocal instruction.

**Table 4.4 The Comparison of the Metacognitive Reading Strategies Students Employed before and after Reciprocal Instruction**

Item	Description	Experimental Group						<i>t</i>	<i>p</i>
		Before training			After training				
		Mean	SD	Level	Mean	SD	Level		
1	Prediction	3.30	0.86	M	4.02	0.72	H	5.1115	.000**

2	Prediction	3.70	0.86	H	4.40	0.80	H	4.827	.000**
3	Goal Setting	3.43	1.00	M	4.03	0.85	H	4.872	.000**
4	Prediction	3.00	0.93	M	3.53	0.76	H	4.287	.000**
5	Verification Prediction	3.35	0.05	M	4.06	0.78	H	5.114	.000**
6	Background Activation	3.70	1.10	H	4.23	0.76	H	3.294	.000**
7	Background Activation	3.66	1.00	H	4.16	0.86	H	4.014	.000**
8	Self-management	3.00	0.89	M	3.57	0.72	H	3.615	.001**
9	Selective Attention	3.66	0.98	M	4.13	0.77	H	3.751	.001**
10	Inferences	3.40	1.00	M	4.00	0.74	H	3.525	.001**
11	Selective Attention	2.47	0.87	L	2.80	0.91	L	3.340	.000**
12	Selective Attention	3.50	0.82	H	3.76	0.72	H	1.860	.073
13	Summarization	3.50	0.93	H	4.10	0.71	H	4.038	.000**
14	Self-evaluation	4.06	0.94	H	4.46	0.68	H	3.520	.001**
15	Note Taking	3.10	1.10	M	3.89	0.96	H	4.876	.000**
16	Summarization	3.06	0.90	M	3.73	0.73	H	3.818	.001**
17	Selective attention	3.70	0.70	H	4.07	0.58	H	3.266	.003**
18	Goal Setting	3.26	0.90	M	3.89	0.84	H	4.287	.000**
19	Self-evaluation	3.66	0.88	H	4.23	0.80	H	4.011	.000**
20	Selective Attention	3.78	0.92	H	4.27	0.68	H	2.841	.008**

\*\*p < 0 .01 \*p < 0 .05

Table 4.4 shows the meta cognitive reading strategies the students of the experimental group used before and after reciprocal instruction as collected from the questionnaire and according to ten meta cognitive reading strategies. It can be seen that before the participants were instructed through reciprocal instruction, an average of ten sub-meta cognitive reading strategies from 2, 6, 7, 9, 12, 13, 14, 17, 19, and 20 stand above 3.5, which is within the range of the high frequency (3.5-5) defined by Oxford (1990). These results indicate that these ten sub-meta cognitive reading strategies were the most popular amongst the participants before instruction through reciprocal instruction. Item 14 (Self-evaluation) with a mean score of 4.06 was reported to be the most frequently used by the students, followed by item 20 (Selective Attention) with a mean score of 3.78, items 2, 6, and 17, which all present the same mean score (3.70) and are followed by items 7 and 19 with a mean score of 3.66 each. The last two popular meta cognitive strategies were items 12 and 13 (respectively *Selective Attention* and *Summarization*) with both a mean score of 3.50. The least used meta cognitive strategy was item 11 (*Selective Attention*), with a mean score of 2.47.

From Table 4.4, we can see that after reciprocal instruction the average of most reading strategies stood above 3.5, except the ones for item 11 and item 12 which are in selective attention meta cognitive reading strategy. Item 11 was the least used meta cognitive strategy by the participants after they received instruction through Reciprocal instruction. Its mean score was 2.80 and its paired difference mean was 0.33. However, it shows significant difference at 0.05. Item 12 is the strategy that improved the least, showed by its paired difference mean which stood at 0.26. Moreover, it does not show a significant difference at 0.05 levels.

## Discussion of the Findings



### **1. The effects of reciprocal instruction on English reading ability.**

Regarding the quantitative findings, the first one revealed that the participants in the experimental group significantly improved their reading ability after being taught through reciprocal instruction. In this study, the participants were trained to employ the four key strategies and to know what strategies to use, and when, why, and how to use each of them. They learned to predict, to generate questions, to identify the main idea of a paragraph, to clarify unclear words, phrases, or sentences, and to summarize their reading. The four key strategies helped them overcome difficulties when reading texts as they planned and monitored their comprehension, and evaluated their planning and its outcome. For these reasons, it can be concluded that the participants in the reciprocal instruction group benefited from practicing all four main strategies and their processes. Therefore, reciprocal instruction is a kind of reading instruction that facilitates the teaching of English reading comprehension. This finding is in accordance with studies from Clark (2003), Cotterall (1990), Palincsar and Brown (1984), Smith (1998), Soonthornmanee (2002), and Wisaijorn (2003) at various levels of learning, from primary school to university, and with their investigation of the use of reciprocal instruction in training students in reading. They all found that reciprocal instruction improved students' reading comprehension.

### **2. The effects of reciprocal instruction on the English reading ability of the proficient and less proficient students.**

The finding suggests that reciprocal instruction enhanced both the proficient and less proficient students of the experimental group. Indeed, both types of students gained significantly higher scores in reading comprehension after receiving instruction through reciprocal instruction. Concerning the present study, the proficient students in the reciprocal instruction group also knew how to monitor their comprehension. In this study, they were offered more opportunities to practice through the meta cognitive processes and to use the reading strategies. They constantly planned, monitored, and evaluated themselves through the reciprocal teaching procedure. This may be the reason why the proficient students performed better after reciprocal teaching. Baker & Brown (1984) and Block (1992) state that proficient readers are aware of and can control their cognitive activities while they are reading. They use various types of strategies and use them in a more efficient way, and when their reading comprehension breaks down, they know how to work through it. With respect to the less proficient students, they benefited more from reciprocal instruction than the proficient ones; indeed, the students in the low proficiency group exhibited more improvement than the students who already had good reading ability before the treatment. This result is supported by Palincsar and Brown (1984) who examined the effect of reciprocal teaching on the reading comprehension of less proficient students and found that after treatment, the students made significant gains in reading ability. Three reasons could explain this. First, the less efficient readers might not be aware of the value of the reading strategies, of what strategies to use, and of how and when to use them. Though they may know them, they might not utilize those strategies actively, whereas the proficient students might already know them and may be eager to use them efficiently in their reading. Second, these strategies must be instructed in a step by- step fashion. After practicing, the participants of this study knew what the four strategies were, and when, why, and how to use them. Then they had enough practice before working in their own group. Third, they worked in cooperative groups of participants with mixed abilities, so that the weaker students learned from their friends. In turn, the proficient students learnt how to act as leaders and how to cope with comprehension failure. In such a group setting, they were not embarrassed to ask questions on the points they did not understand and to share their ideas and experiences with their friends.

### 3. The effects of reciprocal instruction and skill-based teaching on English reading ability.

As suggested by the finding, the posttest mean score of the students taught with reciprocal instruction was higher than those receiving skill-based teaching. This finding emphasizes that reciprocal instruction was more effective in improving English reading ability than skill-based teaching. In this study, skill-based teaching, an approach widely used by Thai high-school teachers, was assigned to the control group. Reciprocal instruction was assigned to the experimental group as a new technique to promote reading strategies, and because it differs from skill-based teaching, with which Thai students are very familiar, the participants needed to pay more attention in order to learn this new approach.

#### Pedagogical Implication

The findings of this study offer many vital pedagogical implications for teachers, students, and educators in an EFL reading context. The most obvious pedagogical implication is that reciprocal instruction is one of the reading strategy instructions which, through proper training on meta cognitive strategies, best enhances the student readers' reading comprehension and meta cognitive awareness. In practice, these findings can be applied in English reading classrooms as follows:

1. Reciprocal instruction is quite a new technique for Thai students. To teach Thai students to apply the four main reading strategies of reciprocal instruction, the teachers should provide appropriate explanations, explicit modeling, and on-going guidance. Reciprocal instruction requires the teachers to model explicitly and step by step the process and the use of the meta cognitive strategies. The students have to know what the four key strategies are and when, why, and how to use them. They need a lot of time to practice each strategy and they need consistent practice of all of them. Time is also a concern when learning is involved. Students should be given enough time for each step. Since it is not always easy for them to accept and understand the four main reading strategies and the steps of reciprocal instruction, they need time to implement them all, to work in groups, to adjust to the leading role, even with the help of their friends, to get used to the steps of reciprocal instruction in general, and to ultimately internalize and use them automatically in their individual reading.

In addition, the teachers could help the students to understand the process and procedure of reciprocal instruction by checking their understanding in their native language (Thai) in order to make sure that they understand and know these process and procedure. This would help students to be confident to work on their own in cooperative groups.

2. The teachers should increase their students' responsibility by gradually decreasing their prompts and modeling, as their role changes to facilitators. Moreover, they need to be flexible and attentive to help each student. If the learners have problems, the teachers should provide support and guidance to ensure success during the teaching activities.

3. To help students while they are working in cooperative groups, the teachers should circulate around the room and listen to the students' interactions. If the learners need help, they should be taught in their groups using appropriate mini-lessons.

4. For the reading texts used in a reciprocal reading course, teachers should choose materials based on their readers' ability, interest, and level of learning. The students might be given a shorter passage at the beginning and, with enough practice; they might be given a longer passage to help them feel more comfortable in their learning.

5. In the present study, the proficient and less proficient students gained greater benefits from reciprocal instruction. They not only improved their reading comprehension, they also improved their meta cognitive strategies, because they received sufficient training in the four key strategies. This helped

them increase their meta cognitive awareness: they learned what to do when their comprehension broke down. After more reading and more practice, they will eventually become independent readers and reach the goal of teaching reading. Therefore, the teachers need to adjust reciprocal teaching to fit their students' ability, schooling grade, interests, and environment. In brief, reciprocal instruction can help students become more aware of meta cognitive strategies through explicit instruction with social interaction, so they can learn gradually and control their own learning process (Brown, 1980). Reciprocal instruction has been shown to offer greater advantages over skill-based teaching. It is one of the successful meta cognitive reading strategy instructions for EFL students. Therefore, reciprocal instruction should be taken into consideration in order to adapt its implementation in the English reading class.

### Suggestions for Further Research

This study investigated the effects of reciprocal instruction on the English reading comprehension of students in a Thai high-school classroom. Through the analysis of its results, reciprocal instruction was shown to have advantages over skill-based teaching and to improve students' reading comprehension. Thus, it would be interesting to perform further studies on reciprocal instruction in relation to other aspects of its method. The following are then recommendations for further studies:

1. The findings of this study point to the positive impact of reading strategies on the participants' reading comprehension. Since the number of participants was rather small, further studies on a greater number of participants should be pursued.

2. Other studies should be conducted with participants from different levels of learning such as students from primary or junior-high schools, gifted students, students at risk of academic failure, disabled students, and drop-outs. It would be interesting to see whether reciprocal instruction would still be beneficial to these other groups.

3. This study compared the effects of reciprocal instruction and skill-based teaching on English reading ability. Reciprocal instruction should be compared to other teaching methods so as to consider which one provides more advantages for the improvement of the English reading comprehension of Thai students.

4. Other studies should be conducted with other types of classroom management. Some of these different settings could include comparing between teaching a whole class and teaching in groups, comparing working in groups and working in pairs, and teaching in class with extra-curricular teaching. The results will show which types of classroom management improve Thai students' reading ability and which types of classroom management suit which types of students.

5. This study focused on the skill of reading. It would be worth exploring if reciprocal instruction could be successfully applied to other language skills including listening and speaking. According to the reciprocal instruction processes, when working in groups, the students' roles involve mainly speaking and listening. As a result, it might be beneficial to evaluate whether reciprocal instruction affects students' listening comprehension and speaking ability.

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