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## Effects of Reciprocal Teaching on EFL Fifth Graders' English Reading Ability

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### Abstract

The purpose of this paper is to investigate the effects of Reciprocal Teaching on EFL fifth graders' reading ability, in terms of word recognition and reading comprehension in an elementary school in Taiwan. The participants in this research were fifty-three fifth-graders of an elementary school, 25 males and 28 females, in two intact classes in Taiwan. Students in one fifth-grade class, the control group, received regular English instruction, while those in the other fifth-grade class, the experimental group, received reciprocal teaching program, in two-hour English classes per week for 12 weeks, the duration of this study. Pretest-posttest of word recognition tests and reading comprehension tests were applied to evaluate students' progress of reading ability before and after reciprocal teaching program. Six students were interviewed after the program, and students' attitudes toward reciprocal teaching in English reading were recorded. The research results indicated that most students made prominent improvement in their English reading ability, word recognition, and reading comprehension. In addition, most participants had positive attitude toward reciprocal teaching, and they liked reciprocal teaching to be incorporated into English classes. Finally, based on the findings, some implications are also proposed to be of help to those who are English teachers or educational practitioners in elementary schools.

**Key words:** Reciprocal Teaching, EFL, Word recognition tests, Reading comprehension tests.

### Introduction

It is well acknowledged that students' reading ability can have important effects on their academic achievement. By and large, students with good reading ability perform better than those with less developed reading skills. A great deal of evidence shows that good readers are very strategic as they read. Strategically competent readers may well make predictions before they read, ask questions as they read, seek further clarification when they are confused, and write summaries of what they have read for themselves (Pressley, 1998). In summary, students' reading comprehension plays a vital role in their academic achievement.

However, students with limited skills in reading comprehension and low motivation for reading, pose challenges to instructors. These challenges may be intermingled when these students lack access to interesting materials and strategic activities and when they miss the concept of reading as a process of understanding meaning from texts (Fevre, Moore, & Wilkinson, 2003). In fact, these students are entitled to access to interesting materials and strategic activities which may get them actively engaged in reading even though the texts are cognitively demanding. Without this access, students with a reading deficiency may also result in a knowledge deficiency (Fielding & Roller, 1992; Jenkins, Stein, & Wysocki, 1984). Therefore, it is imperative for instructors to provide students with interesting materials and strategic activities incorporated into effective reading strategy instruction.

Existing research recognizes the critical role played by reciprocal teaching in improving students' reading comprehension. To date, there are few studies that have used reciprocal teaching to improve EFL elementary school students' ability to comprehend English text. Therefore, the purpose of this study is to investigate the effects of reciprocal teaching on Taiwanese EFL elementary school students' reading ability.

The study explores three principal research questions as follows:

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1. To what extent can students perform differently in word recognition before and after the implementation of reciprocal teaching instruction?
2. To what extent can students perform differently in reading comprehension before and after the implementation of reciprocal teaching instruction?
3. What are the effects of reciprocal teaching on enhancing fifth-grade students' attitudes toward English reading?

### **Literature Review**

Since Palinscar and Brown (1984) introduced the concept of reciprocal teaching, a number of studies have been conducted to examine the influence of reciprocal teaching on students' ability to comprehend text. Three major findings emerged from their review of the literature (Rosenshine & Meister, 1993). The first finding was that a combination of explicit instruction and reciprocal teaching yielded more significant results than reciprocal teaching only. The second finding was that when all the students were taught, the results were usually significant. But when below-average students were taught, the results were mostly non-significant. The third finding was that when experimenter-developed tests were used, the results were usually significant. Yet, when standardized tests were used, the results were usually non-significant.

Traditional reciprocal teaching consisted of the following components: four steps of instruction (i.e., predicting, questioning, clarifying, and summarizing), a small-group classroom setting, students as leaders of discussion and teachers as facilitators. Traditionally, reciprocal teaching was carried out with small groups working independently, and students took on leading roles in reading lessons (Palinscar & Brown, 1984). Provision of guided practice was a major composition of reciprocal teaching. At the initial phase, the student was an observer and did little cognitive work. The teacher made use of the information provided by students as a form of informal assessment. Then, the teacher created instructional scaffolding based on this assessment (Alfassi, 1998; Duffy & Roehler, 1987). In brief, in traditional reciprocal teaching, students predict before reading, ask questions while reading, seek clarification when confused, and make a summary of what they have read after reading.

However, reciprocal teaching is flexible and may be modified, and instructors are not restricted to following a prescribed set of instructional routines (Oczkus, 2003). Reciprocal-teaching lessons presented were taught with the whole class as illustrated by Myers (2006). In addition, Palinscar and Brown (1984) suggested that heterogeneous groupings by age or by reading proficiency level may maximize the advantages of the reading process by offering students more effective peer models, apart from those models provided by the instructor. In view of classroom management, reciprocal teaching may be modified and carried out during read-aloud lessons.

Adaptations to a reciprocal teaching strategy may prove effective in improving young learners' comprehension. For example, Rosenshine and Meister (1993) studied explicit teaching before reciprocal teaching. This was the first research that tried to modify reciprocal teaching and switch it into a flexible approach that would be appropriate for students of all ages. He compared modified reciprocal teaching with traditional reciprocal teaching. Reciprocal teaching instruction occurred as a post-reading activity instead of before-reading activities. The study suggested that a modified reciprocal teaching (i.e., explicit instruction before the reciprocal teaching) could yield more significant results than reciprocal teaching only.

The goal of reciprocal teaching is to construct the meaning of the text and to check comprehension. In reciprocal teaching, the acquisition of the strategies is not the ultimate purpose of instruction. The strategies are not purposes, but a means to an end. They offer the vehicle for teaching students to read for meaning and to monitor their reading to ensure that they understand (Palinscar & Brown, 1986). Reading strategies should be taught and manipulated by instructors to enhance the efficiency of learning. However, a search of the literature revealed that many elementary school teachers have not emphasized comprehension strategy instruction in their curriculum (Pilonieta & Medina, 2009). Therefore, the present study is an attempt to bridge this gap.

## **Method**

### **Research Design**

The overall design of this study combined both quantitative and qualitative research methods. A quasi-experimental design was employed in the study. The participants divided into two groups, the experimental group and the control group, were not chosen by random assignment. Additionally, the pilot study and pretest

were conducted before the formal study began in order to control the similarities between the two groups and to examine the validity and reliability of the instruments.

The intervention lasted twelve weeks, and there were two English classes a week. Six students were interviewed in both English and Chinese after the intervention to understand their feelings about reciprocal reading and to further find out possible changes between reading attitudes and English proficiency levels after the instruction of reciprocal reading. Since the teaching time was 40 minutes per period, the experimental group was arranged to receive 20 minutes of instruction of reciprocal reading and 20 minutes of regular instruction from an English textbook in each English class session, while the control group only received a 40-minute regular instruction lesson using the English textbook and supplementary reading materials without explicit instruction.

After each treatment phase, the researchers selected and interviewed 6 students from the experimental group, three of high-score team, three of low-score team. The supplementary reading materials in the control group were those adopted from the British Council's reading resources (<http://learnenglishkids.britishcouncil.org>), which were the same as those in the experimental group. In other words, all the participants read the same materials. However, the control group only read the materials, but the experimental group had to predict, to answer the question, to clarify the thoughts, and to summarize those materials.

### Participants

The study was carried out in an elementary school in Taiwan. This school is located in one of the suburban districts of Dou-nan Township. The school consisted of 500 students and the majority of them were from farming families. Two classes of fifth graders participated in this study. All the participants had learned English at school for one and half years since they were third graders.

In the experimental group, one class of 26 students, 12 males and 14 females, was selected to receive reciprocal reading intervention. Students received twenty minutes of instructions on reciprocal teaching in each English class session and another twenty minutes for regular English textbook instruction.

In the control group, 27 students, 13 males and 14 females, received traditional teacher-directed instruction. There was no reciprocal teaching instruction in the English lessons. The main material for the English class was the English textbook. Although students in the control group did not receive reciprocal teaching instruction, the researchers still provided on-line stories in class as their supplementary reading materials to each of the students for them to read.

Before implementing the study, the researchers thought it was necessary to compare the English word recognition and reading comprehension proficiency of the students in the experimental and the control groups. The researchers divided the experimental group into two teams: the high-score team and low-score team, and the same division of team were done for the control group. The number of the high-score team and low-score team was at least 10 to 15 people (Gay, Mills, & Airasian, 2009). Therefore, the researchers divided the experimental and the control groups into two teams to examine the effect of reciprocal teaching. Each high-score team and low-score team consisted of 13 or 14 students. Independent t-test (Table 1) was conducted to evaluate the hypothesis that students of high and low-score team in the experimental group ( $t = -6.496$ ,  $p < .001$ ) and students of high and low-score team in the control group ( $t = -8.311$ ,  $p < .001$ ) was found to be significant in pretest of word recognition and reading comprehension.

Table 1.  
Independent sample t-test for word recognition and reading comprehension scores between high-score team and low-score team in the experimental group and the control group

	<i>n</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>p</i>	95% CI		$\eta^2$	1- $\beta$
							LL	UL		
Experimental group										
High-score team	13	170.54	21.80	-6.496	24	<.001	-88.16	-44.61	.637	1.000
Low-score team	13	105.15	29.01							
Control group										
High-score team	14	181.79	17.02	-8.311	25	<.001	-87.08	-25.49	.734	1.000
Low-score team	13	112.00	26.01							

Table 2.  
Independent-sample t-test results on word recognition and reading comprehension tests between-group performance in pretest

	<i>n</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>df</i>	<i>p</i>	95% CI		$\eta^2$	1- $\beta$
							LL	UL		
All participants										
Experimental group	26	137.9	41.8	-.904	51	.370	-33.3	12.2	.016	.144
Control group	27	148.2	41.7							
High-score team										
Experimental group	13	170.5	21.8	-1.501	25	.145	-26.7	4.2	.083	.303
Control group	13	181.8	17.0							
Low-score team										
Experimental group	13	105.2	29.0	-.634	24	.532	-29.2	15.5	.016	.093
Control group	13	112.0	26.0							

Table 2 indicated that results of all participants in experimental group and control group did not have significant difference in the pretest of word recognition and reading comprehension tests ( $t=-.904, p=.370$ ). Second part of Table 2 demonstrated that results of high-score team in experimental group and control group did not have significant difference in the pretest of word recognition and reading comprehension tests ( $t=-1.501, p=.145$ ). Third part of Table 2 showed that results of low-score team in experimental group and control group did not have significant difference in the pretest of word recognition and reading comprehension tests ( $t=-.634, p=.532$ ).

The results illustrated that high-score and low-score teams in experimental and control group have same initial point on the basis of their English proficiency level.

### Instruments

First, pretest and posttest were mainly adopted from Chen (2002) and partly from Hong et al. (2006). The participants were required to take the pretest as a placement-test and the posttest as an achievement assessment to evaluate their progress after 12 weeks of instruction. Second, interviews were conducted to obtain more information about their opinions and feelings about and attitudes toward reciprocal teaching. Reciprocal teaching was traditionally used with small groups independently. Due to classroom management concerns, and because the strategies would be modeled and taught during read-aloud sessions, the reciprocal teaching lessons the researchers presented were done with the whole class.

#### *Word Recognition Test*

The test was intended to examine students' ability of decoding words and constructing the meanings of words. The formats of the test items were partly adapted from Hong et al. (2006). There are 100 items in this test and the researchers chose all of them from students' vocabulary lists. Students had to look at the Chinese words and choose the correct English word which fit in with the meaning and write down the Chinese translation into the blank. The teacher would read aloud the sound of each item. To recognize a word, students may take advantage of several decoding skills such as morphemic clues, phonemic clues and phonic clues. After having the letter-sound correspondence ability to name a word, students could utilize this background knowledge and memory of their verbal vocabulary to identify the meaning of a word. The formats of the test items were partly adapted from Hong et al. (2006). The researchers exchanged 29 words based on English curriculum of primary level basic words list (MOE, 2008).

#### *Reading Comprehension Test*

The purpose of the test was aimed at examining students' understanding about simple words, sounds, word classification, and basic sentences. The formats of the test items were adopted from Chen (2002). The test was divided into four parts including word choice, sound choice, word classification, and sentence choice. There were totally 120 test items in this reading comprehension test. Students had to read each of the words and



Experimental group	13	66.62	15.43	71.08	14.89	-3.852	12	.002	-6.99	-1.94
Control group	14	71.64	13.84	72.14	12.18	-.176	13	.863	-6.64	5.64
Low-score team										
Experimental group	13	30.23	14.65	41.15	10.53	-5.131	12	<.001	-15.56	-6.29
Control group	13	31.23	11.74	33.69	10.63	-.900	12	.386	-8.42	3.50

The first part of Table 4 demonstrated the results of a paired-sample t-test of pretest and posttest for the experimental group on word recognition test. It showed that participants in the experimental group made prominent progress. The development of word recognition within the experimental group reached the significant difference ( $t=-5.691$ ,  $p<.001$ ). However, the development of word recognition within the control group did not reach the significant difference ( $t=-.741$ ,  $p=.465$ ). Therefore, the statistical results implied that reciprocal teaching was facilitative to improve students' English word recognition skills.

The second part of Table 4 showed that the results of a paired-sample t-test of pretest and posttest for high score team in experimental and control group on Word Recognition Tests. It showed that participants in the experimental group made prominent progress. The development of word recognition within the experimental group reached the significant difference ( $t=-3.852$ ,  $p=.002$ ). However, the development of word recognition within the high score team in control group did not reach the significant difference ( $t=-.176$ ,  $p=.863$ ). It revealed that the students of high score team performed better on word recognition skill after receiving the instruction of reciprocal teaching.

The third part of Table 4 illustrated that the results of a paired-sample t-test of pretest and posttest for low-score team in experimental and control group on word recognition tests. It showed that participants in the experimental group made prominent progress. The development of word recognition within low-score team in the experimental group reached the significant difference ( $t= -5.131$ ,  $p<.001$ ). However, the development of word recognition within the low-score team in control group did not reach the significant difference ( $t= -.900$ ,  $p=.386$ ). It indicated that the students of low-score team also performed better on word recognition skill after receiving the instruction of reciprocal teaching.

The data showed that, after reciprocal teaching instruction, participants in experimental group made progress in word recognition skill. Also, participants in high and low score team of experimental group both increased their marks in the word recognition posttest. In control group, neither high nor low team made progress in word recognition skill without reciprocal teaching.

## Results for Research Question 2: To what extent can students perform differently in reading comprehension before and after the implementation of reciprocal teaching instruction?

There are four sections in the reading comprehension test including word choice, sound choice, word classification, and sentence choice. Each item was analyzed by a two-tailed paired-sample t-test.

### Reading comprehension in word choice

The first part of Table 5 demonstrated the pretest and posttest results of a paired-sample t-test for the experimental and the control group on the reading comprehension tests in word choice. The result of word choice in the experimental group was found to be significant ( $t=-6.692$ ,  $p < .001$ ). However, the result of word choice in the control group was not found to be significant ( $t = .209$ ,  $p = .836$ ). The results showed that the participants in the experimental group made significant progress in word choice after reciprocal teaching.

Table 5.

Paired-sample t-test results on the reading comprehension in word choice between- group performance

	n	pretest		posttest		t	df	p	95% CI	
		M	SD	M	SD				LL	UL
All participants										
Experimental group	26	18.31	4.67	20.65	4.57	-6.692	25	<.001	-3.07	-1.62
Control group	27	21.26	4.46	21.19	4.11	.209	26	.836	-0.65	0.80

High-score team										
Experimental group	13	21.23	1.96	23.38	1.12	-4.779	12	<.001	-3.14	-1.17
Control group	14	24.00	0.88	23.86	1.03	.806	13	.435	-0.24	0.53
Low-score team										
Experimental group	13	15.38	4.81	17.92	5.11	-4.613	12	.001	-3.74	-1.34
Control group	13	18.31	4.91	18.31	4.25	.000	12	1.000	-1.58	1.58

The second part of Table 5 indicated that the results of a paired-sample t-test of pretest and posttest for high-score team in experimental and control group on word choice of reading comprehension. It demonstrated the results of a paired-sample t-test on the reading comprehension test in word choice for the high-score team of the experimental group and the control group. The result of word choice in high-score team of the experimental group was found to be significant ( $t = -.779$ ,  $p < .001$ ). However, the result of word choice in high-score team of the control group was not found to be significant ( $t = .806$ ,  $p = .435$ ). The results showed that the participants of high-score team in the experimental group made significant progress in word choice after reciprocal teaching.

The third part of Table 5 indicated that the results of a paired-sample t-test of pretest and posttest for low-score team in experimental and control group on word choice of reading comprehension. It demonstrated the results of a paired-sample t-test on the reading comprehension tests in word choice for the low-score team of the experimental group and the control group. The result of word choice in the low-score team of the experimental group was found to be significant ( $t = -4.613$ ,  $p = .001$ ). However, the result of word choice in the low-score team of the control group was not found to be significant ( $t = .000$ ,  $p = 1.000$ ). The results demonstrated that the participants of the low-score team in the experimental group had made significant progress in word choice after reciprocal teaching.

#### *Reading comprehension in sound choice*

The first part of Table 6 demonstrated the pretest and posttest results of a paired-sample t-test for the experimental and the control group on the reading comprehension tests in sound choice. The result of sound choice in the experimental group was found to be significant ( $t = -4.421$ ,  $p < .001$ ). However, the result of sound choice in the control group was not found to be significant ( $t = -.145$ ,  $p = .886$ ). The results showed that the participants in the experimental group made significant progress in sound choice after reciprocal teaching.

Table 6.  
Paired-sample t-test results on the reading comprehension in sound choice between- group performance

	<i>n</i>	pretest		posttest		<i>t</i>	<i>df</i>	<i>p</i>	95% CI	
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>				LL	UL
All participants										
Experimental group	26	30.19	5.09	33.04	4.19	-4.421	25	<.001	-1.17	-1.52
Control group	27	32.59	3.66	32.67	4.22	-.0145	26	.886	-1.23	0.98
High-score team										
Experimental group	13	33.08	4.59	35.62	2.06	-2.423	12	.032	-4.82	-0.26
Control group	14	34.93	1.82	35.64	1.60	-1.933	13	.075	-1.51	0.08
Low-score team										
Experimental group	13	27.31	3.86	30.46	4.24	-4.027	12	.002	-4.86	-1.45
Control group	13	30.08	3.50	29.46	3.80	.634	12	.538	-1.50	2.73

The second part of Table 6 indicated that the results of a paired-sample t-test of pretest and posttest for high-score team in experimental and control group on sound choice of reading comprehension. It demonstrated the results of a paired-sample t-test on the reading comprehension test in sound choice for the high-score team of the experimental group and the control group. The result of sound choice in high-score team of the experimental group was found to be significant ( $t = -2.423$ ,  $p < .032$ ). However, the result of sound choice in high-score team of the control group was not found to be significant ( $t = -1.933$ ,  $p = .075$ ). The results showed that the

participants of high-score team in the experimental group made significant progress in sound choice after reciprocal teaching.

The third part of Table 6 indicated that the results of a paired-sample t-test of pretest and posttest for low-score team in experimental and control group on sound choice of reading comprehension. It demonstrated the results of a paired-sample t-test on the reading comprehension tests in sound choice for the low-score team of the experimental group and the control group. The result of sound choice in the low-score team of the experimental group was found to be significant ( $t = -4.027, p = .002$ ). However, the result of sound choice in the low-score team of the control group was not found to be significant ( $t = .634, p = .538$ ). The results demonstrated that the participants of the low-score team in the experimental group had made significant progress in sound choice after reciprocal teaching

#### *Reading comprehension in word classification*

The first part of Table 7 demonstrated the pretest and posttest results of a paired-sample t-test for the experimental and the control group on the reading comprehension tests in word classification. The result of word classification in the experimental group was found to be significant ( $t = -2.289, p < .031$ ). However, the result of word classification in the control group was not found to be significant ( $t = -.685, p = .499$ ). The results showed that the participants in the experimental group made significant progress in word classification after reciprocal teaching.

The second part of Table 7 indicated that the results of a paired-sample t-test of pretest and posttest for high-score team in experimental and control group on word classification of reading comprehension. It demonstrated the results of a paired-sample t-test on the reading comprehension test in word classification for the high-score team of the experimental group and the control group. The result of word classification in high-score team of the experimental group was not found to be significant ( $t = -1.196, p = .255$ ). Also, the result of word classification in high-score team of the control group was not found to be significant ( $t = .000, p = 1.000$ ). The results showed that the participants of high-score team in the experimental group and control group did not make significant progress in word classification after reciprocal teaching.

The third part of Table 7 indicated that the results of a paired-sample t-test of pretest and posttest for low-score team in experimental and control group on word classification of reading comprehension. It demonstrated the results of a paired-sample t-test on the reading comprehension test in word classification for the low-score team of the experimental group and the control group. The result of word classification in low-score team of the experimental group was not found to be significant ( $t = -2.008, p = .086$ ). Also, the result of word classification in low-score team of the control group was not found to be significant ( $t = -.879, p = .397$ ). The results showed that the participants of low-score team in the experimental group and control group did not make significant progress in word classification after reciprocal teaching.

Table 7.  
Paired-sample t-test results on the reading comprehension in word classification between-group performance

	<i>n</i>	pretest		posttest		<i>t</i>	<i>df</i>	<i>p</i>	95% CI	
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>				LL	UL
All participants										
Experimental group	26	11.88	3.20	12.96	3.28	-2.289	25	.301	-2.05	-0.11
Control group	27	11.81	4.46	12.15	4.03	-.685	26	.499	-1.33	0.67
High-score team										
Experimental group	13	14.15	1.68	14.62	1.98	-1.196	12	.255	-1.30	0.38
Control group	14	15.29	0.99	15.29	1.98	.000	13	1.000	-1.30	-1.30
Low-score team										
Experimental group	13	9.62	2.73	11.31	3.55	-2.008	12	.068	-3.53	0.14
Control group	13	8.08	3.57	8.77	2.65	-.879	12	.397	-2.41	1.02

*Reading comprehension in sentence choice*

The first part of Table 8 demonstrated the pretest and posttest results of a paired-sample t-test for the experimental and the control group on the reading comprehension tests in sentence choice. The result of sentence choice in the experimental group was found to be significant ( $t = -5.302$ ,  $p < .001$ ). However, the result of sentence choice in the control group was not found to be significant ( $t = -.241$ ,  $p = .811$ ). The results showed that the participants in the experimental group made significant progress in sentence choice after reciprocal teaching.

The second part of Table 8 indicated that the results of a paired-sample t-test of pretest and posttest for high-score team in experimental and control group on sentence choice of reading comprehension. It demonstrated the results of a paired-sample t-test on the reading comprehension test in sentence choice for the high-score team of the experimental group and the control group. The result of sentence choice in high-score team of the experimental group was found to be significant ( $t = -3.149$ ,  $p < .008$ ). However, the result of sentence choice in high-score team of the control group was not found to be significant ( $t = -1.531$ ,  $p = .150$ ). The results showed that the participants of high-score team in the experimental group made significant progress in sentence choice after reciprocal teaching.

The third part of Table 8 indicated that the results of a paired-sample t-test of pretest and posttest for low-score team in experimental and control group on sentence choice of reading comprehension. It demonstrated the results of a paired-sample t-test on the reading comprehension tests in sentence choice for the low-score team of the experimental group and the control group. The result of sentence choice in the low-score team of the experimental group was found to be significant ( $t = -4.298$ ,  $p = .001$ ). However, the result of sentence choice in the low-score team of the control group was not found to be significant ( $t = .296$ ,  $p = .772$ ). The results demonstrated that the participants of the low-score team in the experimental group had made significant progress in sentence choice after reciprocal teaching.

Table 8.  
Paired-sample t-test results on the reading comprehension in sentence choice between-group performance

	<i>n</i>	pretest		posttest		<i>t</i>	<i>df</i>	<i>p</i>	95% CI	
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>				LL	UL
All participants										
Experimental group	26	28.27	8.00	30.88	7.61	-5.302	25	<.001	-3.63	-1.60
Control group	27	30.33	8.46	30.56	8.46	-.241	26	.811	-2.12	1.67
High-score team										
Experimental group	13	33.92	3.28	36.15	2.19	-3.149	12	.008	-3.77	-0.69
Control group	14	35.93	2.24	36.86	2.35	-1.531	13	.150	-2.24	0.38
Low-score team										
Experimental group	13	22.62	7.28	25.62	7.47	-4.298	12	.001	-4.52	-1.48
Control group	13	24.31	8.41	23.77	7.27	.296	12	.772	-3.42	4.50

### Results for Research Question 3: What are the effects of reciprocal teaching on enhancing fifth-grade students' attitudes toward English reading?

Questions 1 to 4 were opinions about reciprocal teaching and on-line stories. All interviewees showed positive attitude toward reciprocal teaching and on-line stories. Question 5 was in quest of students' awareness of their own learning after reciprocal teaching. Five sixth interviewees have improved their word recognition and reading comprehension skills. Question 6 "Do you have any other suggestions or thoughts?" was added in case other possible feedback was left out. All interviewee suggested that more stories would be introduced in class. The interview was completed by both English and Chinese.

## Discussion

### **Discussion on Research Question 1: What are the effects of reciprocal teaching on enhancing fifth-grade students' word recognition ability?**

These results were the most encouraging. In association with the reciprocal teaching program, the students in the experimental group including the high-score and the low-score teams showed significant gains in word recognition. When comparing the two groups, the researchers observed that the experimental group showed significant gains in word recognition while the control group did not. Although the control group had read the same materials as the experimental group did, the control group did not receive any teacher-guided strategies instruction.

### **Discussion on Research Question 2: What are the effects of reciprocal teaching on enhancing fifth-grade students' reading comprehension ability?**

There are four sections in the reading comprehension test including word choice, sound recognition, word meaning classification, and conversation matching. The results indicated that word choice, sound choice, sentence choice reached at a significant level in the experimental group after reciprocal teaching. Word classification examined students on synonyms and antonyms meanings, which were seldom taught in elementary English lessons. The concept of morphology such as synonyms and antonyms shall be added into our lesson plans, textbooks, and annual schedule. The result of classification did not reach significant level.

### **Discussion on Research Question 3: How did reciprocal teaching affect fifth-grade students' attitudes toward English reading?**

1. What do you like about reciprocal teaching? Why?  
All interviewees liked reciprocal teaching (6 interviewees).
2. What do you like about on-line stories? Why?  
Yes, on-line stories provided English subtitles and conversation. On-line stories are interesting and students usually look forward to reading the on-line stories (6 interviewees).
3. Which parts do you like the best of the four steps of reciprocal teaching? Why?  
Prediction is the favorite part for all the interviewees, especially for slow-readers (3 interviewees from low-score team). Questioning improved vocabulary gains for faster readers (3 interviewees from high-score team). Summarization helped readers organize different sentences into short articles and increased their ability to read them out with the assistance of teacher (3 interviewees from high-score team).
4. Which parts do you like the least of the four steps of reciprocal teaching? Why?  
Summarization is the most difficult part of reciprocal teaching. Three students expressed that they could not read the short summarization at once (3 interviewees from low-score).
5. After reciprocal teaching, do you feel progress in your English ability?  
The interviewee discovered a way of learning, predicting what would happen next, noticing new words and connecting the meanings and sounds, and summarizing words and sentences in the story (1 interviewee from high-score team).
6. Do you have any suggestions to improve class instruction?  
More stories will be introduced next semester and will have opportunities to create their own stories or imagine different story endings (6 interviewees).

## Conclusion and Implications

Before reading, the researchers attempted to activate and to build background knowledge for students. It was of importance to give an introduction, to allow students to think about the topic and to review relevant vocabulary words. By classification of words, the researchers were able to preview the new words that would appear in stories, and also review the previously learned words. The methodology, thus, connected the new and old words, and renewed the participants' wording databases. Those little reminders such as pictures or words on the blackboard seemed to awaken student's curiosity and provided scaffolding for readers. The results indicated that reciprocal teaching is beneficial to word recognition skills. As a result of using on-line stories to assist reciprocal teaching, the poorer decoders connected the meanings with word and easily memorized new words.

As to raising questions in reciprocal teaching, teachers should be aware that questions which are easy to answer with short response are better prepared for slow readers. And other questions that are open-ended and require critical thinking are provided for fast readers.

Besides, by showing students that it is all right to ask questions when they do not understand, teachers could teach them how to ask questions about stories. Hence, students' comprehension and involvement would increase.

In the present study, the researchers recommended a reading model adopted from reciprocal teaching. In reciprocal teaching, all students were firstly instructed in the four steps of prediction, question, clarification, and summarization. Students' English comprehension improved after reciprocal teaching was implemented. Therefore, reciprocal teaching is worthy of future research. The students without adequate decoding skills also showed improvements in reading when they were taught reading strategies using the reciprocal teaching model.

Students felt joyful when participating in activities and imagining what might happen next. Thus, the act of motivating learners' interest may effectively spur them to actively engage in learning. Furthermore, the future researchers should create more reading activities, and attempt to provide a supportive learning atmosphere in order to help students reinforce their learning interest in learning English.

In this study, reciprocal teaching was carried out to spur students' interest in learning English. As the results indicated, reciprocal teaching instruction did in fact increase students' interest in English learning. There was still an unresolved question as follows: how shy students can be encouraged to express their feelings, opinions and answer questions. The researchers suggested that teachers prepare tangible rewards such as snacks or stationary as little gifts, and intangible rewards such as marks or warm praises to encourage these students to become more active.

## **Limitations and Suggestions for Future Research**

### **Limitations**

The findings of this study might contribute to teachers who would like to enhance students' word recognition, reading comprehension, and learning interest. Nevertheless, based on the researchers' design in the study, the findings have limitations. The reasons are listed below.

First, English textbooks and supplementary reading materials were the main resources in this study. However, the researchers chose the online stories as supplementary material and sometimes would encounter technological problems when the internet was not working or was slow. In the researchers' view, the government, academic institutions or book companies could create a reading system such as E-book for all students and English teachers. The reading system would surely be an invaluable investment in the future educational environment.

Second, there were nineteen to twenty weeks in the second semester. The researchers applied one week to the pilot study, twelve weeks to the formal study, and one week for the interviews. Three examinations and school celebrations were excluded from our research time. The research had been constrained by monthly examinations and the school anniversary celebration. These factors all decreased the time available for instruction. Finally, the short duration of the study and the limited time for reciprocal teaching sessions might have limited the ability of the students to embrace the reciprocal teaching method.

### **Suggestions for Future Research**

Reciprocal teaching was effective in improving fifth-graders word recognition skills and reading comprehension skills. Based on the research results, five suggestions would be offered for future researchers and English teachers in elementary schools.

First, the researchers suggested that there should be reading strategy instruction such as reciprocal teaching for fifth-graders or sixth-graders in EFL courses in Taiwan. The reciprocal teaching lessons can be done before or

during reading. Hence, practitioners could utilize reciprocal teaching flexibly and modify them to suit the classroom situation.

Second, owing to the lack of basic skills of reading and speaking, without technological support, students with low- or intermediate-level abilities may have difficulty understanding the stories and new words. Based on the collected interview data, most of the participants started learning more new English words from the on-line stories and reciprocal teaching. Hence, the assistance of on-line stories and teachers' guidance are highly recommended. Those materials should be added into our textbooks and thus enliven our English lessons. From the researchers' point of view, the government, academic institutions, or even book companies should establish an on-line story bank for all levels of readers for future English education.

Third, the reading teacher played a role of instructor, consultant, and cheerleader, who provided enthusiasm and a positive image toward reading. In a pleasant atmosphere, the students read as much as possible, perhaps in and definitely out of the classroom. The researchers suggested that reciprocal teaching be associated with the administration's economic and technical support. If possible, it would be even better to have computers for all the students, and then to let them select what on-line stories they would like to read after class. This would make reading have its own reward.

Fourth, from the researchers' perspective, reciprocal teaching in Taiwan would be modified as teacher-guided instruction in the beginning because students need time to be familiar with reciprocal teaching. The procedure of four steps of reciprocal teaching would be flexibly managed in lesson plans as well. In addition, teacher-guided instruction would better be gradually replaced by student-centered discussion after students get familiar with the procedure of reciprocal teaching in the future.

Finally, this study provided a keen insight into comprehension development of students in the researchers' classroom. The results of the study, however, may not yet be conclusive because the number of students (N=53) included in this study was limited. A similar study with more participants is suggested in the future.

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