

## The Effects of Reciprocal Teaching vs. Think-Aloud on Reading Comprehension of Pre-Intermediate Students in Iran

**Manoochehr Jafarigohar<sup>1</sup>**

Department of Foreign Languages, Payame Noor University, POB: 19395-4697, Tehran, I.R.

Iran, Tel: +989121951943 [jafari@pnu.ac.ir](mailto:jafari@pnu.ac.ir)

**Hassan Soleimani<sup>2</sup>**

Assistant Professor, Payam Noor University,

Nejatollahi St.Sahand Ave .Tehran, Iran,

Tel: 98-21-88904311 [arshia.soleimani@gmail.com](mailto:arshia.soleimani@gmail.com)

**Zahra Soleimani<sup>3</sup>**

M.A Student of English Language Teaching in Payam Noor University, Tehran, Iran

[xaraslm@yahoo.com](mailto:xaraslm@yahoo.com)

**Abstract:** *The purpose of this study was to investigate the effects of reciprocal teaching strategy and think-aloud strategy on the English reading comprehension of Iranian students. Three pre-intermediate level classes were selected and randomly assigned into three groups: two experimental groups and one control group. One experimental group received think-aloud strategy, the other one received reciprocal teaching strategy and the control group received a placebo. Reciprocal teaching involves four main reading strategies: predicting, questioning, clarifying and summarizing. Think-aloud involves prediction, forming mental pictures, connecting what they read to what they have already read, creating analogies, verbalizing confusing points, and using fix-up strategies. There were pretest and posttest for these three groups. The findings indicated that the two experimental conditions of think-aloud strategy and reciprocal teaching strategy had significantly positive effects on the reading comprehension of pre-intermediate EFL learners; however, think-aloud strategy enhanced English reading comprehension better than reciprocal teaching strategy.*

**Keywords:** *Reciprocal Teaching, Think-aloud, Reading Comprehension, Cooperative Learning, Reading Comprehension Strategies*

### 1- Introduction

Comprehension is one of the five core components of reading, which has been a hot topic for the last few years (Cassidy & Ortlieb, 2011; Cassidy, Valadez, & Garrett, 2010; Dymock,

2007). Teachers are always in search for enhanced methods of comprehension strategy instruction. Comprehension is a complex process that requires students to use multiple cognitive skills, such as auditory processing (Huey, 1908/1968; Anderson, Hiebert, Scott, & Wilkinson, 1984). Students also need to have direct instruction of strategies, which can help develop reading comprehension (Loveless, 2012). Comprehension consists of a variety of strategies that children must know and manipulate in order to understand readings; struggling readers often have difficulty comprehending texts that they are reading because they lack these skills. Although it is also difficult for teachers to teach strategies, according to Dymock (2007), there could possibly be more improvements in students' understanding when reading text, because of the increase of teachers making a point to teach strategies. Many children do not have the foundational skills such as word recognition, vocabulary development, and prior experiences that are considered necessary to connect text with meaning (Pardo, 2004).

As it should be, much work on the process of reading comprehension has been grounded in studies of good readers. We know a great deal about what good readers do when they read (International Reading Association, 2002):

- Good readers are *active* readers.
- From the outset they have clear *goals* in mind for their reading. They constantly *evaluate* whether the text, and their reading of it, is meeting their goals.
- Good readers typically *look over* the text before they read, noting such things as the *structure* of the text and text sections that might be most relevant to their reading goals.
- They read *selectively*, continually making decisions about their reading—what to read carefully, what to read quickly, what not to read, what to reread, and so on.
- Good readers *construct, revise, and question* the meanings they make as they read.
- They draw from, compare, and *integrate their prior knowledge* with material in the text.
- They *monitor their understanding* of the text, making adjustments in their reading as necessary.

## 2- Background

### 2.1 - What is Reciprocal Teaching?

Palincsar et al. (1992) stated that reciprocal teaching is an instructional procedure originally designed to enhance students' reading comprehension. The procedure is best characterized as a dialogue between the teacher and students. The term "reciprocal" describes the nature of the interactions: each person acts in response to the other(s). The dialogue between teachers and students is structured to incorporate four comprehension-fostering and comprehension-monitoring strategies including summarizing, question generating, clarifying and predicting. Foo (2002) further elaborated these strategies as follows:

Summarizing - '...[Summarizing] was engaged in to state to the teacher or the group what had just happened in the text and as a self-test that the content had been understood' (Palincsar & Brown, 1984, p.122). This strategy enables students to identify,

paraphrase and integrate the most important information in the text.

**Questioning** - When the students generate questions, they first identify the significant information in the text. They then pose this information in question form and self-test to ascertain that they themselves can answer their own questions. The obvious benefit the students gain from self-questioning is that they can ‘frame their own questions about the reading material’ rather than rely on the teacher’s questions. It can also operate “on the principle that students must interact meaningfully with the text to generate reasonable questions” (Helfeldt & Henk, 1990, p.510).

**Clarifying** - ‘Clarifying occurred only if there were confusions either in the text (unclear referent, etc.) or in the student’s interpretation of the text’ (Palincsar & Brown, 1984, p.122). This strategy draws the students’ attention to the many reasons why text is difficult to understand, for example, new vocabulary, unclear reference words and unfamiliar or difficult concepts. Recognizing these comprehension blocks, students can solve the problems by rereading, reading ahead or asking for clarification.

**Predicting** - ‘Prediction was attempted if the students or teachers recognized any cues that served to herald forthcoming material’ (Palincsar & Brown, 1984, p.122). This strategy requires students to hypothesize what the author is going to discuss next in the text. This provides a purpose for reading either to confirm or disprove their hypotheses. The predicting strategy also facilitates the use of text organization as students learn that headings, subheadings and questions embedded in the text are useful means of predicting what might occur next.

These four reading strategies are useful tools for students not only to help construct meaning from text but also to help monitor their reading so as to ensure that they really understand what they are reading.

## 2.2- Cooperative Learning

Johnson, Johnson and Holubec (1994, p.4) define cooperative learning as “the instructional use of small groups so that students work together to maximize their own and each other’s learning”. Besides, Slavin (1987, p.8) also defines it as “instructional methods in which students of all performance levels work together toward a group goal”. Groups of students working together have the potential to achieve well beyond the achievement of a student working by himself. Cooperative learning can promote learning through collaboration between groups of learners who generate questions and discuss ideas freely with each other where students sometimes take on teaching roles to help other students learn. It also fosters students’ interpersonal relationships and this can improve their ability to work with others. It echoes with the belief that

the best learning is often social and interactive, gives an opportunity to scaffold one another's work, and puts students in a position to respond to and elaborate on one another's thinking (Graves, Juel, & Graves, 2001).

### **2.3- What is Think-Aloud?**

The think-aloud method has been widely used as a strategy of instruction by teachers to model for students the thinking process (Dunston & Headley, 2002); this in turn can help promote comprehension (Block & Israel, 2004). The think-aloud helps to enhance students' abilities of the thinking process and understand what they comprehend, and it allows for the reader to connect meaning and understanding with the text. Block and Israel further stated that students feel that think-alouds are beneficial to their thinking process when the correct method is taught to them and it allows for teachers to become better educators. Teachers show their thinking process and how their thoughts are occurring during the reading for students who are struggling with comprehension. Through using a think-aloud teachers are able to vocalize how they think as they read (Davey, 1983).

Although its utility is widespread, existing quantitative research evidence for its effectiveness is limited and as a result, additional investigation is needed to investigate its importance in the early grades. Ericsson and Simon's (1980) approach to collecting think-aloud data has been used in many studies since the early 1980s. However, it has been criticized as doubts have been raised about its validity. The purpose of a think-aloud is to extend Ericsson and Simon's work by modeling what good readers do before, during, and after reading. It is used to elicit prior knowledge of a subject, determine word meanings, and allow for readers to connect with the text, providing an example of how to be expert readers and has been proven that students can read with greater understanding (Block & Israel, 2004).

The think-aloud is a strategy that allows a teacher to verbalize thoughts while reading orally, modeling for students how the process of comprehension works (Harris & Hodges as cited in Block & Israel, 2004). The think-aloud strategy can be used as a scaffolding model to develop higher thinking and learning, and allows for the clarifications of difficult concepts or tasks. According to Tierney and Readence (2000), teachers can use the think-aloud strategy as a way to scaffold students reading comprehension. In a think-aloud, teachers model their own thinking and reading strategies for the students as they need. The goal of the think-aloud strategy is that eventually students will develop a similar thinking process when they are reading independently, thereby improving their comprehension.

## **3. Method**

### **3.1- Participants**

Forty five students from Shokouh English Institute located in Gorgan participated in this study. They were all Persian-speaking male students studying English during winter term in 2011. The students were between 12-16 years old. There were three pre-intermediate classes in

the institute all of which participated in the present research study. In order to homogenize the participants, the researcher administered Oxford Placement Test. The classes were randomly assigned to three groups: two experimental and one control group. Class A consisting of 15 students received six think-aloud reading lessons which were developed by the researcher. Class B with 15 students received six reciprocal reading lessons which were also developed by the researcher. The control group was made up of 15 students who received a placebo. Students in control group just read the text, found the meaning in their dictionaries and answered the following comprehension questions. All three groups followed the same English syllabus and used the same set of English textbooks. All classes were taught by the researcher.

### **3.2- Testing and Reading materials**

The reading texts used in the testing and reading materials were adapted from Teenager magazines and textbooks of the English Language Institute while the follow-up comprehension activities or tasks were devised by the researcher.

### **3.3- Testing materials**

The pre-test consisted of a reading passage and 10 multiple-choice questions. The test was adapted from the text book of English Language Institute. The post-test was made of a 200-word reading passage, and 10 multiple-choice items. The post-test was adapted from the text book of the English Language Institute.

### **3.4- Reading materials**

The reading materials included six reading passages, and each was followed by strategy training exercises to facilitate the development of reciprocal teaching and think-aloud strategies. Passage lengths ranged from approximately 200 to 300 words. The texts were selected and adapted from the “Teenager Magazine”. Teenager Monthly is the English-language magazine published in Iran for young English language learners and those interested in reading English texts. Since Teenager Magazine is for young adults, its topics are on the basis of relevance to young adults’ own areas of interest, and experiences and because participants of this study were young adults so the texts of this magazine could have been proper.

### **3.5 Design and Procedure**

This was a quasi-experimental study including one pre-test, six treatment sessions and one post-test. There were two experimental groups of subjects, viz.: (1) (Group A) which received six think-aloud reading lessons and (2) (Group B) which received reciprocal teaching strategy

reading and one control group which received a placebo. The treatment of the study here refers to modified reciprocal teaching reading instruction.

First, six sets of texts on different topics were selected. The texts were matched in approximate length and readability. Treatment materials for group A and B consisted of comprehension passages (about 200 to 300 words) and strategy training exercises. There were six treatment sessions and each consisted of a 70-minute reading lesson, including 25-minute strategy training, 30-minute think-aloud reading practice for group A and modified reciprocal teaching reading practice for group B and the last 15 minutes was for feedback and reflection. Reciprocal teaching and think-aloud (explicit strategy training) were taught to the experimental groups by the researcher (who was also their English teacher). English supplemented with Persian when necessary was used as the medium of instruction.

The pre-test/post-test design was used to measure gains to treatment. Pre-test was carried out one day before the treatment in order to measure the students' performance before receiving any reading instruction. Post-test was conducted one week after the treatment in order to measure the gains they made due to reciprocal teaching.

#### **4. Findings**

In this section, the raw scores and percentages of correct answers on two tests, the proficiency test and the reading comprehension test, administered to the two experimental groups and the control group are presented. Additionally, the results of the descriptive and inferential statistics of t-tests of independent samples and one-way ANOVA conducted by using SPSS 16.0 to test significant differences between the tests or between the two experimental and control groups are presented and described. The findings presented in this section are in line with the three quantitative research questions formulated as follows:

- 1- Does think-aloud strategy significantly enhance the English reading ability of the first experimental group?
- 2- Does reciprocal teaching strategy significantly enhance the English reading ability of the second experimental group?
- 3- Which strategy (think-aloud versus reciprocal teaching) has better effect on reading comprehension?

##### **4.1- Proficiency Test Outcomes**

First of all, to have homogeneous learners for the two experimental groups (EG1 and EG2) and control group (CG), the mean and standard deviation of the proficiency test were calculated. The students were selected as they were one standard deviation below and above the mean. The

results of the descriptive statistics calculated from the proficiency test are displayed in Table 4.1.

*Table 1: Descriptive Statistics of Proficiency Test of the Three Groups*

Descriptive Statistics	Proficiency Test		
	EG1	EG2	CG
Mean	19.46	19.48	19.45
Standard Deviation	1.98	1.96	1.97

The findings show that the mean (M) and standard deviation (SD) of the test for the two experimental and control groups were M=19.45, SD=1.97, M=19.48, SD=1.96 and M=19.46, SD=1.98, respectively. From among the students selected, 15, 15 and 15 were retained as the two experimental groups and control group learners to get involved into the rest of the study.

#### 4.2- Descriptive Statistics of Comprehension Test

Table 2 shows the means of the comprehension test for the three treatment groups. The result showed that all the three groups increased their scores on the comprehension test. The group mean gain scores for the EG1, EG2, and CG were 3.866, 1.466 and 1.133, respectively. The EG1 made the most improvement, followed by the EG2 and the CG. The mean gain score of the EG1 were more than the mean gain score observed for the EG2 and the CG.

*Table 2: Descriptive Statistics for Comprehension Test for Three Groups*

Test	EG1		EG2		CG	
	pre	post	pre	post	pre	post
Comprehension Test						
Mean	4.067	7.933	4.267	5.733	3.400	4.533
SD	1.624	1.486	1.981	1.709	1.183	1.356

Note: EG1= experimental group 1; EG2=experimental group 2; CG=control group

#### 4.3- Initial ANOVA on Pre-test Scores

An initial ANOVA indicated that there was no significant group effect on the pre-test



means ( $F=1.164$ ,  $df_1=2$ ,  $df_2=44$ ,  $p=.322$ ). It shows that the groups have similar variances and similarities at the time of pretesting.

*Table 3: ANOVA of the Pre-test for the Comprehension Test in the Three Groups*

#### ANOVA

Pre					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	6.178	2	3.089	1.164	.322
Within Groups	111.467	42	2.654		
Total	117.644	44			

#### 4.4- ANOVA Results for Post-test

After the post-test and assigning each group to just one type of treatments, the results of pre-test and post-test were compared. To this end, one-way ANOVA was run.

As table 4 shows the performance of the participants on the comprehension test in the post-test, there was a significant difference in the three different groups.

*Table 4: ANOVA Results for the Post-test in Three Groups*

#### ANOVA

Post					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	89.200	2	44.600	19.193	.000
Within Groups	97.600	42	2.324		
Total	186.800	44			

A scheffe test was run to compare the groups two by two. As the table 5 shows the difference among the performances of the students in all of the groups which was significant.

*Table 5: Scheffe Test in the Three Groups*

#### Scheffe test

(I) group	(J) group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1	2	-3.40000*	.55663	.000	-4.8126	-1.9874



3		-1.20000	.55663	.110	-2.6126	.2126
2	1	3.40000*	.55663	.000	1.9874	4.8126
	3	2.20000*	.55663	.001	.7874	3.6126
3	1	1.20000	.55663	.110	-.2126	2.6126
	2	-2.20000*	.55663	.001	-3.6126	-.7874

\*. The mean difference is significant at the 0.05 level.

As the table 5 indicates the difference between the performance of students in the posttest, that is the treatment in the think-aloud strategy group was significant. The difference is .00 which is lower than .05 indicating that the performances of the subjects improved through reactive form-focused instruction treatment.

## 5. Discussion

The results indicated that think-aloud and reciprocal teaching had a significantly positive effect on the English reading comprehension. Comparing post-test mean scores, think-aloud better assisted reading comprehension of students the reciprocal teaching. Moreover, there was a significant difference between experimental groups and control group after instruction. Similar to the previous research on reciprocal teaching strategy (Brown & Palincsar, 1989; Foo, 2002; Greenway, 2002) and think-aloud strategy (Ericsson and Simon, 1980; Gunning, 1996; Steinberg, 1986; Tinzmann et al. 1990), the present study has reaffirmed the effectiveness of reciprocal teaching and think-aloud on improving student's English reading performance. The positive effects are evident in posttest. It has also shed light on how these strategies can be effectively implemented in a regular EFL classroom setting.

As suggested by the findings, the posttest mean scores of the students taught with think-aloud strategy was higher than those receiving reciprocal teaching strategy. This finding emphasizes that think-aloud teaching was more effective in improving English reading ability than reciprocal teaching strategy.

The present study has shown that students in the experimental groups made progress significantly more than the students in control group. The statistical evidence lends its support to the positive effect of think-aloud and reciprocal teaching in improving students' reading performance. Indeed, both experimental groups gained significantly higher scores after receiving instruction through these two strategies.

## 6. Conclusion

The present study has evaluated the effects of reciprocal teaching vs. think-aloud on pre-intermediate students in Iran. This study found that think-aloud and reciprocal teaching significantly improved the English reading comprehension of students. In addition, the results confirmed that think-aloud strategy better enhanced reading comprehension of students than reciprocal teaching. The findings of this study suggested that reciprocal teaching and think-aloud are kinds of reading strategy instructions that had positive effects on improving students' reading sub-skills such as making prediction, guessing unknown words and recognizing main idea. The degree of the effectiveness of these strategies in fact depends on a number of factors such as teacher instructions, their readiness for a strategy, the degree of students' involvement in group discussion and individual student characteristics.

The students were trained through explicit teaching and guided practice and with sufficient practice in each step of the reciprocal teaching and think-aloud. Once used to the procedures of the strategies, they were offered opportunity to practice on their own. They learned not only from the teacher, but from friends too.

Based on the finding previously discussed, these strategies can be used in English institutes in Iran as reading strategy instructions to help students improve their English reading comprehension.

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