



THE EFFECTIVENESS OF MODIFIED RECIPROCAL TEACHING ON READING COMPREHENSION ATTAINMENT: A QUASI-EXPERIMENTAL STUDY

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Abstract

The purpose of this research was to find out whether there is a significant difference of using RT strategy to the 3rd semester students' reading skill at reading comprehension course. The sample of the research was the third semester students at English study programme of Sriwijaya State Polytechnic in the academic year 2013/2014 consisting of forty eight students. The RT strategy developed by Palincsar and Brown was modified into three steps of instruction consisting of nine activities. A quasi-experimental design of the pretest-posttest non-equivalent control group design was applied. To collect the data, forty multiple choice questions of reading comprehension were used. *Pearson Product-Moment Correlation*, and *Split-half Method + Spearman-Brown* of the test were > 0.312 and 0.834 . *Kolmogorov-Smirnov* test and *Levene* test were 0.200 and 0.570 , indicating the normality and homogeneity of data distribution. The findings from the paired-sample t-test showed that students who were taught with modified RT attained higher scores (14.792) than those who were not (6.042). Since the modified RT strategy had a significant effect on the students' reading comprehension achievement, modified RT strategy can be applied in teaching reading comprehension.

Key Words: cooperative learning, reading comprehension, quasi-experimental design, reciprocal teaching

INTRODUCTION

The English lecturer always dominates the learning process in the classroom so that the learning process taking place in the classroom is boring. The students spend a lot of time listening in the classroom than comprehending the reading materials. It does not wonder when an English lecturer explains the lesson to the students, the students seem to be busy with their friends and themselves. The students spend so much time listening and have little chance to comprehend the reading texts.

During some observations at some classes at English study programme, the researchers found that most students have good decoding skills but inadequate comprehension skills. They are passive during the teaching learning process. They are not accustomed to speaking, sharing and arguing in reading issues. They seldom answers questions that are given by the English lecturer. It clearly shows that students' reading skill is not good. Only few students pay attention to the lecturer's explanation. As a result, when they do some exercises, they cannot do them well. Moreover, students experience boredom in learning activities that lecturers do in their classroom. Seemingly, the English lecturers cannot maximize their teaching strategy to explore and improve the students' reading skill. If such a condition keeps continuing, it will surely affect students' reading comprehension attainment.



One of the ways to overcome such a problem, from the researchers' points of view, is making all students active and involved so that they enjoy learning and can improve their reading skill. The students need training to use metacognitive strategies on their reading texts; otherwise, they just focus on words not meaning. Reading comprehension depends on a variety of reader-related, text-related, and situational factors (Oakhill and Garnham, 1988, p. 41). Meaning is formed in the reader's head, that is, a person's prior knowledge affects the kinds of meanings constructed from the text information. From this perspective an individual's existing knowledge is a major determinant in acquiring new information. Furthermore, the reader's comprehension of the text is considered to be linked to the reader's ability to construct hypotheses, rules, schemas, and mental models. A reader-centred reading comprehension strategy to making meaning is intrinsically motivating because it promotes the application of strategies fostering self-monitoring of reading comprehension. Thus, English lecturers have an important role in fostering students' ability to comprehend reading texts well. For this, English lecturers need to create classroom activities in order to enhance students' interaction.

The students' reading skill is greatly influenced by the reading strategy used by the English lecturer. Brown (2000, p. 74) cites that an approach or theory of language and language learning takes great importance. The approach to language teaching methodology is the theoretical rationale that underlines everything that lecturers do in the classroom.

THEORETICAL BACKGROUND

Definition of cooperative learning particularly in language learning context offered by Kessler (1992, p. 10) refers to a within-class grouping of students usually of differing levels of second language proficiency, who learn to work together on specific tasks or projects in such a way that all students in the group benefit from the interactive experience. Cooperative learning organizes and maximizes purposeful classroom interaction among learners in a supportive and stress-reduced environment, thereby increasing their achievement in the cognitive, affective, and social domains of schooling (Kessler, 1992, p. 124). While Roger, Olsen and Kagan (1992, p. 8) claim that cooperative learning is a term used to describe instructional procedures whereby learners work together in small groups and are rewarded for their collective accomplishments. Slavin as quoted by Shumin (2002, p. 204) says that recent research indicates that teams of heterogenous learners can increase the collaborative skills, self-esteem, and achievement of individual learners. Cooperative learning is useful for improving students' achievement, involvement, and motivation. Surely, it is in line with what Johnson in Slavin (1995, p. 76) clearly states that the positive interdependence created by cooperative learning groups helps to improve the motivation in the group.

In cooperative learning, students gather to learn and solve problems in groups or pairs. Cooperative learning, according to McCafferty, *et al.* (2006, p. 8), is a group learning activity organised so that learning is dependent on the socially structures exchange of information between learners in groups and in which each learner is held accountable for his or her own learning and is motivated to increase the learning of others. In addition Olsen and Kagan as quoted by Richards (2001, p. 8) say that when students are engaged in cooperative learning, they work together to carry out the group goals that are beneficial to themselves as well as other members of the group.

Shaaban and Ghaith (2005, p. 1) state that research conducted by Kagan, Kessler, and McGoarty has established theoretical relevance of cooperative learning in second language instruction because of its ability to provide maximum opportunities for meaningful input and output in an interactive and supportive learning environment. Cooperative learning also integrates language and



content learning of the varied applications which are in harmony with the pedagogical implications of the input, socialization, and interactive theories of L2 acquisition. This is because cooperative learning enhances the motivation and psychological adjustment of language learners. In second language learning usually students have different level of language, but by working in group they can stay together to learn the material and have interactive communication. So they will get much benefits of this process. In cooperative learning model, students work together in four or five members' team to master the material that has been presented by a lecturer (Slavin, 1995, p. 4). So, the lecturer just presents the material to the whole class. Then the students learn more to master the material in group with their friends.

Based on the above statements, cooperative learning is students learning in group, where the learning process is based on the members of the group. They can activate the group learning by sharing information of each member. So it can motivate learning process and decrease students' anxiety. From the reseachers' point of view, cooperative learning can be one of models that is able to make changes in the atmosphere of teaching reading and gives a beneficial contribution to the principle that education should place students as a subject not an object or in other words education should be learner-centered.

A reading strategy, from where the researchers stand, should be able to encourage all students in the classroom to take a more active role in leading a group dialogue, and help to bring more meaning to the text at a personal and cognitive level. It is based on the assumption that knowledge and meaning are the result of creative socializations arranged through negotiation and discourse among teachers and students, or students and students. Such a thought lies in Reciprocal Teaching.

Palinscar and Brown (1984) in Takala (2006, p. 560) cite that reciprocal teaching refers to a strategy of instruction that is designed to teach students cognitive strategies that will help them to improve their reading comprehension skills. The four strategies that are in current use are: (1) predicting, (2) clarifying, (3) questioning, and (4) summarising. Predicting allows the reader to draw inferences and use schemes. Asking for clarification allows the reader to verify that he or she has understood the text. Developing questions forces the reader to concentrate on main ideas (main points), rather than on details. Finally, while summarising a text, the reader has to concentrate on the major content. At the same time, the reader will discover whether he or she understands the text. All these activities demand the use of previous knowledge and have a dual function: they are both comprehension-fostering and comprehension-monitoring activities. Both good and weak readers seem to benefit from reading strategies. However, Takala (2006, p. 560) argues that reciprocal teaching strategy is designed to improve reading comprehension in students who can decode, but experience difficulty understanding text. These four strategies are not goals in themselves, but are taught in a classroom context in which reading comprehension skills are necessary. In RT, students are the center of learning.

The reciprocal teaching is a type of reading instruction that is based on the interactive model. Meanwhile, the theory of reciprocal teaching presents three key features: scaffolding and explicit instruction, four main strategies, and social interaction. The concept of scaffolding is grounded in Vygotsky's social constructivist learning. According to Vygotsky (1978), every mental function in a child's development first appears in collaboration with an adult or expert. This collaboration occurs in the zone of proximal development (ZPD), an area that stands between what children can do by themselves and what they need assistance to do. With enough practice, children internalize this collaborative form in their mental process and can work alone in new contexts.



Through social interaction which is based on ZPD, students are able to learn or solve harder problems, or reach a more complete development of their potential through some guidance from a teacher/expert, or learning activities such as discussion, brainstorming, and group work.

Group work offers four movements of social interaction (Gavalek & Raphael, 1996). First, students in a group learn with the members of their group by sharing, discussing, and peer tutoring. Second, they internalize this knowledge. In reciprocal teaching, students learn the four main strategies through the teacher's modeling and, later, working in cooperative groups, they think of the four main strategies they have learned, what strategies to use, and when and how to use them, and why to use them. Third, the students build their own understanding and reading process on the basis of what they have learnt from the social setting and thus engage in a process of transformation. Finally, they share their understanding and thinking with the group. In this stage, the students' thoughts are shaped through group discussion (Wilén, 1990). In reciprocal teaching, each participant in a group has a chance to be a leader and manages group work by discussion through the four main strategies.

In conclusion, reciprocal teaching is a vital reading strategy instruction that emphasizes on metacognitive awareness. Its goal is to improve readers' reading comprehension and to facilitate their becoming independent readers. It offers three features: scaffolding and direct instruction, practice of the four main strategies, and social interaction. It has been influenced by Vygotsky's developmental theory.

In examining the effectiveness of reciprocal teaching, this research has one research question: can the modified reciprocal teaching effectively improve the third semester English study programme students' reading comprehension attainment at Sriwijaya State Polytechnic?

The research question has two sets of null hypotheses: (1) H01—there is no significant difference in the reading comprehension attainment of the students in the control group and the students in the experimental group, and (2) H02—there is no significant difference between the pre-test and post-test reading comprehension attainment in the experimental group.

METHOD

The research was conducted at Sriwijaya State Polytechnic at English study programme in the academic year 2013/2014. The research was conducted for eight months including from preparation of research proposal to post-test on the third semester students. The researchers applied the non-equivalent control group design because it was not possible to assign students and control group randomly. The dependent variable was students' reading comprehension attainment while the independent variable was RT.

In this research, 48 students were taken and grouped into two, experiment (24 students) and control group (24 students). The researchers used reading comprehension test. The whole test comprised forty items in the form of multiple choices. To know the validity and reliability of the reading test, Pearson Product-Moment Correlation and split-half method + Spearman-Brown were applied. Based on r table, the significance 95% and N (40) is 0.312, and all items were > 0.312 . In other words, all were valid. By using the split-half method, the researchers found that the reliability coefficient of the test was 0.716. According to Wallen and Fraenkel (1991, p.247), for research purposes, a rule thumb is that reliability should be at least 0.70 and preferably higher. Then 0.716 must be calculated with Spearman Brown formula. The result is 0.834. The data in the research were obtained by using t-test. Before applying the t-test, the researchers had applied Kolmogorov-Smirnov test and Levene test to know the normality and the homogeneity of the test. To run the analyses, SPSS 21 was operated.

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There were three instructional steps of modified reciprocal teaching, pre-instructional activities, instructional activities, and post-instructional activities. Pre-instructional activities (Pre-IA) comprised two instructional phases; competency explanation, and orientation. Instructional activities (IA) consisted of five instructional phases; scaffolding (including predicting, clarifying, questioning, and summarising), grouping students and giving tasks, exploring reading material, presenting group-work, and comprehension checking. While reflecting-concluding, and doing formative evaluation (a reading comprehension test) were included in post-instructional activities (Post-IA).

The English lecturer divided students heterogeneously into groups to represent the composition of the entire class. It meant that each group was composed in different level (high, average, low). By such as composition, it was hoped that peer-tutoring would give beneficial influence to students whose reading skill was weak, so that all students could get the best result in learning reading comprehension.

Before implementing the modified reciprocal teaching to students' reading comprehension lesson, the English lecturer explained to the students about competency they would learn, the purpose of studying the reading text for one meeting of reading comprehension learning process and what they would get after studying the reading text.

The English lecturer chose a leader who played the role of the English lecturer for every group. The leader pointed his/her classmates in the group to be a predictor, a clarifier, a summarizer, and a questioner. Their roles in each group were exchanged whenever they had new copies of the reading text to discuss. The next step was the English lecturer modelled the modified RT strategies in front of the class by explaining the processes in every phase and explaining every activity in detail. Then the English lecturer distributed copies of the reading text for every student in the all groups, and gave each group fifty minutes to predict (predicting the content of the reading text based on their previous knowledge, and then comparing their prediction results with the real content of the reading text), to question (making questions plus answers of their own, and making questions even though the answers are unknown), to clarify (making clear any word, phrase even sentences they had yet to know), and to summarize (making a summary for each paragraph). The leader of each group coordinated the tasks in his/her group and gave his/her classmates in the group a hand whenever they had difficulties.

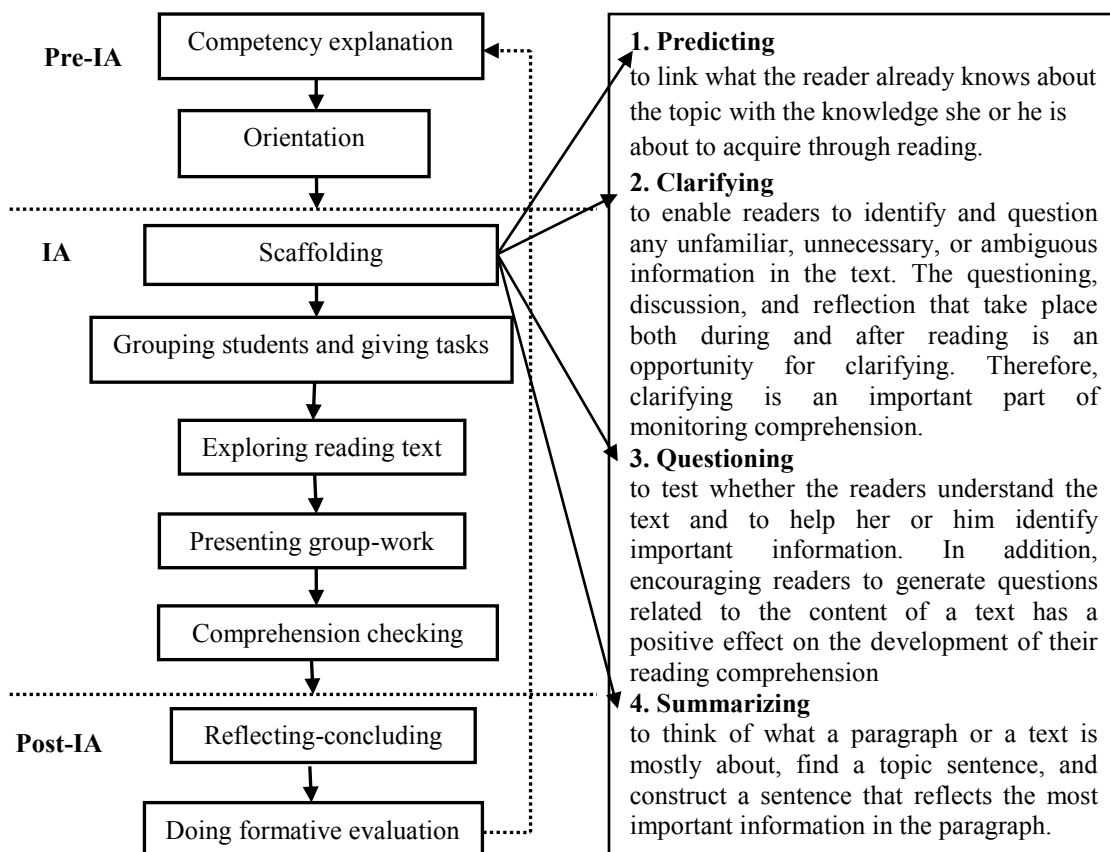


Figure 1 Phases of Modified Reciprocal Teaching

Students discussed their parts together in their group. Each group in presenting group-work was represented by one student (usually in turn), presented its prediction to the reading text and mentioned what they had in their mind related to the reading text and what they had just known after reading the reading text. It was considered ‘the new knowledge’ for them. Then the presenting group made clarification of any word, phrase, a sentence of reading text, summary of reading text, and mentioned all questions plus the answers the group had already made. When the group had yet to know the answers of the questions, the group might ask other groups for help. Also in the presenting group-work phase, other groups could give questions or corrections, inputs even criticism on the presenting groups or even among other groups. The phase of the presenting group-work was also called “discussion phase”. In comprehension checking, the English lecturer asked each student to make a summary of the reading text they had just explored. In reflecting-concluding, the English lecturer gave some corrections on students’ answers and discussion and made a conclusion of reading content, so that all students had a wholly understanding on the reading text. Finally, to assess the students’ reading comprehension attainment, the English lecturer distributed a twenty-reading comprehension test in the form of multiple choices.

RESULT AND DISCUSSION

Before applying t-test, to know the mean difference between experiment class and control class, the analyses of normality and homogeneity of data distribution was conducted. To analyze the

normality and homogeneity of data distribution, the *Kolmogorov-Smirnov Test* and *Levene Test* were applied.

The table 1 showed that the statistical value of *Kolmogorov-Smirnov Test* is 0.200. The *Asym.Sig.* 0.200 means the probability (*Sig*) $0.200 > 0.05$. In conclusion, the data distribution is normal. The table 2 also showed that the statistical value of *Levene Test* is 0.327 with the significance 0.570. Since the probability (*Sig*) $0.570 > 0.05$, it can be inferred that the data distribution is homogenous.

Table 1 Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Score	,107	48	,200*	,968	48	,207

a. Lilliefors Significance Correction

*. This is a lower bound of the true significance.

Table 2 Test of Homogeneity of Variance

	Levene Statistic	df1	df2	Sig.
Score Based on Mean	,327	1	46	,570
Based on Median	,361	1	46	,551
Based on Median and with adjusted df	,361	1	45,978	,551
Based on trimmed mean	,323	1	46	,572

The results of statistical analysis using Pearson Correlation showed that all total Pearson Correlations > 0.312 (based on r table, significant correlation 95% and 99% with $N=40$ is 0.312 and 0.403). It means that all forty items of reading comprehension test were valid. The next step was conducting the reliability test using Split-half method and Spearman-Brown.

Table 3 explained that the correlation between odd and even items of forty reading comprehension test was 0.807. In other words, their correlation was significantly high. The score of correlation then was calculated with Spearman-Brown. Its calculation showed that the reading comprehension test items used in the research were reliably high with score 0.893.

Table 3 Split Half Correlations

		Odd	Even
Odd	Pearson Correlation	1	,807**
	Sig. (2-tailed)		,000
	N	40	40
Even	Pearson Correlation	,807	1
	Sig. (2-tailed)	,000	
	N	40	40

** . Correlation is significant at the 0.01 level (2-tailed).

Also seen on the table 4 that the average score of students before treatment was 55.633 and after treatment using RT was 70.42 with probability (*Sig*) 0.000. On the table 5, the mean differences between pre-test and post-test of experiment class was 14.792 and the probability (*Sig*) $0.000 < 0.05$. Based on the two tailed test, t table ($_{(0.0259)}$) is 2.069 and lies on H_0 rejected zone. The significant difference took place in the experiment class.

Table 4 Paired Samples Statistics

	Mean	N	Std. Deviation	Std. Error Mean
Pair 1 Posttest	70,42	24	8,198	1,673
Pretetst	55,63	24	9,925	2,026

Table 5 Paired Samples Test of Experiment Class

		Pair 1
		Posttest - Pretetst
Paired Differences	Mean	14,792
	Std. Deviation	5,801
	Std. Error Mean	1,184
	95% Confidence Interval of the Difference	Lower Upper
		12,342 17,241
t		12,492
df		23
Sig. (2-tailed)		,000

The table 6 and 7 showed that students' pre-test and post-test on control class that were not taught with RT were 55.42 and 61.46 with probability (*Sig*) 0.000.

Table 6 Paired Samples Statistics

	Mean	N	Std. Deviation	Std. Error Mean
Pair 1 Posttest	61,46	24	9,943	2,030
Pretetst	55,42	24	10,725	2,189

Table 7 Paired Samples Test of Control Class

		Pair 1
		Posttest – Pretetst
Paired Differences	Mean	6,042
	Std. Deviation	4,885
	Std. Error Mean	,997
	95% Confidence Interval of the Difference	Lower Upper
		3,979 8,105
t		6,058
df		23
Sig. (2-tailed)		,000

Based on the statistical analyses, seen that experiment class achieved score much higher than the control class. Such a thing shows that RT strategy positively contributes to students' reading skill.

CONCLUSION

The findings on the research surely not only have pedagogical implications as the results show the students' significant reading comprehension attainment but also support the practice of teaching reading comprehension strategies in a group setting in which students should have the opportunity to use literacy as a tool for communication, which in turn enhances their comprehension. English lecturers at Sriwijaya State Polytechnic should be encouraged to model modified reciprocal teaching strategies in the reading comprehension class, providing an effective, alternative to learning how to construct meanings from the reading texts and how to work collaboratively in the context of group discussion. Through a constructive process, English lecturer-students and students-students mediate



and negotiate the meaning of reading texts. In the process, students' self-regulatory and monitoring skills can develop, producing an autonomous reader.

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