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The Effect of Reciprocal Teaching Technique and Metacognitive Strategy on Improving Students' Reading Comprehension

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ABSTRACT

The goal of this study was to determine how Reciprocal Teaching Technique and Metacognitive Strategy affected students in the tenth grade at SMK Lab Business School in Tangerang. With the help of quasi-experimental research and qualitative data, this study was quantitative. Students in the tenth grade make up the research's total population, which is 276. The writer recruited 112 students for three classes—two experimental and one control—using purposive selection to choose the sample. The control class was taught using Conventional Instruction, as opposed to the experimental class which was taught using Reciprocal Teaching Technique and Metacognitive Strategy. The author utilized a written test to determine whether the data were normal and used the chi square formula and the fisher formula to determine whether the data were homogeneous. The findings of this study revealed that students' reading comprehension scores weren't very good after being taught the technique, as evidenced by the post-test mean values for students who were taught using the reciprocal method being lower than those who were taught using the metacognitive strategy.

Keywords: Reciprocal Teaching Technique, Metacognitive Strategy, Reading Comprehension

INTRODUCTION

English is now a universal language that is utilized as a means of communication in many nations, making a positive contribution to human life. It can be used in a variety of fields, including science, business, technology, and education. English is a worldwide language, according to Crystal (2003:2), for two reasons. First, a language can be declared the official language of a nation, making it available for usage in government institutions, the media, and the educational system. Second, even if a language has no official status, it can be given priority in a nation's foreign language instruction. Hamra (2010) identified the significance of English by pointing out that it is Indonesia's first foreign language. English should be taught to Indonesian pupils because it is a crucial subject in the classroom.

Reading offers various exercises to increase reading comprehension. Today's popular books, magazines, essays, pamphlets, newspapers, etc. all show the

public's concern with reading skills. The advantages of having students who can read English texts are numerous. Students can gain a lot of knowledge, amuse themselves, and broaden their horizons by reading. It follows that reading comprehension has become a crucial ability for pupils to learn. Reading is the most important skill for people to keep up with new information, according to Patel (2008).

According to data from SMK Lab Business School Tangerang, a large number of students become discouraged when they have difficulty reading in the target language. Traditional methods are used to introduce reading to the students. The teacher limits the reading assignments to reading the materials and responding to comprehension questions. Additionally, the kids frequently read aloud when they are reading books or other texts, which slows down their reading comprehension. Additionally, the students think that in order to understand the text, they must understand each word, so they check up each word's definition one at a time in the dictionary. Their ability to understand the text they read may suffer as a result. The aforementioned elements, which are the students' issue, require clarity.

In an effort to increase students' reading skills, it is crucial to perform a study based on some of the issues that have been raised. In response to this issue, the researcher was attempting to increase the reading comprehension of SMK Lab Business School Tangerang students in Grade 10 by applying the Reciprocal Teaching Technique and Metacognitive Strategy.

In order to help students who were able to decode the text but had trouble understanding it, Palincsar and Brown (1984) developed the reciprocal teaching technique. Moreover, this method of instruction promotes autonomous study. Through conversation or dialogue, the reciprocal instruction will help students with reading activities and skills.

In contrast to other instruction given to students in the comparison school, Boulware-gooden, Carreker, Thornhill, and Joshi (2007) found that metacognitive reading comprehension instruction significantly increased the academic achievement of the students in the domains of reading comprehension and vocabulary.

In this situation, the researcher chose to carry out an experimental study to determine whether there is a visible impact of employing the Reciprocal Teaching Technique and Metacognitive Strategy on enhancing students' reading comprehension. The researcher will conduct this study to students in the tenth grade at SMK Lab Business School in Tangerang. Class C serve as the control class and was taught using the traditional method. Class A and B served as the experimental classes, and they both were taught using the reciprocal teaching method and the metacognitive strategy.

Reading Comprehension

Reading is an important language ability that should be mastered. Reading is a crucial talent, possibly the most crucial skill taught in schools, according to Collins & Collins (2002). Similarly, Patel (2008) explained that reading is unquestionably a critical task for enhancing linguistic proficiency. Using suitable and effective comprehension techniques, reading comprehension is the process of creating meaning from written language by understanding text in the context of prior knowledge and experiences (Snow, 2002).

According to Harmer (2007), there are two primary reasons for reading: reading for enjoyment and reading for in-depth comprehension. This indicates that, in accordance with that explanation, reading for pleasure refers to the reader's desire to feel joyful while reading for

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detailed understanding refers to the reader's desire to fully comprehend the material.

Reciprocal Teaching Technique

The general methodology of reciprocal teaching, according to Doolittle, Hicks, Triplett, Young, & Tech (2006), entails the teacher and students reading a segment of the book in small groups. The teacher then facilitates a discussion on the book while exemplifying effective reading comprehension techniques. The instructor invites students to ask questions about the text and tactics while they are being discussed and modeled. This discussion is used by the teacher to promote reading comprehension and strategic thinking.

According to Klinger, Janette K., Vaughn, Shareon, and Boarman (2007), the idea is that by training students to utilize four tactics cooperatively in dialogue, they will be able to better understand the meaning of the text and will be more likely to internalize the usage of the strategies. The goal of the reciprocal technique is to support students in actively bringing meaning to the written word, whether or not the teacher is present. It gives students with more experience and confidence to support other students in their group who are struggling to decode and comprehend what is being read, and students with more experience in questioning encourage deeper understanding and thought in their peers.

Metacognitive Strategy

Metacognition, in general, relates to self-reflection and self-regulation of learning. It is one of the approaches that has been suggested and investigated in light of the demand for improved reading comprehension. According to Cross & Paris (1988), if students apply regulatory skills as part of the instructional program in the classroom activities and know when and how to use them, it will increase their performance on comprehension examinations. A focus on the regulator process (planning, monitoring, and evaluation) would encourage students to direct their own growth in reading comprehension (Swanson, 2009).

RESEARCH METHODOLOGY

Time and Place

In the academic year 2018–19, this study was carried out at SMK Lab Business School Tangerang. Students from SMK Lab Business School Tangerang's tenth grade served as the research subject. Because of issues with their tenth grade reading score being below the minimum requirement, the writer chose this school. Data collection would take place over the course of one month.

Population and Sample

The total number of people, animals, and other things that can be seen can be used to describe population. According to Fraenkel & Wallen (2006), the population of the study consisted of all 276 students enrolled in the tenth grade at SMK Lab Business School Tangerang for the academic year 2018/2019.

According to this study, the population of the tenth grade consisted of 276 pupils; however, only a sample of these students—three classes with balanced enrollment—was chosen. The researcher will select two classes from X KES1 and X AP3 as an experimental group and one class from X MM2 as a control group to serve as a sample.

Table 1. Research Design

Group	Pre-test	Treatment	Post-test
Experimental Group (1)	O_1	X_1, X_2, X_3, X_4	O_2
Experimental Group (2)	O_1	X_1, X_2, X_3, X_4	O_2

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Control Group	O_1	-	O_2

The researcher obtained the data of reading comprehension will use multiple choice tests to investigate the students' reading comprehension score. There is around 30 question items made with 4 options A, B, C, D. Therefore, the writer will investigate the progress and the effect of Reciprocal Teaching Technique and Metacognitive Strategy on reading comprehension. The tests will conduct in pre-test and post-test by the form of used multiple-choice. The researcher will use this strategy to obtain the main data that could test on the hypothesis of the research.

Table 2. The Reading Comprehension Instrument

Indicator	The Number of the Test
Identifying the main idea of Desciptive text	8, 14,17, 20, 29
Identifying the general idea of Descriptive text	3, 6, 15, 18, 22, 23, 24, 28
Identifying specific information	1, 2, 4, 7, 11, 13, 25, 26, 27,
Identifying objective information	5, 9, 12, 16, 19, 30

Testing Data Validity and Reliability

The final of Instrument used 30 students from 112 students as the sample from population. This research used 30 multiple choice to test reading comprehension then doing the validity and reliability test.

There are 30 items multiple choice test of reading comprehension. The writer has done the validity test and the result showed that there are 30 valid items test of reading comprehension.

To calculate the validity of each item used the Point Biserial Correlation formula:

$$r_{pbi} = \frac{M_P - M_t}{SD_t} \sqrt{\frac{p}{q}}$$

Where:

r_{11} = Reliability instrument

V_t = Variants total or variants score total

V_d = Variants (Difference)

d = The score in early hemisphere minus score in last hemisphere

SPSS 22 to do the result of reliability test of this research, the writer calculation.

Table 3. The Result of Reliability

Cronbach's Alpha	N of Items
.799	30

Source: Statistical Result SPSS 22

Based on the result showed that the Cronbach's Alpha value is bigger than 0.60, so there 30 items are reliable.

Testing Data Normality

The normality test's goal is to determine whether or not each sample is regularly distributed. Lilifors is one method of using the normality test, which has various applications. Using the criteria and Lilifors formula, a normality test is conducted:

- Ho is accepted if $L_{count} < L_{table}$. It means the data distribution is normal.
- Ho is rejected if $L_{count} > L_{table.}$ It means the data distribution is not normal.

Testing Data Homogeneity

The homogeneity test was used to determine whether or not the samples were drawn from populations with the same distribution. The researcher will apply the F-test in this study. Because the data are split into two groups, the experiment and

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control. If the value of $f_{count} < f_{table}$ at the threshold value of 0.05, the data will be regarded as homogenous. The following formula:

$$F_{count} = \frac{maximum\ variance}{minimum\ variance}$$

Research criteria that used:

- H_0 is accepted if $F_{count} < F_{table}$
- H_0 is rejected if $F_{count} > F_{table}$

RESEARCH FINDING AND DISCUSSION

The Reciprocal Teaching Technique was utilized in the experiment class, and the statistical results of the pretest and posttest using SPSS 22 show that the mean value of the pretest was 42.80 and the mean value of the posttest was 51.71.

Table 4. The Descriptive Data of Reciprocal Teaching Technique

Descriptive Data Pre and Post-Test of Metacognitive Strategy

ELEMENT		PRETESTEXP1	POSTTESTEXP1
N	Valid	32	32
Mean		46.19	55.91
Median		46.00	53.00
Std. Deviation		10.793	10.017
Minimum		30	36
Maximum		66	73
Sum		1478	1789

Source: Statistical Result SPSS 22

The experiment class of Reciprocal Teaching Technique shows the minimum value of pretest Reciprocal Teaching Technique is 20 and the maximum value is 53 with the standard deviation is 7.267. While the minimum value of posttest is 33 and the maximum value is 65 with the standard deviation 6.045.

According to statistical data from the experiment class's pretest and posttest, which Metacognitive Strategy employed, the pretest's mean value was 46.19 and the posttest's mean value was 55.91.

Table 5. The Descriptive Data of Metacognitive Strategy

Descriptive Data of Pre- and Post-test Reciprocal Teaching Technique

Element		Pretest Exp1	Posttest Exp1
N	Valid	41	41
Mean		42.80	51.17
Median		43.00	50.00
Std. Deviation		7.267	6.045
Minimum		20	33
Maximum		53	65
Sum		1755	2098

Source: Statistical Calculation Result SPSS 22

In the experiment class of Metacognitive Strategy, it shows the minimum and maximum value. The minimum value of pretest is 30 and the maximum value is 66 with the standard deviation is 10.793, While the minimum value of posttest is 36 and the maximum value is 73 with the standard deviation 10.017.

Table 6. The Descriptive Data of Conventional Instruction

Descriptive Data of Pre- and Post-test Conventional Instruction		
Element	Pretest control Class	Posttest control class
N Valid	39	39
Mean	47.08	54.54
Median	46.00	53.00
Std. Deviation	12.194	10.879
Minimum	26	40
Maximum	70	76
Sum	1836	2127

Source: Statistical Calculation Result SPSS 22

Based on the aforementioned statistical finding from SPSS 22, the pretest and posttest results in the control class show that the mean pre-test value was 47.08 and the mean post-test value was 54.54.

The minimum value of pretest in control class is 26 and the maximum value is 70 with the standard deviation is 12.194. While the minimum value of posttest is 40, the maximum value is 76 with the standard deviation 10.879.

The Analysis of the Data

Normality Test

Analysis of the testing requirements is based on variations or discrepancies between the pre- and post-tests. Using Lilliefors SPSS version 22, the data will be analyzed to determine the results of the normalcy test. The testing data's findings are as follows:

Table 7. Test of Normality

Class	Kolmogorov-Smirnov[a]		
	statistic	Df	Sig.
Reciprocal Teaching Technique	.178	41	.002
Metacognitive Strategy	.203	32	.002
Control Class	.284	39	.000

a. Lilliefors Significance Correction

Source: Statistical Result SPSS 22

Based on the table above shows that the results of the normality test using Kolmogorov-Smirnova produce significant values for the experiment class one using Reciprocal Teaching Technique 0.200 because this significant value is 0.002 < 0.05 then the distribution is not normal. Then it can be stated that H_0 is rejected. While the data for the experiment class two using Metacognitive Strategy produces a significant value of 0.02 which indicates that the value of 0.02 < 0.05, the experiment class is stated that Ho is rejected which means that the data is not normal distributed for experiment class two. And for the Control Class the significant value is 0.000 which indicates that the value 0.000 < 0.05, then it can be stated that H0 is rejected.

Homogeneity Test

This research is aimed at examining the similarity of sample data variance between the control class and the experiment class. The homogeneity test results can be seen in the following table:

Table 8. Test of Homogeneity

Levene Statistic	df1	df2	Sig.
1.792	2	109	.171

Source: Statistical Result SPSS 22

According to the data above, the test had a significant score of 0.171. If the significant score for the test's criteria is less than 0,05, the variant data does not belong to the same variant group. If the significant score is greater than 0,05, the data belong to the same variation group. The data resulted in a significant score of 0,171>0,05, indicating that the three sets of data—the experiment class 1, experiment class 2, and control class—are

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identical. The fundamental assumption of homogeneity has been satisfied.

Testing of Hypothesis

Because the data were not normally distributed, the author used the Mann-Whitney test to calculate formulation data. It is used to test if the means of non-parametrically independent samples differ from one another, and the results indicated that Ho was retained.

Table 9. Reciprocal Teaching Technique and Conventional Instruction

Null Hypothesis	Test	Sig.	Decision
The distribution of SCORE1 is the same across categories of CLASS1	Independent Samples Mann-Whitney U Test	.293	Retain the null hypothesis

Source: Statistical Result SPSS 22

Table 10. Metacognitive Strategy and Conventional Instruction

Null Hypothesis	Test	Sig.	Decision
The distribution of SCORE2 is the same across categories of CLASS2	Independent Samples Mann-Whitney U Test	.270	Retain the null hypothesis

Source: Statistical Result SPSS 23

Writer used formulation data calculations using Mann-Whitney test because the data has not normally distributed, It used to test the difference in the mean of samples that were non-parametric independent of each other, showed that H_o was accepted/retain and Ha was rejected.

Reciprocal Teaching Technique was used to teach experiment class 1 about the significance of the differences, while Metacognitive Strategy was used to teach experiment class 2. The outcome revealed:

Table 11. Reciprocal Teaching Technique and Metacognitive Strategy

Null Hypothesis	Test	Sig.	Decision
The distribution of SCORE3 is the same across categories of CLASS3	Independent Samples Mann-Whitney U Test	.628	Retain the null hypothesis

Source: Statistical Result SPSS 22

Because one of the data, the experiment class data, is not normally distributed, the Mann-Whitney test is used to calculate the data. Ho was accepted/retain because the test is used to evaluate the difference in the means of samples that are non-parametrically independent of one another.

CONCLUSION

It can be inferred from the formulation of the issue, the goal of the study, the rejection of the hypothesis test, and the outcome of the analysis that the students' reading comprehension was not taught using the reciprocal teaching technique, which is better compared to the use of the metacognitive strategy. It means that in the academic year 2018, there was no significant impact of the Reciprocal Teaching Technique on students' reading comprehension in the tenth grade at SMK Lab Business School Tangerang.

The post-test mean for the students who were taught using the reciprocal teaching technique was 51.17, whereas the mean for the students who were taught using the metacognitive strategy was 55.91. The results showed that Ho was accepted/retained while Ha was denied because the hypothesis testing value was less than 0.05. This indicates that neither

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the reciprocal teaching technique nor the metacognitive strategy significantly affect students' reading comprehension.

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