

Effect of Reciprocal Teaching on the Reading Motivation: Experimental Evidence from a Classroom Intervention

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Abstract

The objective of this research exercise is to examine how reciprocal teaching affects 7th-grade students' reading motivation in the subject of English. To meet the desired objective, the study employed a quasi-experimental design. The intact classes were randomly allocated to the experimental and control group. The experimental group was instructed with reciprocal teaching strategies, while the control group was taught with the traditional method. The Motivations for Reading Questionnaire (MRQ) was administered before and after the intervention. The study employed Pretest-Posttest Nonequivalent Control Group Design for data collection. The data was analyzed using the independent sample and paired sample t-test. The results of the study revealed that the motivation level of students who were taught with reciprocal teaching is significantly higher than those students who were taught with the traditional method. These results suggest that reciprocal teaching should be incorporated in teacher education programs as appropriate instructional practice for reading.

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Introduction

In the modern education system, the student's ability to read and comprehend text is important for learning outcomes. Reading skills, reading comprehension, and students' approach toward reading play a pivotal role in their academic success. Despite the fact that reading plays a major role in academic success, the students enrolled at the elementary level consider reading as boring and inconvenient (Guthrie, Klauda & HO, 2013; McKenna, Kear, & Ellsworth, 1995). Most students at the elementary level report a low level of attention in reading activity and lesser capability beliefs concerning their reading and understanding capacity (Conradi, Jang, & McKenna, 2014; Fulmer & Frijters, 2011; Gambrell, 2015).

In developing countries like Pakistan, these negative attitudes toward reading arise due to the new reading challenges at the elementary level, less use of teaching strategies in classroom instructional practices, and less ability of teachers to motivate and engage the students in

reading (Kazi & Iqbal, 2011; Teevno & Raisani, 2017). There is growing evidence that positive psychological strengths of students such as motivation and engagement play a crucial role in students' success. Then the researchers turned to investigate human resources to get competitive advantages. Special attention is diverted toward human positive psychological traits such as motivation and how to use this positive psychological construct for competitive advantages. Existing literature documents that different factors such as motivation, engagement, and emotional quotient are positively associated with students' performance (Fulmer & Frijters, 2011; Grabe & Stoller, 2002; Guthrie, Klauda & HO, 2013; Husamah & Pantiwati, 2014; Soonthormanee, 2002).

Motivation to learn is aiming to achieve the learning goals, engaging in academic activities, and getting awareness of the strategies and methods to achieve them (Brophy, 2004; Wentzel, 2020). According to Deci and Ryan

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(1995), there are two common kinds of motivation, inherent and extrinsic motivation. [Deci and Ryan \(1985\)](#) argued that inherent motivation is related to the inner needs and requirements of the students. Children at an early age are curious, very energetic, lively and remain inspired for an extended period of time without any reward ([Ryan & Deci, 2000](#)). However, with the passage of time, intrinsic motivation decreases in some aspects of life and students need some extrinsic motivation.

Reading motivation improves students' activities that enhance learners' ability to read and comprehend texts properly. [Soonthornmanee \(2002\)](#) argues that students should improve their motivation for better reading performance ([Maleki & Zangani, 2007](#)). Though many students know how to read, they are not motivated for reading (Royse, 2001). [Guthrie and Wigfield \(2000\)](#) argued that students' motivation for readings regulates their optimistic or undesirable feelings about reading. Similarly, highly motivated readers use different strategies to compensate for their comprehension process and usually read for pleasure. These students consider reading in their daily activities, take challenges during their process and become good readers. According to [Guthrie and Wigfield \(2000\)](#), reading motivation is defined as "one's own purpose, idea and desire related to the title, action and results of the reading".

A growing body of research showed that explicit teaching and strategic reading is very important to motivate language learners. In line with this, [Paris et al. \(1983\)](#) argue that planned reader can recover their motivation for reading and "failure to be strategic in reading may result from either developmental inability or poor learning". Similarly, [Palincsar and Brown \(1984\)](#) find that some teaching strategies help learners to increase their attention to the context, avoid reading motivation failure. Reciprocal teaching is an instructional practice especially designed for reading comprehension. The existing literature document that reciprocal teaching positively influences the reading comprehension of the students (see, for instance, [Palincsar, Brown & Martin, 1987](#); [Sporer, Brunstein, & Kieschke, 2009](#); [Schünemann et al., 2017](#); [Tarchi & Pinto, 2016](#)). In a similar vein, existing literature reveals that reading motivation is positively associated with different reading outcomes such as reading comprehension ([Hidi & Harackiewicz, 2000](#); [Kanonire, Lubenko & Kuzmina, 2020](#); [Guthrie,](#)

[Klauda & HO, 2013](#)). Hence, instructional practices can influence the reading comprehension of the students indirectly through the channel of reading motivation ([Kanonire, Lubenko & Kuzmina, 2020](#); [Guthrie, Klauda & HO, 2013](#)).

More recently, some studies have explored the outcome of reciprocal teaching on the reading motivation of the students. For instance, [Kavani & Amjadiparvar \(2018\)](#) explore the influence of reciprocal teaching on the reading motivation of intermediate level Iranian students. The results of the study reveal that reciprocal teaching positively influences the reading motivation of the students. Similarly, [Sporer and Schünemann \(2014\)](#) examine the effect of reciprocal teaching along with self-regulated learning on the reading motivation of the students. The results of the study reveal that reciprocal teaching positively influences the reading motivation of the students. There are only a few studies in the existing literature that explore the influence of reciprocal teaching on the reading motivation of the students. Hence, a key objective of this research is to examine how reciprocal teaching affect 7th-grade students' reading motivation in the subject of English. This study is different from existing literature in the sense that existing literature practice reciprocal teaching in small group settings while this study is based on the whole classroom setting. Second, this study investigates the effect of reciprocity on the reading motivation of the students in the Pakistani cultural context. There is hardly any study that investigates the effects of reciprocal teaching in the Pakistani cultural context.

In order to meet the desired objective of the study following hypotheses were tested.

- H₀₁:** There is no significant difference between the mean score of experimental and control groups in the pre-test of reading motivation.
- H₀₂:** There is no significant difference between the mean score of experimental and control groups in the post-test of reading motivation.
- H₀₃:** There is no significant mean difference between pre-test and post-test scores of reading motivation of the experimental group.

Material and Methods

The study used “Pretest-Posttest Nonequivalent Control Group Design”. The participants of the study were the 7th-grade students studying English at a typical public sector school in district Muzaffarabad. The sample consists of the 90 7th grade students in the intact classes, with 45 students in each experimental and control group. There was a 45 minutes daily intervention for eight weeks in each group. The researcher herself taught both the experimental and control group to avoid any instruction related bias. The experimental group received reciprocal education, while the control group received traditional grammar-translation education.

To measure reading motivation, this study adopted the Motivations for Reading Questionnaire (MRQ). This questionnaire assesses the different dimensions of reading. The questionnaire is designed for children to reply to each question on a 1 to 4 scale where scale can

be defined as “1 = very different from me, 2 = a little different from me, 3 = a little like me, and 4 = a lot like me”. MRQ was given to the student in the classroom, with the researcher reading each item to them. The researcher herself administered the final version of MRQ as pre-test and post-test

By taking into account the local setting, the MRQ was translated into Urdu. To make the translation more accurate and reliable, the back-translation method was used to make the correspondence of the English and Urdu version of the RRQ. Moreover, for the accuracy of the translation, the MRQ was translated with the help of a bilingual professor in the subject of English and Urdu. The final version of the MRQ encompassed questions in both the first & second language of the students that is Urdu and English, respectively. The sub-constructs wise information regarding different questions of the final version of MRQ is reported in table 1

Table 1. Sub-constructs of MRQ with Relevant Statements

S. No	Sub-constructs	Statements no.	Total
1	Reading Curiosity	2,6,11,15,18	5
2	Reading Challenge	1,3,5,10,12	5
3	Self-efficacy	9, 8, 13	3
4	Reading Involvement	4, 7,14,16,17	5
	Total		18

The validity and reliability of the instrument were checked. The researcher requested the experts to review the questionnaire for assurance of content validity. These experts comprised of the supervisor of the study and university faculty member with five years' experience of teaching the subjects of educational psychology at the university level.

Pilot Testing

To ensure reliability, a questionnaire was pilot tested on 90 students of 7th graders bearing similar features. The Cronbach's alpha values are presented in table 2.

Table 2. Cronbach alpha for MRQ

S. No	Sub-scales	Cronbach alpha value
1	Reading Curiosity	.794
2	Reading Challenge	.854
3	Self-efficacy	.863
4	Reading Involvement	.763

The adopted instrument with the established theoretical background and empirical support can be directly tested by the confirmatory factor analysis without employing the exploratory factor analysis (Baker & Wigfield, 1999; Kline, 2013). The confirmatory factor analysis allows the researcher to explicitly specify the indicators

for each construct (Kline, 2013). Hence, to check the construct validity of the MRQ, confirmatory factor analysis was used. The appropriate sample size is important for the correct estimation in the framework of structural equation modelling and confirmatory factor analysis. The online calculator designed for structural equation

modelling was used to calculate sample size for confirmatory factor analysis. The sample size for four constructs and eighteen items should be greater than 88. Hence, MRQ was administered in two 7th grade classes with 45 students in each

classroom. These were the students in another girl’s higher secondary school in the same city. The results of confirmatory factor analysis are reported in Table 3

Table 3. Factor Loading for Items in the MRQ (CFA)

	Latent			
observed	Reading Efficacy	Reading Curiosity	Reading Challenge	Reading Involvement
Mot_9	.876**			
Mot_13	.725***			
Mot_8	.546**			
Mot_2		.925***		
Mot_6		.632**		
Mot_15		.763**		
Mot_16		.662**		
Mot_11		.469**		
Mot_1			.841***	
Mot_12			.828**	
Mot_5			.793**	
Mot_3			.435**	
Mot_10				.865**
Mot_14				.763**
Mot_17				.814**
Mot_18				.537**
Mot_7				.596***
Mot_4				.468**

Note: Loadings are standardized loadings from the maximum likelihood estimation. ** $p < 0.05$, *** $p < 0.01$

The results show the standardized factor loading for confirmatory factor analysis. Nearly all of the factor loadings were statistically significant at 5 percent level of significance ($p < .05$).

Results of the Study

The study employed an independent sample t-test to check whether the group that was taught with reciprocal teaching and control groups were equal in pre-test scores. The results of the t-test are reported in Table 4

Table 4. Results for Mean Difference of Pre-test Scores

Groups	t-test		Test of homogeneity of variance (Levene’s test)	
	T	p-value	F	p-value
Equal variances assumed	1.24	0.219	1.029	0.313

Above table 4 show that Levene’s test of homogeneity is insignificant ($F=1.029$, $p=0.313$), which validate that the variance of the two groups was roughly equal. Moreover, the mean difference in pre-test between the group that was instructed with reciprocal teaching and the control group is statistically insignificant ($t=1.24$,

$p=0.219$). Therefore, the hypothesis “there is no significant difference between the mean score of experimental and control groups in the pre-test of reading motivation” was accepted.

To analyze the second hypothesis, the descriptive statistics related to the post-test is presented in table 5.

Table 5. Descriptive Statistics for Post-test Scores

Groups	N	M	SD	SE (mean)	Min	Max
Experimental	45	60.12	7.73	1.15	47.22	80.56
Control	45	51.35	5.97	0.89	37.72	68.06

The results reported in table 4.11 show that the mean score in the post-test of the group that was taught with reciprocal teaching (M=60.12, SD=7.73) is more than the mean score in the post-test of the group that was taught with the traditional method (M=51.35, SD=5.97).

The study employed the independent sample t-test to check the mean difference in post-test scores of reading motivation. The results of the test are presented in Table 6

Table 6. Results for Mean Difference of Post-test Scores

Groups	t-test		Test of homogeneity of variance (Levene's test)	
	T	Sig	F	Sig
Equal variances assumed	6.014	0.000	3.017	0.095

The results reported in Table 6 reveal that the variance of two groups is approximately equal as the null hypothesis of homogeneity of variance was not rejected (F=3.017, p=0.095) at a five percent level of significance. The results further reveal that the mean difference of post-test scores between the two groups was statistically significant (t=6.014, p=0.000). Hence, the hypothesis “there is no significant difference between the mean score of

experimental and control groups in post-test of reading motivation” was rejected. The results validate the claim that reciprocal teaching strategies enhance the reading motivation of students.

Finally, the study employed the paired-sample t-test to check the mean difference between pre-test and post-test of the group that was taught with reciprocal teaching strategies. The descriptive statistics are reported in table 7.

Table 7. Descriptive Statistics of the Experimental Group.

Dependent measure	N	M	SD	SE (mean)	Min	Max
pretest	45	45.61	5.45	0.81	34.72	59.72
posttest	45	60.12	7.73	1.15	47.22	80.56

The results reported in table 4.13 show that mean scores of the post-test (M=60.12, SD=7.73) is higher than the mean scores of the pre-test (45.61, SD=5.45) of the experimental group.

To test the last hypothesis, the paired-sample t-test was used. The results are reported in table 8.

Table 8. Results of mean difference in Pretest and Posttest Scores of Experimental Group

	MD	SE	t-value	Sig
Pair pretest-posttest	14.50	1.59	9.12	0.000

The results reported in table 8 show that the mean difference (MD=14.50, SE=1.59) of pre-test and post-test of the group that was taught with reciprocal teaching is statistically significant (t=9.12, p=0.000). Hence, the null hypothesis “there is no significant mean difference between pre-test and post-test scores of the reading motivation of experimental group” was rejected. Hence, these results again validate the claim that

reciprocal teaching strategies enhance the reading motivation of the students.

Discussions

The students who enjoy reading are more likely to comprehend texts better as they allocate more time to reading. Hence, reading motivation plays a pivotal role in reading comprehension. Existing literature finds a positive and statistically

significant association between reading motivation and reading outcomes, such as reading comprehension ([Barber & Klauda, 2020](#); [Miyamoto, Pfof & Artelt, 2019](#); [Schiefele et al., 2012](#); [Schaffner & Schiefele, 2016](#)). More recently, some studies have explored the link between instructional practice and reading motivation. For instance, [Wigfield et al. \(2015\)](#) explore the effect of concept-oriented reading instruction on reading motivation. Hence, this study examines the effect of reciprocal teaching on the reading motivation of the 7th-grade student in the subject of English. The results of the study reveal a statistically significant positive effect of reciprocal teaching on the reading motivation of the students. These results are in line with the literature that explores the link between strategy acquisition and reading motivation (for instance, see [Aarnoutse & Schellings, 2003](#); [Miyamoto, Pfof & Artelt, 2019](#)). Similarly, these results are consistent with few studies that find evidence for the positive effect of reciprocal teaching and self-regulation procedure on reading motivation ([Spörer Schünemann, 2014](#); [Kavani & Amjadiparvar, 2018](#)).

Conclusion

The purpose of this study was to examine the effect of reciprocal teaching on the reading

motivation of the 7th-grade students in the subject of English. To meet the desired objective, the study employed a quasi-experimental design. The intact classes were randomly allocated to the experimental and control group. The experimental group was instructed with reciprocal teaching strategies, while the control group was taught with the traditional method. The Motivations for Reading Questionnaire (MRQ) was administered before and after the intervention. The study used “Pretest-Posttest Nonequivalent Control Group Design” for the collection of data. The data was analyzed using the independent sample and paired sample t-test. The results of the study reveal that students who were instructed with reciprocal teaching strategies were on average more motivated and enjoyed reading than those students who were taught with traditional teaching practices. Hence, it is concluded that reciprocal teaching positively influences the reading motivation of the 7th-grade students in the subject of English. Moreover, the findings of the study support the claim that reciprocal teaching is the suitable instruction practice to improve reading motivation and enjoyment in the subject of English. Hence, the study suggests that reciprocal teaching should be incorporated in teacher education programs as appropriate instructional practice for reading.

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