Implementation of Reciprocal Teaching Strategies: Improving Reading Skills and Academic Performance of Secondary Students

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ABSTRACT

Proficiency in reading comprehension is very important especially for secondary English language students. In this mixed methods study, the research proven methodological intervention “reciprocal teaching” is introduced to improve the reading skills and academic performance of 30 secondary students of grade 11. Reciprocal teaching is a scaffold dialogue technique that is built upon four strategies which competent readers use to understand text namely predicting, questioning, clarifying and summarizing. The four strategies of reciprocal teaching were each part of the four interrelated cycles that comprised the related activities implemented during the intervention. A general plan inclusive of activities, teaching resources, observation schedules, checklists and assessments was constructed and used for data collection. When the scores of pre and post assessments were compared using paired samples t test, they showed a significant amount of improvement in grades of students as well as their ability to effectively understand the text. The outcomes proved reciprocal teaching to be a significant technique for improving reading comprehension skills and academic performance. In addition, the implication for teachers who teach reading comprehension is that through modeling and implementation of the reciprocal strategies like predicting, clarifying, questioning and summarizing they can enhance the academic performance of students.

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1. Introduction

Several students face problems with linguistic abilities that are needed to progress especially at secondary educational levels. The students' skills while reading and writing need to be developed to avoid any obstacles faced while comprehending various types of texts (Bettinger & Long, 2009). Poor comprehension while reading results in problems especially when students try to read or write diverse texts (Gruenbaum, 2012). Teachers want students to read effectively therefore promoting
reading comprehension strategies in the classroom is one method to assist students to achieve this goal. Furthermore, it has been proven that academic interventions play vital roles when it comes to improving reading comprehension skills (Sporer et al., 2009).

The main purpose of this research was the enhancement of reading comprehension skills and academic performance of secondary students of grade 11 focusing on content areas of English language and Economics. I taught English language and Economics to the students of grade 11 who were due to appear in O level examinations for the University of Cambridge. While teaching, I observed that these students were habitual of learning their content by rote learning, instead of comprehending and analyzing what they read. The students were unable to fully comprehend the text and instead of handling the content independently, they depended on teachers for an explanation. As stated by Mills et al., (2008), while conducting research, educators reflect on their practices, identify issues that need to be improved, gather data relevant to the issue of interest, analyze it and try to understand whether the obtained results improve practice or understanding. As the students had entered secondary classes of the O level system of University of Cambridge, they were not to depend on rote learning and reproduce the same content matter in their examinations. Instead they needed to fully comprehend the text, possess the ability to react to it, fuse it with their prior experience and evaluate the information provided. In order to improve the reading comprehension skills of my students I considered it extremely vital to introduce effective teaching and learning activities in the classroom. While entertaining this thought the question arose, “What comprehension strategies can be employed effectively in secondary classrooms to improve the academic performance of secondary students?” A suitable answer was the research proven technique called reciprocal teaching. This was the reason I conducted an action research, a qualitative method to introduce reciprocal teaching strategies to secondary students. For quantitative analysis paired samples t test was used to assess the impact of reciprocal teaching on students’ academic performance.

2. Literature Review

2.1 Reading Comprehension and Reciprocal Teaching

Reading comprehension is grasping a text that is read or the ability of attaining the meaning from a text. Furthermore, comprehension is a building procedure because it includes all of the fundamentals of the reading process working together as a text is read to create a representation of it in the students mind (Allen, 2003). Students who do not read efficiently loose an opportunity to reflect upon, contemplate and figure out, the implications of the concepts offered (Woolfolk, 2009). Moreover, to assist the student to become independent by imparting reading strategies is essential for comprehending the text, identification of unknown words, locating, evaluating and organizing data or the issue (Hashley & Connors, 2003; Mayer, 2003).

Good readers become tactical readers, when they are conscious of their personal reading and thinking. They become able using corrective steps in an effort to understand the text. Palincsar and Brown (1984) add that students who learnt reciprocal teaching techniques made fundamental progress in comprehension. Peng and Wang (2015) claim that the aim of reciprocal teaching is to create the meaning of the text and to check comprehension. Moreover, reciprocal teaching allocates an opening into the thinking of effective readers. As students unravel their way to meaning, they are habituated to approach reading as an active and intentional procedure and they adapt habits that will help them become more independent readers capable of comprehending highly complex texts (Buehl, 2001; Oo et al., 2021).
Reciprocal teaching is a method of instruction that teaches learners mental techniques which helps the students to improvise upon their skills regarding comprehension while reading (Palinscar & Brown, 1984; Oczkus, 2018). In addition, reciprocal teaching techniques are the beginning communications between teachers and students to come to comprehend the text mutually. Furthermore, reciprocal teaching techniques comprising of predicting, questioning, clarification, and summarizing are modeled by the teacher and then given over to the students as they pretend to be teachers and begin to discuss the mutual text. Palincsar and Brown (1984) employed four kinds of reading comprehension strategies of reciprocal teaching which help to improve students’ cognitive and metacognitive reading skills. These are as follows:

2.2 Predicting
This is called the students’ amalgamated knowledge from their personal background, from the text, and the structure and picture of the text to generate hypotheses connected to the direction of the text and the author’s intentions. Predicting provides an overall reasoning for reading in order to prove or decline self-generated assumptions (Oczkus, 2018).

2.3 Questioning
This is the recognition of information, themes, and ideas that are significant enough to explain further consideration of the text. The questions that are generated through these recognitions are used as self-assessment for the reader. Questioning helps to give constructive meaning and provides a task for understanding the text more deeply (Cooper & Greive, 2009; Mannong, 2018).

2.4 Clarifying
This process is the explanation and clarification of unfamiliar, complex, or unusual features of text. Here students seek the essence of ideas contained in the text as clarifying encourages learners to clarify confusion through re-reading, the use of context in which the text was written and the utilization of exterior resources such as a dictionary or taking assistance from colleagues or teacher (Lestari, 2016).

2.5 Summarizing
This is the procedure of explaining the essential information and outlook contained by a text and combining these into comprehensible and to the point words that communicate the fundamental understanding of the text. While summarizing, learners are to paraphrase the key ideas and subject matter in their own words to make sure that they have completely comprehended them (Navaie, 2018).

2.6 Studies conducted on Reciprocal Teaching
Many research studies have used reciprocal teaching as an instructional method, to develop student’s understanding of the text (Allen, 2003; Oczkus, 2018). Additionally, these studies have shown that utilizing an extended period of time for the reciprocal teaching intervention inclusive of scaffolding and modeling on employing questioning, clarifying, predicting and summarizing strategies may provide a more student-centered approach in order to develop reading comprehension skills and improve performance (Raslie et al., 2015).

Various studies have been conducted to evaluate the effectiveness of reciprocal teaching strategies which have also included students who are good average and at risk readers belonging to
diverse age groups. Hart and Speece (1998) explored the impacts of reciprocal teaching carried out an experimental research on 50 post secondary students who were at risk for academic failure. The group which experienced reciprocal teaching strategies performed significantly better in assessments in comparison to the control group proving it to be a successful technique. In another study Li and Kam (2011) claim that both students and teachers experienced reciprocal teaching and it had positive effects on their learning. Data was collected through reflective journals of students and interviews and self reviews of teachers. Students were satisfied with majority of the reciprocal activities. Their learning brought about improvement in skills regarding communication, collaboration and presentation leading towards better confidence levels. Moreover, Takala (2006) implemented reciprocal teaching strategies effectively in the mainstream and special classes of fourth and sixth graders. The outcomes of the intervention proved that in both the classes students’ reading comprehension improved significantly after the completion of the intervention.

In Iran, Jafarigohar et al., (2013) after conducting an action research with pre-intermediate students state that all these activities require the application of prior knowledge and have a double purpose as both are actions that foster and monitor comprehension. Both efficient and weak students seem to be at an advantage from reading strategies. Many studies have used reciprocal teaching as a procedure, to improvise student’s understanding of the text (Allen, 2003). In his study the students were taught the reciprocal teaching instruction for two weeks before the reading activities. On a regular basis feedback was provided to the students. Positive changes were found in the study regarding students’ abilities to generate and answer questions, and also to summarize texts. At the conclusion of another research conducted by Hashey and Connors (2003) the educators found progress in students' level of confidence and success, in their identifying and employment of strategies, and pleasure of literature after they used the intervention called reciprocal teaching in their classroom. At the end of the study most of the students agreed that reciprocal teaching assisted them in comprehending the book in a better manner which helped them to read effectively.

In Taiwan, Lin (2005) investigated the impacts of reciprocal teaching on the reading comprehension abilities of fourth-grade elementary students in the practical classroom. The outcomes confirmed that the technique of reciprocal teaching improved reading comprehension capabilities of students immensely. Additionally, Ho and Lee (2003) explored the effects of reciprocal teaching strategies on three elementary fourth-graders who were at risk readers. They discovered that students had better understanding and comprehension after implementation of reciprocal teaching strategies in the classrooms. Moreover, Komairah et al. (2015) proved through their research findings that impacts of reciprocal teaching strategies on reading activities were positive, energetic and accommodating as students along with their peers were very keen on reading various kinds of texts using the four comprehension strategies. Additionally, using these strategies trained students to apply them when reading independently and become strategically sound readers.

Tarchi (2015) confirmed improvement in reading comprehension over a period of time using reciprocal strategies as the students performed significantly better in the post tests than the pre tests of the intervention. Implementation of reciprocal teaching strategies also showed improvement in Chinese reading comprehension. In addition, Chou (2016) used the reciprocal teaching technique with university students who experienced reading difficulties. The results were similar with earlier research pointing out that students’ reading comprehension skills improved even at the tertiary level due to reciprocal teaching strategies.
3. Significance of the Study and Research Questions

Although research conducted in several countries has proved reciprocal teaching an effective strategy for enhancing reading comprehension skills, there have been very few studies related to this technique in Pakistan. Reciprocal teaching has been implemented in primary or elementary classes to improve reading comprehension whereas this technique has hardly been put into practice in secondary classes of Pakistan. This study focused on the implementation of reciprocal teaching strategy in secondary educational levels of Pakistan and the questions which guided the research are:

- How far will these strategies assist the students to develop the interest to read, understand and draw out meaning from their specific content areas?
- Is there improvement in the academic performance of secondary student’s after the implementation of reciprocal teaching strategies?

4. Method

4.1 Site and Participants

This research was conducted in a private O level Institute affiliated with the University of Cambridge in Karachi, Pakistan. The reciprocal teaching intervention was implemented during the second half of the academic year, after the midterm assessments in English Language and Economics classes. The research participants were 30 students out of which 18 were boys and 12 girls of Grade 11.

4.2 Implementation of Reciprocal Teaching Strategies

My co-researcher and I chose action research to conduct the study because it consisted of four moments namely, spiral of planning, acting, observing and reflecting, which include the evaluation of the results of the actions (Kemmis & Taggart, 2008; Koshy, 2005). We dealt with the problem of poor comprehension, by developing corrective action plans and implementing them in the real classroom situation and evaluated the proceedings by monitoring the students’ progress during the implementation of the intervention. These plans comprised of actions, teaching resources, observation schedules, checklists used for data collection of every cycle. Evaluation assisted to assess the relevance of the action plans implemented in each cycle, which helped us to effectively construct the next cycles during research.

I carried out the action research by introducing four reciprocal teaching strategies in the classroom namely predicting, questioning, classifying and summarizing respectively, within the four cycles of action research. Every strategy was modeled by me before the students while introducing it to them so that they become familiarized for effective implementation. The strategic procedure of every cycle was as follows:

- **Predicting**: Students were given know and learn forms (k-w-l) in order to stimulate their prior knowledge and predict what would they learn from a text by just reading its title. Aims of a chapter, true and false statement sheets and illustrations were also used to help students to predict (as to what was to follow) and keep them motivated.
- **Questioning**: Stems questions were introduced to play a vital role while assisting students to generate questions from a chosen text. Using English language and Economics based texts, students were asked to estimate, read, respond and then develop questions in accordance with the matter.
• **Clarifying:** Students were instructed to identify the words they found confusing. In pairs they used context clues, related to their prior knowledge and clarified many confusing portions. The same was applied using both English language and Economics content. Literature circles were formed and ideas were discussed in groups among students. This strategy was chosen to help clarify majority of the text through discussion among the peers.

• **Summarizing:** Identification of main ideas was the first task given to students as they had to jot down the key points of the text. Secondly, a guideline for summarization with a word limit was provided for assistance in recognizing the main ideas. Comparisons of the summaries written by students were done and ideal summaries were discussed to help understand their mistakes and improve. Also notes were distributed to assist them with their work. These actions were carried with the help of simple to complex texts related to English language and Economics content.

### 4.3 Quantitative Analysis

After the completion of the four action research cycles a paired-samples t-test was conducted using SPSS version 21 to compare the means of midterm and final test scores. A paired t-test is used to analyze the difference between two variables for the same subject is to be analyzed and often the two variables are separated by time (Hedberg & Ayers, 2015; Bonett, 2015). Even though the chapters for midterm and final tests were different, the final test was of similar format and difficulty level as that of the midterm test which took place before the intervention. The scores of both the tests were compared to analyze the impact reciprocal teaching strategies had made on the academic performance of secondary students.

#### Table 1: Paired Samples Statistics

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>N</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
</table>
| Pair 1
| Midterm scores  | 28.067   | 30 | 5.483          | 1.001           |
| Final scores     | 36.300    | 30 | 4.284          | .782            |

#### Table 2: Paired Samples Test

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<tr>
<th></th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
<th>95% Confidence Interval of the Difference</th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
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</table>
| Pair 1
| Mid Term Scores  | -8.233     | 3.510          | .649           | -9.544 to -6.922                        | -12.8 | 29  | .000           |
| Final Scores     |             |                |                |                                          |      |     |                |
There was a significant difference in the midterm scores ($M=28.066$, $SD=5.483$) and no final scores ($M=36.300$, $SD=4.284$) results; $t(29) = -12.846$, $p = 0.000$. The quantitative outcomes of this research prove that reciprocal teaching strategies improved the academic performance of secondary students. In addition, these results suggest that reciprocal teaching strategies do have a positive impact on reading skills of students.

5. Results

There was a difference in the way the students attempted the midterm and final assessments. Answers given by students for the questions from the comprehension passage were correct and this indicated to me that they understood the text. Students also matched the words chosen from the passage accurately with the jumbled meaning provided in the opposite column, through which I understood that they had learnt to gain and clarify meaning from context. While reading their compositions I realized they had used their prediction skills which had enabled them to connect to their prior knowledge which they wrote down in their essays. The students summarized the comprehension passage and included all the main points, indicating their understanding of the content. In economics the students gave correct answers to the multiple choice questions and scored well. The answers given by the students of the extended response questions of the case studies comprised of all the relevant material, which showed that the students comprehended the problem before attempting to solve it. There were many grammatical mistakes in the answer sheets but overall I recognized that there was an improvement in the reading comprehension skills of the students. This claim is also reinforced by the fact that the overall results of the students’ shows improvement when a comparison is drawn between the results of the midterm and final assessments. This also proves that the students had improved in their achievements as a result of the action research cycles..

7. Discussion

This mixed methods research investigated the impacts of reciprocal teaching strategies on the reading comprehension of the students of grade 11. Even though the size of the data was not big the results are very encouraging as they showed that the effects of Palinscar and Brown’s (1984) technique of reciprocal teaching had a positive impact on reading comprehension of the students.

Research conducted using reciprocal teaching technique shows that it has proven to be an effective intervention towards improving reading comprehension skills (Allen, 2003; Pilonieta & Medina, 2009; Gruenbaum, 2012; Jafarigohar & Soleimani, 2013). The chief innovation of this inquiry is that this intervention has been carried out as a part of the daily teaching for students of Grade 11 in the academic field in Pakistan. Besides comparing their results I also recorded their performance on observation checklists and wrote their comments and behaviors in an observation journal. My co-researcher and I analyzed that the students gained confidence while practicing each strategy through different action plans and grew interested as time passed on. As each cycle went on, I often heard them comment “I knew it”, “I know the answer” and “I knew I was right” after confirming their answers with each other or me. I observed that they had started predicting while connecting the content to their prior knowledge, developing questions on the text and beyond while also grasping the main points of it. Woolfolk (2009) claims that confidence is gained through interactive learning, similarly my classroom had become interactive as students were given a chance to speak their own minds and share their understanding. Furthermore, for many of them it was an unusual experience as they felt free to express which they were not allowed before. While comparing my findings to recent studies of Gruenbaum (2012) and Jafarigohar and Soleimani (2013), I noticed
that my finding were similar as both these studies used reciprocal teaching strategies to improve the reading comprehension of secondary students and concluded that they had positive impacts on reading skills.

8. Conclusion

This research has yielded both qualitative and quantitative data in support of the use of reciprocal teaching technique to improve the reading comprehension skills of secondary students. The outcomes have pedagogical implications as the findings show that these strategies have had a positive impact on reading skills. Teachers must be encouraged to model and implement reciprocal teaching strategies in the classroom to provide an effective mean to construct meanings from the texts and work in collaboration especially in the context of group discussion. In the process, students will be able to develop self regulation and monitor themselves in order to become self sufficient readers. The researchers through this research want to establish and introduce this technique to improve the reading skills of secondary students and promote the use of this successful technique with teachers, curriculum and policy makers in Pakistan who struggle to improve the comprehension of students.

References


