Improving Reading Comprehension through Reciprocal Teaching

BY

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ABSTRACT

This study was completed to find if there is significant improvement in reading comprehension levels in students who were taught Reciprocal Teaching strategies. The study was completed using DRA2 scores for two fourth grade classrooms. The dependent variable would be comprehension scores. The independent variable is the difference in the two fourth grade classes. One class will be taught Reciprocal Teaching strategies and the other will not. Research shows students practice Reciprocal Teaching strategies increase their reading comprehension level. However, in this study there was no significant difference in the number of students who increase their comprehension level between the control class and the study class. Many reasons could be speculated as to why there weren’t any differences in the comprehension levels. One valid reason is the students have been previously taught Reciprocal Teaching strategies but they weren’t told that was what they were using. Speculation can be made that having all students with prior knowledge of the strategies being taught inferred with the study taking place. One can also state since all students in the study had prior knowledge of Reciprocal Teaching strategies, then those strategies did in fact aid in increasing reading comprehension levels.
INTRODUCTION

Background, Issues, and Concerns

Ann Brown and Annemarie Sullivan Palincsar (1985) began experimenting with reading comprehension strategies in the early 1980’s. Brown and Palincsar developed the Reciprocal Teaching strategies to help students with reading comprehension. Brown and Palincsar’s goal for Reciprocal Teaching was to “help students not only improve their performance on a particular task now, but also to take charge of their own learning in the future” (p.6).

Originally, Reciprocal Teaching was geared towards middle school students. Currently, Reciprocal Teaching is being taught to elementary school students. Teaching Reciprocal Teaching strategies to younger students will not only help their comprehension skills while they are learning to read, but also prepare them for the more difficult reading required of them in middle school and high school. The following study will show whether or not Reciprocal Teaching strategies will improve student reading comprehension.

Practice under Investigation

The practice under investigation will be how teaching students Reciprocal Teaching strategies can improve their reading comprehension scores. There will be an investigation to see if there is a relationship between reading comprehension scores and learning Reciprocal Teaching strategies amongst elementary students.

School Policy to be informed by Study

Though much research has been conducted on the benefits of Reciprocal Teaching, there aren’t many teachers who teach the strategies in their classroom. Many teachers use question asking to determine how well a student comprehends what they have read. If this study proves Reciprocal Teaching strategies are effective in helping reading comprehension, perhaps more teachers will utilize the strategies in their classroom.

Conceptual Underpinning

Research by Brown and Palincsar supports Reciprocal Teaching and its ability to improve reading comprehension scores. By practicing Reciprocal Teaching strategies, student comprehension levels will
increase due to the various parts of Reciprocal Teaching. These parts include a pre-reading strategy, during reading strategy, and a post reading strategy. Completing these strategies while reading help students focus on what they are reading, thus improving their comprehension levels. Current research supports the more students practice Reciprocal Teaching strategies, the more they will take charge of their own learning in the future. The data collected from this study will be used to help teachers understand how reading comprehension strategies, such as Reciprocal Teaching, can improve student reading comprehension scores.

Statement of the Problem

If there is a marked difference in reading comprehension scores between students who have been taught Reciprocal Teaching strategies and those who have not, then teachers need to make teaching Reciprocal Teaching apart of their reading curriculum.

Purpose of the Study

The purpose of this study is to determine whether Reciprocal Teaching strategies make a difference in a student’s reading comprehension scores. The information garnered in this study will inform teachers of Reciprocal Teaching strategies and guide them through the benefits of utilizing these strategies in their classroom.

Research Question

Is there a significant difference in student reading comprehension scores between students taught with Reciprocal Teaching strategies compared to students taught with traditional reading strategies?

Null Hypothesis

There is not a significant difference in student reading comprehension scores between students taught with Reciprocal Teaching strategies compared to students taught with traditional reading strategies.

Anticipated Benefits of the Study

Through learning Reciprocal Teaching strategies, students will be able to self-monitor their own reading, helping to make students more aware of what they are reading. Having a higher awareness of what is being read; students will have an increase in their reading comprehension.
Definition of Terms

Reciprocal Teaching – A reading strategy geared toward making more meaning out of text to improve student reading comprehension.

DRA2 – (Developmental Reading Assessment) identifies students’ reading level, tests for accuracy, fluency, and comprehension.

Summary

A study was conducted to determine if there was a significant difference between students taught Reciprocal Teaching strategies and those who were not. If the T-test shows a significant difference between students taught the strategies and those who weren’t, more time needs to be taken in the classroom to teach students reading comprehension strategies, such as Reciprocal Teaching. After the study is over, students will be able to look at reading in a more meaningful way.
Reciprocal Teaching 6

REVIEW OF LITERATURE

Reading is a major part of life today. Children begin learning to read when they first learn to recognize letters of the alphabet. As young students learn to recognize letters of the alphabet, they also learning the sounds each letter makes. This skill is one of five essential components to reading called phonemic awareness. Other components include phonics, reading fluency, vocabulary development, and reading comprehension. These five components work together to help students improve their reading comprehension skills. (EduGuide, 2008)

Reading comprehension is defined as “constructing meaning from reading traditional text in print form, from listening to others read, or from viewing text in one of the many media available in our world today.” (Miller, 2015) According to Miller, reading is more than just saying the words on a page. Reading is understanding what those words mean and how, when they are put together, they form a story. In order for students to succeed in school, their reading comprehension level needs to be able to increase as the difficulty in grade level reading increases.

Many students are able to read what is asked of them to read, but have difficulty comprehending what they have read. This is because reading comprehension has to be taught. It is not naturally developed. There are many strategies used to help students learn how to comprehend what they are reading. One such strategy is Reciprocal Teaching. Reciprocal Teaching is a “method of instruction that involves in-depth discussions between teachers and students which demand cognitive and metacognitive skills and strategies.” (Teach-nology.com, 2015)

Reciprocal Teaching was first introduced in the early 1980’s by Ann Brown and Annemarie Sullivan Palincsar. Brown and Palincsar (1985) believed the use of Reciprocal Teaching strategies, predicting, questioning, clarifying, and summarizing, while reading would improve student reading comprehension. Together, Brown and Palincsar set out to test their theory. Since much of the reading in the upper grades requires more critical thinking and studying, Brown and Palincsar taught the strategies to middle school students who had below grade level reading scores. During their testing, they found their theory to be correct.
Students who used Reciprocal Teaching strategies while reading did improve their reading comprehension of what they read. These students also acquired a new strategy to aid them in an every changing scientific and technological society.

Pilonieta and Medina modified Brown and Palincsar’s original Reciprocal Teaching strategies to be used in a first grade classroom. Pilonieta and Media’s version of Reciprocal Teaching was conducted in five phases. In phase one, the teacher introduces the strategies, taking students on a picture walk of the book being used and help students make predictions of what they think will happen in the book. During phase two, the teacher selects students who would make good leaders and teaches those students the Reciprocal Teaching strategies. For phase three, the selected student leaders are then assigned groups where they will teach other students the Reciprocal Teaching strategies. During this phase the teacher is walking around the room helping groups who need it. Phase four has students working in independent groups completing choral, or buddy reading. In the final phase, students are still working in their independent groups but now they are writing about what they have read. These phases helped early readers to grasp a better understanding of what they were reading early on. According to Pilonieta and Medina, learning reading strategies, such as Reciprocal Teaching, help students become self-regulated learners. (Pilonieta & Medina, 2009)

In 2010, a middle school teacher in Queensland decided to expand the stages of Reciprocal Teaching to better guide her students. Meyer found by adding orientating, connecting, and giving feedback to the original four stages of Reciprocal Teaching, her students were able to generate higher-level questions and make greater connections to what they were reading. These added stages also help students to have deeper, higher-level discussions over what they were reading. The result was a higher level of reading comprehension, which is needed for upper grade level students. (Meyer, 2010)

Castek took Brown and Palinscar’s original purpose for Reciprocal Teaching (aiding students in an every changing scientific and technological society) and applied it to guiding her students through conducting internet research. In her application of Reciprocal Teaching, Castek designed a series of lessons to help educate her students on how to conduct online research. Each of her lessons scaffold each other, and help guide students
through the challenge of deciding which web page has the best information for what is being researched. These lessons have students first choosing a topic and using a search engine to create a list of potential sites to visit for information. Students are then encouraged to visit sites they feel would be a good source of information. Then, Castek has her students look at headings, pictures, and captions to determine if the site garners further investigation. If so, then her students are encouraged to look at the site page by page to find the information needed. Using her lessons to guide students through online research, Castek discovered her students had greater inferential reasoning, were able to make predictions about the sites visited, and were able to evaluate a website’s utility for research purposes. These three developments from her lessons helped her students reading comprehension of the sites they visited. (Castek, 2013)

In 2014, Meyer decided to take Reciprocal Teaching across curriculum. Meyer modified the Reciprocal Teaching strategies so she could use them to teach story problems to her math students. Meyer used the original stages of predicting, clarifying, questioning, and summarizing, but she added visualizing, connecting, and calculating to her strategies. Using their prior knowledge, students were able to predict the type of mathematical question being asked and what operation would be used. Students were also able to visualize what the story problem was asking. While summarizing how they solved the problem, students engaged in self-reflection and justification to evaluate their answer. Using Reciprocal Teaching with story problems also helped her students pull out the important information and leave the fluff. By her students using Reciprocal Teaching math strategies to solve word problems, Meyer’s students score higher on tests than other classes in the same grade level.

These studies combined demonstrate the potential for Reciprocal Teaching’s place in all classrooms. They also show how Reciprocal Teaching can be modified to help various students in a variety of grade levels and across curriculum. Studies have shown how Reciprocal Teaching can aid students improving their reading comprehension.
RESEARCH METHODS

Research Design

Students were given the DRA2 at the end of last school year. The end of year scores will act as a baseline score for reading comprehension. After eighteen weeks of learning, practicing, and mastering Reciprocal Teaching strategies, students will be given the DRA2 again. The second DRA2 scores will determine whether there is an increase in student reading comprehension scores. If an increase is found in reading comprehension scores, other teachers will be informed and encouraged to practice Reciprocal Teaching strategies in their own classrooms. The dependent variable would be comprehension scores. The independent variable is the difference in the two fourth grade classes. One class will be taught Reciprocal Teaching strategies and the other will not.

Study Group Description

The study will take place in a public school setting. There are 317 students enrolled at the study school. The student population is made up of a variety of ethnicities. These ethnicities include 3.5% Asian, 6.3% Black, 10.10% Hispanic, 2.5% Indian, 7.3% Multi-race, 3.2% Pacific Islander, and 67.20% White. Also, 73.8% of the student population qualifies for the Free/Reduced Lunch program.

The study will consist of two fourth grade classes. The control class consists of twenty-two students. Of those twenty-three students, two have Individualized Education Plans (IEPs) and are below grade level in their reading. In the test class has eighteen students, four of which have IEPs. Of those four with IEPs, two are below grade level in reading.

Data Collection and Instrumentation

Students will be given daily opportunities to practice the Reciprocal Teaching strategies. Data will be collected via the student second quarter, winter, DRA2 scores.

Statistical Analysis Methods

A T-test was used to analyze the scores of the DRA2 administered to the students to determine if there is a significant correlation between Reciprocal Teaching strategies and comprehension scores.
FINDINGS

A t-test was conducted to decipher whether there was an increase in reading comprehension scores of students taught Reciprocal Teaching strategies and students taught traditional reading strategies. The following tables and chart will depict the organized findings based on the statistical raw data of two fourth grade classrooms DRA2 scores from the spring of 2014 and the winter of 2014. There are only two classrooms’ data due to there only being two fourth grade classes in the build which the study was conducted.

**Figure 1**

**t-Test Analysis Results for Two Fourth Grade Classrooms’ Spring DRA Scores**

<table>
<thead>
<tr>
<th>Source</th>
<th>(x)</th>
<th>Mean</th>
<th>Mean D</th>
<th>t-Test</th>
<th>df</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reciprocal(1)</td>
<td>18</td>
<td>39.56</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-Reciprocal(2)</td>
<td>20</td>
<td>38.7</td>
<td>0.856</td>
<td>0.249</td>
<td>36</td>
<td>0.805</td>
</tr>
</tbody>
</table>

Note: Significant when p-value <=0.25

Two fourth grade classes were selected for a study to determine if using Reciprocal Teaching strategies while reading would increase students reading comprehension levels. Spring DRA2 data was collected from the previous school year’s third grade teachers. The mean of class one’s spring DRA2 scores was 39.56 and the mean of class two was 38.7. The difference between the two classes, or Mean D, was 0.856. The t-Test was 0.249 and the df 36. By comparing the alpha level, 0.25, to the p-value, 0.805, the null hypothesis is not rejected. Since the null hypothesis is not rejected, there was no difference between the two fourth grade classes’ spring DRA scores.

**Figure 2**

**t-Test Analysis Results for Two Fourth Grade Classrooms’ Winter DRA Scores**

<table>
<thead>
<tr>
<th>Source</th>
<th>(x)</th>
<th>Mean</th>
<th>Mean D</th>
<th>t-Test</th>
<th>df</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reciprocal(1)</td>
<td>18</td>
<td>44.67</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-Reciprocal(2)</td>
<td>20</td>
<td>43.6</td>
<td>1.07</td>
<td>0.25</td>
<td>36</td>
<td>0.801</td>
</tr>
</tbody>
</table>

Note: Significant when p-value <=0.25

The scores collected for the winter DRA2 were collected by the current fourth grade teachers. Class one was taught Reciprocal Teaching strategies and class two used previously taught traditional strategies for
reading comprehension. The mean of class one’s winter DRA2 was 44.67 and the mean of class two was 43.6. The difference between the two classes, or Mean D, was 1.07. The t-test was 0.25 and the df was 36. The null hypothesis states there is not a difference in reading comprehension scores in students who use Reciprocal Teaching strategies and students who use traditional reading strategies while reading. This null hypothesis was not rejected because the \( p \)-value of 0.801 is greater than the alpha level of 0.25. Due to the \( p \)-values of the spring and winter t-tests being similar, these results show there is no benefit to using Reciprocal Teaching strategies instead of traditional reading comprehension strategies.

**Figure 3**

The mean score of class one was 44.67. When compared to the mean score of class two of 43.6, the graph above shows almost equal scores for both classes. The pie graph gives a visual of the study results, as well as supporting the acceptance of the null hypothesis.

All of the findings answered the question “Is there a significant difference in student reading comprehension scores between students taught with Reciprocal Teaching strategies compared to students taught with traditional teaching strategies?” Figures 1-3 show how similar the DRA2 scores are for both classes. With both classes having similar gains in test scores, there isn’t enough of a gain in class one to support Reciprocal Teaching strategies being used instead of traditional strategies.
CONCLUSIONS AND RECOMMENDATIONS

All students in the study were given the DRA 2 the spring semester of their third grade year. The mean score of the student in the Reciprocal Teaching class was 39.59. The mean score of the Non-Reciprocal Teaching class was 38.7. Grade level reading scores for students entering the fourth grade need to be 40 or higher. The spring DRA2 scores show both fourth grade classes, as a whole, as being just below grade level. This does not mean all fourth graders are below grade level for reading. However, there are several who did not enter the fourth grade reading on grade level.

At the end of the first semester, all fourth graders were given the DRA2 again. This time, the mean score for the Reciprocal Teaching class was 44.67, and 43.6 for the Non-Reciprocal Teaching class. These mean scores show both fourth grade classes as being just above grade level in their reading.

Due to the similar outcomes reported in this study, the mean scores between the spring and winter DRA2 scores show there is no benefit for students to use Reciprocal Teaching strategies over traditional reading comprehension strategies. The study showed no significant difference between the DRA2 levels of the two classes studied. With the t-test results showing a $p$-value of 0.801, which was higher than the alpha level set at 0.25, after class one was taught Reciprocal Teaching strategies the null hypothesis was not rejected with confidence.

The conceptual underpinning of theorists Ann Brown and Annemarie Sullivan Palincsar is not supported by the findings in this study. This is not to say Reciprocal Teaching is not an affective reading comprehension strategy. The original research done by Brown and Palincsar was completed on students who were all below grade level in their reading. In this study each class only had two students not increase their DRA2 levels from spring testing to winter testing. The results of this study does show the use of comprehension strategies, any strategies, benefit students learning to comprehend what they are reading. Teachers should teach students a variety of strategies and let students decide what works best for them.

After concluding this study further studies should be conducted on the use of Reciprocal Teaching in the regular education classroom. Due to Reciprocal Teaching being designed for below grade level students, it has
Reciprocal Teaching has a place in reading programs, such as Scholastic’s System 44 and Read 180 programs. A study could be performed on year-long comprehension scores for students using Reciprocal Teaching. Also, a study could be performed on students using Reciprocal Teaching across curriculum in math, science, and social studies. Scores in other subjects could be looked at as well to determine if Reciprocal Teaching strategies had any influence on students’ final grades.

Professional developments have been conducted teaching educators how to use Reciprocal Teaching in the classroom. Several books have been written about it as well. While conducting this study, it was discovered many of what are now considered traditional reading comprehension strategies are very similar to the Reciprocal Teaching strategies. After close examination of the DRA2 test that was administered to students for this study, it was discovered the test was set up the same way as Reciprocal Teaching reading strategies are designed to be used. Reciprocal Teaching has a place in the education system. Discovering the best place to practice the strategies is the challenge of an educator.
REFERENCES


What is Reciprocal Reaching? (2015, April 3). Retrieved from