The implementation of reciprocal teaching at Central Middle School

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The implementation of reciprocal teaching at Central Middle School

Abstract
This study was designed to evaluate the implementation of Reciprocal Teaching at Central Middle School. The purpose of Reciprocal Teaching is to improve reading comprehension through the use of student/teacher collaboration. It involves teaching students strategies that help them monitor their own learning and thinking. Reciprocal Teaching moves reading from whole class instruction to individuals. Strategies can be used at any grade level, with fiction or expository text.
THE IMPLEMENTATION OF RECIPROCAL TEACHING AT CENTRAL MIDDLE SCHOOL

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In Partial Fulfillment
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INTRODUCTION

Purpose

This study was designed to evaluate the implementation of Reciprocal Teaching at Central Middle School. Central Middle School was identified as A School In Need Of Assistance. (SINA) A SINA committee identified low reading scores as a problem and proposed Reciprocal Teaching as a solution; the recommended initiative, in accordance with NCLB, had to be research based. AEA 267 was qualified to offer professional development in Reciprocal Teaching, as outlined by the Iowa Staff Development Model.

The purpose of Reciprocal Teaching is to improve reading comprehension through the use of student/teacher collaboration. It involves teaching students strategies that help them monitor their own learning and thinking. Reciprocal Teaching moves reading from whole class instruction to individuals. Strategies can be used at any grade level, with fiction or expository text.

The information for training in Reciprocal Teaching was disseminated during a staff meeting. The committee members explained the reasons for the initiative and stated, “The principal expects all staff to be inserviced in Reciprocal Training.” Two training programs were outlined: a thirty-four hour program, beginning in the spring of 2004 or a two day August workshop. The goal was full implementation, by all Central staff, during the 2004-05 school year. Teachers received per diem pay for the hours they attended training.

Weekly implementation logs were filled out by teachers and turned in to AEA267 trainers. No feedback was ever given on those logs, but a record was kept listing the
teachers who had turned in the logs. That was the only accountability piece of the process. This study was designed as an accountability piece for the implementation of Reciprocal Teaching. It was not undertaken to determine if Reciprocal Teaching was an effective strategy in raising student scores in reading comprehension, but as a way to determine if the implementation of the initiative had been successful building wide.

**Significance of the Study**

Reciprocal Teaching can be an effective tool in raising student achievement. (Palinscar and Brown, 1986). It is important to know if school wide implementation of the initiative was successful. Problems connected with successful implementation must be identified and addressed in a timely manner. The staff at Central needs to know if their efforts at learning and implementing new strategies are being effective. Successful implementation would result in higher test scores, thereby showing increasing student achievement. There are other schools on the watch list that could benefit from the results of this study as their SINA committees look for new professional development.

**Limitations**

Limitations of this study include the large number of teachers at Central, the amount of new teachers to the building in the fall of 2004, the change in administration from the 2003-04 school year to the 2004-05 school year, and district mandated initiatives. Also, while increasing parent involvement is a Central goal, communication between staff and parents is not consistent.

Due to the large number of staff members, including many new teachers, there was not full participation in the Reciprocal Teaching training. Follow up training has not been provided for teachers who participated in the initial training and there are no plans
for any further professional development in Reciprocal Training. Several teachers are new, not only to the building, but to the profession, and are struggling with developing classroom management and new curriculum. They see Reciprocal Training as an additional burden, not as a solution to a problem. An entire organization does not change until each member has changed (Hall & Hord, 2001).

Reciprocal Training, while supported by the administrators, was not initiated by the administrators, but by a committee of teachers. Administrator leadership is essential to long-term change success. The “bottom” may be able to launch and sustain an innovative effort for several years, but if administrators do not engage in ongoing active support, it is more than likely that the change effort will die (Hall & Hord, 2001).

A shared vision for the school is important for change. Providing a caring, productive environment is important to the success of change. Parents should be seen as partners and allies in the change process (Hall & Hord, 2001). The number of parents on Cental’s site council is decreasing, even as the school’s population is increasing.

**LITERATURE REVIEW**

**Introduction**

Two specific bodies of literature provided the theoretical framework for the study. The first largely concerns Reciprocal Teaching. What is Reciprocal Teaching and what are the effects of implementing Reciprocal Teaching on student achievement? The second body of literature concerns a strategy directly impacting teachers associated
how do teachers respond when they participate in the process of peer coaching, and will it have an impact on student achievement and/or the implementation of Reciprocal Teaching?

**Reciprocal Teaching**

**Definition**

Palincsar (1986) defines Reciprocal Teaching as an instructional activity that takes place in the form of a dialogue between teachers and students regarding segments of text. The dialogue is structured by the use of four strategies: summarizing, questioning, clarifying, and predicting. The teacher and students take turns assuming the role of teacher in leading this dialogue. The purpose is to facilitate a group effort between teacher and students as well as among students in the task of bringing meaning to the text.

Reciprocal Teaching encourages student self-directed prediction, clarification of information not completely understood as the text is read, generation of questions about the content, and summarization of material covered (Lysynchuck, Pressley & Vye, 1990).

**Benefits**

Modified Reciprocal Teaching is used in post reading, while Reciprocal Teaching was designed for pre and during reading. The goal for the modified strategy was to keep students interested and engaged with reading, not to focus only on comprehension (Marks et al, 1993). Modified reciprocal teaching was used in small groups of seventh grade students as they read and worked on comprehension of text. Students took turns as group “teachers” and worked on summarizing, questioning, clarifying and predicting (Rosen & Millers, 2001). Past studies by Palincsar and Brown...
clarifying and predicting (Rosen & Millers, 2001). Past studies by Palincsar and Brown (1984) that identified reciprocal teaching were conducted with low achieving seventh graders. Rosen and Millers (2001) based their work on the premise that regular education students could also benefit from reciprocal teaching. The study showed that regular education students achieved higher reading comprehension scores on tests after learning the strategies.

Questioning is one of the four main components of Reciprocal Teaching (Palinscar, 1984). Higher level thinking questioning is an important technique for improving student achievement. High quality questions and varied responses lead to student ownership of learning. Successful use of the strategies will decrease direct teacher talk and increase indirect teacher talk. A modified version of the Flanders' Interaction Analysis Matrix can be used to help a teacher recognize and analyze patterns in his/her response to students (Kassner, 1998).

Taylor and Frye (1992) conducted a study to investigate the effects of weekly lessons in comprehension monitoring, reciprocal teaching and independent self-questioning and summarizing. It was modeled after a study that focused on low achieving students at the junior high level. The present study was to see if the strategies would be effective with fifth and sixth grade regular education students. Students showed an improvement in summarizing. No differences were found between the control and experimental groups in students' abilities to generate questions. The authors did feel that the strategies were just as effective with the elementary students as the previous study with junior high students (Taylor & Frye, 1992).
Peer Coaching

Definition

Peer coaching is a mutually reciprocal process that helps teachers improve their teaching (Gary & Meyer, 1987). It focuses on changing staff development which in turn drives school improvement (Showers, 1996). Peer coaching utilizes small group cooperative learning and should focus on curriculum and instruction (Hyman, 1990). One principle of peer coaching is that all teachers on the faculty must agree to be members of the peer coaching study teams. Another principle is that the collaborative work of peer coaching includes more than the observation and conferences. Training sessions are recommended and teachers involved in peer coaching should undertake ten or more hours of training in research based effective teaching practices. Teachers should volunteer for the process; it should not be mandated (Showers, 1996).

Feedback is an important part of the peer coaching process. The role of feedback is to allow teachers to compare their own views of themselves with the views that others have of them. This process can be a powerful tool if used properly. The main component is trust. Feedback needs to be developmental, not evaluative. A coaching session is part of the process. An action plan follows the feedback. A coach's role is to help the participant reflect about the findings, not to judge (Dyer, 2001).

Benefits

Within peer coaching, there is a positive potential to see improvement in school life for both students and teachers alike. Teachers have traditionally been isolated and this is at the heart of the problem. There is much stress in teaching and teachers that have the support of a peer are more likely to try new strategies and become supportive
of them. Peer coaching promotes honest, helpful interactions between people with common interests. Peer coaching also gives teachers a chance for adult interaction as well as student interaction. By using peer coaching, teachers become self-reflective and gain more control of their future teaching successes (Swafford, 1998). A study of peer coaching in two elementary schools showed a 16% increase in the number of teachers who would be willing to try something new more often, and a 23% increase in the belief that peer advice about instruction was helpful. The authors recommended that a consultant should be available at all times during the process (Sparks, 1987).

Teachers also said during the follow up interviews that one of the main personal benefits of the Peer Coaching Project was having a professional colleague as a partner (Sparks & Bruder, 1987). Showers and Joyce believe that regularly scheduled coaching interactions greatly increase the likelihood that content being taught during staff development will actually be used in the classroom. Teachers will need support when implementing new strategies in their classrooms. The results of the studies parallel the correlation between coaching support and the lasting implementation of the new strategy. According to Showers and Joyce, training is required to effectively coach peers (Showers & Joyce, 1996). Good training in peer coaching could change the structure of schools, promote professionalism in teachers, and change the traditional supervisory role in schools. Training would be a key element to making the program work (Hyman, 1990).

Limitations

Hyman outlines areas of weakness with the peer coaching concept. Premise one is that teachers can learn skills needed for peer coaching. The assumption is that time
is available for training which often is not the case. In order to strengthen the use of peer coaching, adequate time must be offered. Premise two is that those in control of schools will permit change to take place. He then discusses a potential problem area with using the information gained during peer coaching with any form of evaluation. Hyman cautions against this practice and recommends keeping peer coaching a non-evaluative process (Hyman, 1990). There must also be principal support, support from consultants, extensive training for teachers, and teacher participant surveys to evaluate (Sparks & Bruder, 1987). However, peer coaching is but one dimension in the realm of school improvement. Simply forming peer coaching or peer study teams will not affect the learning environments of students (Joyce & Showers, 1996).

METHODS

Introduction

Has the implementation of the initiative, Reciprocal Teaching, been successful at Central Middle School? Four studies were conducted at Central Middle School in an attempt to answer this question. The studies include: action research, parent surveys, student interviews, and data analysis of student achievement. These measures were selected to target teachers, parents and students. Peer coaching, a Reciprocal Teaching strategy, was the basis for the action research. Parents were surveyed to determine their familiarity with the strategies being taught to their students and their involvement with students' homework. Individual students were interviewed to determine if they had been exposed to and/or recognized various Reciprocal Teaching strategies. Data from district standardized reading tests was used to measure reading
comprehension before and after the implementation of Reciprocal Teaching. This information can be used by the School in Need of Assistance (SINA) committee, the Central reading coach, and the administrators to see if the components of the SINA plan are being implemented.

Setting

Central Middle School is located in Waterloo, Iowa, an urban district with a population of 68,636. This district has 10,402 students. During the 2002-03 school year, Central Middle School had an enrollment of 804 students. 30% of those were minority students, and 59% were on free and reduced meals. Central was placed on the “watch” list by the Iowa Department of Education because of failure to meet federal guidelines on the ITBS scores, in reading comprehension and math. Within Central’s population, all four subgroups, as identified by the DPI, played a part in the scores. The subgroups are African American males, ELL students, special education students, and SES students.

Central Middle School was designated as A School in Need of Assistance based on NCLB during the 2003-04 school year. The committee that designed the SINA (School in Need of Assistance) plan for Central recommended that all teachers be inserviced in Reciprocal Teaching. The committee members were Central teachers, building administrators, and district administrators. 66% of Central’s teachers had 34 hours of Reciprocal Teaching training through AEA267, from March to August 2004. Another 5% of staff attended a two day workshop on Reciprocal Teaching in August 2004. The remaining staff members either chose not to participate or are new to the building for the 2004-05 school year.
Participants

Teachers

The data for one teacher's peer coaching experience is presented in this study. She is a teacher with twelve years of teaching experience. However, it is important to note that five teachers at Central Middle School, Waterloo, IA participated in the peer coaching activity. Their combined teaching experience is over fifty years. Areas of expertise include special needs, talented and gifted, middle school reading and social studies, and technology. These teachers were the peer coaches. Teachers were observed by two different colleagues while teaching in their own classrooms. Reflection sessions were held after each observation.

Parents

130 parents of randomly selected Central Middle School students enrolled during the 2004-05 school year were surveyed. Surveys were sent home with 50 7th and 50 8th grade students. 30 surveys were sent home with 6th grade students. Students were regular education students and picked at random, with 65 surveys sent home with male students and 65 sent home with female students.

Students

Five students were interviewed about Reciprocal Teaching strategies. The students included: one 6th grader, two 7th graders, and two 8th graders, attending Central Middle School in the fall of 2004. An initial list of students was made of all students whose scheduled free time and the interviewer's planning time coincided. Students were randomly selected from that list.
225 8th grade students at Central Middle School, during the 2004-05 school year, took Target Teach tests. In 2002, they took the test as 6th graders. In 2003, they took the test as 7th graders. The scores on the Target Teach tests of the 225 8th grade students were analyzed for improvement in reading comprehension.

**Instruments**

**Implementation Log**

Implementation logs, provided by AEA267 as part of the Reciprocal Teaching training, were kept by the teacher being observed and then shared with the observer during a reflection meeting (See Appendix A). The purpose of the log was to document the use of Reciprocal Teaching strategies in the classroom, along with personal reflections before, during, and after teaching a lesson.

**Modified Flanders Interaction Analysis Data Collection Table**

The purpose of the action research was to experience peer coaching, a Reciprocal Teaching strategy. In addition, participants were able to reflect on and possible modify their teaching styles. A modified Flanders Interaction Analysis Data Table data collection tool was used while each participant was observed during a fifteen minute lesson with his/her class (See Appendix B). The original idea can be found in Flanders & Amidon (1986). The premise of their analysis process is that by having a teacher reflect individually and collaboratively on his/her own teaching, he/she can become the student and the teacher at the same time thereby creating self-analysis and awareness of his/her teaching personality, techniques and effectiveness. The intended outcome is to become consciously competent teachers, thereby having an effect on student achievement. The data collection tool was a chart designed as an observation
check list. Tally marks were made by the observer. Categories were indirect teacher talk, direct teacher talk, student talk, and calling on boys or girls.

**Survey**

The purpose for the survey was to determine if parents were familiar with Reciprocal Teaching and the reading strategies, including teacher collaboration, which are being taught to their students. Also, does grade level, single or two parent home, or parent education play any part in the parent(s)' recognition of Reciprocal Teaching terms?

The survey questions were designed to determine if parents were familiar with the reading comprehension strategies that are part of Reciprocal teaching: questioning, predicting, visualizing, summarizing, small group collaboration, and teacher collaboration. Questions were also asked that would help determine parent involvement in homework. Demographic information would determine grade level, one or two parent home, and education of parent(s). This information could possibly be important when determining parent involvement where issues such as time and SES might be a factor.

A survey was given to a teacher associate at Central who is also a parent of a Central student to check for question comprehension and clarity. The reading coach at Central also previewed the survey, checking for clarity and gender bias (See Appendix C).

**Student Interviews**

The purpose for the interviews was to determine if students have experienced and/or recognize strategies from Reciprocal Teaching. Interview questions were written
to gather information on specific Reciprocal Teaching strategies: clarifying, predicting, questioning, visualizing, and summarizing. There were six initial unstructured questions, and five structured follow up questions (See Appendix D).

**Target Teach Tests**

The purpose of this study was to compare the scores of the 2004 fall Target Teach pretest scores to the Fall 2002 and the Fall 2003 pretest scores to see if strategies to improve reading comprehension implemented during Reciprocal Teaching teacher training have made a difference in reading comprehension test scores.

Target Teach is part of the district wide reading curriculum for the Waterloo Schools. It is a purchased curriculum that has been adapted by a curriculum coordinator and a committee of reading teachers. The pretest for Target Teach is given every fall during the first week of school, with four increment tests given throughout the school year. All tests are written in ITBS format and scored electronically. The pre and post tests consist of 105 questions (See Appendix E). The questions cover 26 district reading objectives. The posttest is administered in May.

**Procedures**

**Implementation Log**

The individual reflection of the peer coaching process, recorded on the implementation log and the collaborative reflective experience of the participants was the purpose of the peer coaching action research. The teacher that was being observed kept a reflection log. The teacher was to record any thoughts, feelings, or ideas about the peer coaching process in the reflection log.
Modified Flanders Interaction Analysis Data Table

Tally marks were made on the table when the listed behaviors were observed. The categories analyzed were: indirect teacher talk, direct teacher talk, student talk, and the number of times the teacher called on males and females.

There were two initial observations, with two different peer coaches, followed by a debriefing with peer coaches. The teacher then reflected with coaches, using her reflection log, identified strengths and weaknesses as shown by the tally marks, and targeted an area to change. After shared reflections, a course of action was decided upon, implemented in the classroom, and follow up observations by peer coaches occurred.

The teacher was observed two different times for 15 minutes by two different colleagues. She then met with each peer coach individually after each session and all three teachers met as a group. After the second observation, the three teachers sat down together again. They discussed the tally marks, figured the percentages, and many of their comments came as questions.

The tally marks were totaled. The teacher looked at the percentage of tally marks in the three categories, indirect teacher talk, teacher talk, and student talk. When modifying the instrument, the teacher was also interested in the number of times girls and boys were called on in her classroom, so that information was also recorded. Using the information found in the attachment “Categories for Analysis of Teacher Interaction (See Appendix F), the teacher then worked on identifying strengths and weaknesses in her teaching.
Survey

The parent survey was sent home with 130 students. 30 surveys were sent with 6th graders, 50 each to 7th and 8th graders. Fewer surveys were sent home with 6th grade students because they are new to the building this school year and one 6th grade team is comprised of all new teachers whom have not received training in Reciprocal Teaching. Surveys were handed out in sealed envelopes during class on a Monday morning. A note explaining the purpose of the survey was attached to the survey. Parents were asked to return the survey to one of the teachers listed by Friday of the same week.

Surveys were sorted and analyzed. Questions 1, 5, and 6 related to homework and parent involvement. Questions 8, 9, 10, 11, and 12 related to strategies used in Reciprocal Teaching. Questions 2, 3, 4, 7, and 15 related to Reciprocal Teaching terminology and communication to parents. Questions 13 and 14 related to teacher collaboration.

Student Interviews

Five students, one 6th grader, two 7th graders, and two 8th graders were interviewed. Only one 6th grader was interviewed because one of the two 6th grade teams had all new teachers, not trained in Reciprocal Teaching, this school year. The interviews all took place in Room 132 at Central Middle School on Friday, September 24, 2004. The 6th grade interview was the shortest at 10 minutes. The two 8th grade interviews lasted 15 minutes each. The 7th and 8th grade students all attended Central Middle School during the 2003-04 school year.
Target Teach Tests

Target Teach, a district mandated reading curriculum, was adopted in the spring of 2001 for middle schools with the first pretest given in the fall of 2001. The pretest was revised from the fall of 2001. The data shown is from the revised pretest that remains in use. Tests from fall 2002, 2003, and 2004 have been used in this analysis. The untimed test is administered to students in their reading class, by their reading teacher. Standardized directions are given to students. The pretest was used as the instrument because the increment tests had been reformatted for the 2004-05 school year, while the pretest remained the same. Due to the time frame, the post-test that would be best suited for the purpose of this study was not available, as it will not be administered until May. Tests were scored electronically and printouts were given to the reading teachers by the reading coach.

RESULTS

Introduction

The results of the action research showed peer coaching could be a positive experience for an individual teacher, but did not indicate anything about the successful implementation of Reciprocal Teaching. Analysis of the survey data showed limitations of the survey instrument and left researchers with additional questions about the validity of the results and how the information could best be used. However, parents did not seem to be aware of Reciprocal Teaching. The student interviews were very helpful in pinpointing Reciprocal Teaching strategies that had been implemented in specific classrooms, as well as clarifying student's understanding of the strategies. The analysis
of Target Teach data showed small growth in reading comprehension scores, but was not conclusive as to the cause of the increase. Data was not collected to differentiate classes taught by teachers with or without training in Reciprocal Teaching.

Implementation Log

It is important to note that the five teachers involved were part of a cohort group in a Master's program but only data from one of the five teachers is presented in this study. Upon reflection, the teacher stated she might not have been as comfortable if “just another teacher” showed up in her classroom to observe. The implementation log was used to initiate discussions about the feelings connected to the peer coaching experience. The observed teacher stated, “Answering their whys, hows, whats, and ifs made me reflect.” The teacher felt that her peer coaching experience was positive.

Modified Flanders Interaction Analysis Data Table

The resulting tally marks led to reflective discussion and active listening between the colleagues. The reflection and the consequent actions of the observed are the important results of this action research, as peer coaching is the targeted Reciprocal Teaching strategy (See table 1). After looking at the tally marks for the first observation, reviewing the reflection log, and talking to the peer coach, the teacher commented, “My lesson relied on lecturing, although there appeared to be a balance of responding to students during the lecture. I called on boys and girls equally. I seldom criticized students. However, although tally marks indicated I did give directions they also indicated there were several instances of silence or confusion. The observer also pointed out that many of the tally marks for questions asked, were in reference to directions I had given. Instead of getting to work, as directed, directions had to be
repeated and clarified. The second observer noted many of the same things. Although by the second observation I had been made aware of the problem with giving directions and tried very hard to be more precise. There were fewer tally marks in the silence and confusion categories."

Table 1—Tally marks for Modified Flanders’ Interaction Analysis

<table>
<thead>
<tr>
<th>Observer</th>
<th># tallies</th>
<th>% indirect talk</th>
<th>% direct talk</th>
<th>% participant</th>
</tr>
</thead>
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<tr>
<td>1</td>
<td>63</td>
<td>41.2</td>
<td>28.5</td>
<td>17.4</td>
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<td>2</td>
<td>66</td>
<td>43.9</td>
<td>30.3</td>
<td>25.7</td>
</tr>
<tr>
<td>3</td>
<td>58</td>
<td>50</td>
<td>32.7</td>
<td>17.2</td>
</tr>
</tbody>
</table>

Survey

Demographics:

The demographic information became important as researchers discussed the results of the survey questions. The information presented was not consistent with Central’s general population statistics. 59% of Central students are on free and reduced lunch. Single parent households, predominately second and third shift blue collar workers are the perceived parent base. A high percentage of the returned surveys were filled out by females, indicating two parent homes, with at least one parent having a college education.

53 out of 100 surveys were returned (53%). 66% of returned surveys were from females, 44% were from males. 6th grade returned 12 out of 30 (40%), 75% of those were from females. 7th grade returned 22 out of 35 (73%). 63.6% were from female students. 8th grade returned 19 out of 35 (63%). 63.2% were from female students.
58% of 6th graders indicated two parent homes. 68% of 7th graders indicated two parent homes. 52% of 8th graders indicated two parent homes. Five 6th grade parents had college educations. Twenty-six 7th grade parents had a college education.

Eighteen 8th grade parents have a college education. 6th grade parents are divided evenly between 1st, 2nd, and 3rd shifts. 7th grade parents work predominately 1st shift. 8th grade parents work predominately 1st shift.

Survey results from questions 1, 5, and 6 (homework and parent involvement) indicate parents are involved with their student's homework, either discussing homework or answering student directed questions. Parents are also talking to their students about what books they are reading. Survey results from questions 8, 9, 10, 11, and 12 (Reciprocal Teaching strategies) indicate few parents are aware of Reciprocal Teaching terminology but do recognize the importance of the strategies, such as peer coaching. Results also indicated communication from the school and teachers had done little to advance information about Reciprocal Teaching. Survey results from questions 13 and 14 (teacher collaboration) indicate parents believe it is important for teachers to work as teams and should plan curriculum together.

Student Interviews

Questions about experiences with small groups had various responses. One 6th grade student commented that he had only worked briefly in groups in one classroom and that was cut short because of the students' behavior. Both 7th grade students said they worked in small groups to complete a project or answer teacher-made questions. One 8th grader started explaining about a group activity she had done that day with a substitute teacher.
Students varied in their use of terminology. For example, one student described an activity in which every student was to write two of each question type, literal, inferential, and personal then work with a group to answer the questions. The student was very comfortable with the terminology of specific strategies. However, students did not recognize the term, Reciprocal Teaching. She commented, without being asked, on the RT posters found in several classrooms and in the 7th grade hallway. While reading a novel, she referred to making a “theater in her mind” or “comparing the events to my life.” She did not use the terms visualize or past experience. She did make predictions, especially if it was a mystery. The 6th grade student did not recognize any of the Reciprocal Teaching terminology, although he did remember seeing the posters in at least two rooms. He felt past experiences were important when reading a novel or learning about new concepts in science. He wasn't sure why. He made mental pictures when reading a novel, but did not employ that strategy when reading his science or social studies textbook. He did not refer to those mental pictures as “visualizing.” He defined summarizing as “retelling the story,” which is something Reciprocal Teaching uses as non-examples of summarizing. He used none of the terms of Reciprocal Teaching when explaining his thinking while reading, either fiction or nonfiction.

Students were most familiar with the questioning strategy, but did not relate the questioning to Reciprocal Teaching. One student indicated that her 7th grade reading teacher had spent quite a bit of time in the spring working with questioning and small groups. The other 7th grade student immediately began talking about literal, inferential, and personal questions, without prompting. She was able to explain all three types, including question stems one might use when asking a specific question type. She said
she had learned “all about questioning” from her 6th grade language arts teacher. The terms had also been used in social studies and science classes. She also mentioned that her 7th grade reading teacher had been using the questioning terminology and activities related to questioning already this school year. One 8th was familiar with the questioning terms, but was not able to fully define them. He said he was introduced to them by his 7th grade math and science teacher.

**Target Teach Tests**

Scores reported are percentages. A score of 41% is considered to be proficient in reading comprehension by the district. Data was collected for 10 reading classes, including 6th, 7th, and 8th grades, for the years 2002, 2003, and 2004 (See table 2). The median score increased by 3% from 2002-03 and by 1% from 2003-04. The total gain in reading comprehension median scores over two years was 4%. The range score decreased by 19% from 2002-03 and by 13% from 2003-04. The total decrease was 32%.

Table 2—Median and Range Scores, Target Teach Data

<table>
<thead>
<tr>
<th></th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median</td>
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<td>55</td>
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</tr>
<tr>
<td>Range</td>
<td>52</td>
<td>33</td>
<td>20</td>
</tr>
</tbody>
</table>

**DISCUSSION**

In conclusion, these studies show that Reciprocal Teaching could have had a small impact on student achievement. However, the limited studies that are presented here do not demonstrate that Central has successfully implemented Reciprocal
Teaching. Further qualitative studies would have to include a larger number of participants, especially teachers. More quantitative studies need to be done in order to demonstrate increased student achievement.

Our main question, though, was to determine the involvement in, and commitment to, the strategies that make up Reciprocal Teaching, by the three important groups in a child’s education: teachers, parents, and students. The level of involvement by teachers, parents, and students would indicate the level of success of implementation of Reciprocal Teaching.

An implementation log and collaborative discussion were used to determine the effectiveness of the Reciprocal Teaching strategy, peer coaching. A checklist was used during peer observation. The teachers involved used the information from the checklist to reflect on and work toward change of behaviors that impacted student/teacher interaction. The findings of one teacher are presented in this study. Statements from her reflection long included: “I was very nervous to have a peer watching me. It didn’t take long to forget someone was there as I went on with my teaching. I was afraid that comments would be critical or even patronizing, but my peers were very supportive and encouraging. “Her reflections indicate the experience was worthwhile and helped her as she moved to implement Reciprocal Teaching strategies in her classroom. Feedback from colleagues helped to affirm and support her as she began implementing the initiative. As for the tally marks, the teacher commented, “Talking about what I did and being made to think about why I did it, helped me think deeper as I planned other lessons. I was pleased to see I appeared to be calling on girls and boys equally, but
concerned about the students' confusion when I gave directions. An added benefit of trying peer coaching was the chance to work on clarifying my directions."

The teacher involved in this study felt she would continue with peer coaching and was willing to continue working with Reciprocal Teaching, even when the inservices were over. The observation checklist was used to determine instructional practices involving direct and indirect student/teacher interactions. If Reciprocal Teaching is effective, the student directed talk will increase. While this particular teacher was able to increase the student directed talk, the study is too limited in number of participants to draw a conclusion about the other teachers in the building. At this time, it can not be said that the Reciprocal Teaching strategy, peer coaching, has made an impact on student achievement.

The parent surveys indicated that parents knew little about the Reciprocal Teaching strategies, even those parents that indicated involvement with their student's homework. Communication about Reciprocal Teaching between the school and home did not appear to be happening. The demographic questions on the survey presented a problem when analyzing the results. The information gathered on demographics indicated that the parents returning the surveys (two parent, with college education) were not representative of the majority of Central parents (single parent or blended family, high school education). This information actually strengthened the belief that communication on Reciprocal Teaching was, indeed, very minimal, if happening at all.

The student interviews were conducted to determine if students had been exposed to and recognized the strategies, especially predicting, visualizing, questioning, and summarizing, and in how many different classrooms the strategies were being
used. Interview results indicated that the students recognized and could define the four strategies, although knowledge of the questioning strategy was much deeper than the others. Evidence of the strategies could be found in some classrooms. Most notably, there seemed to be a strand of teachers who were consistent in the use of the strategies from 6th grade to 8th grade and within 7th grade. Unfortunately, the students, while recognizing some terms associated with Reciprocal Teaching, also demonstrated a lack of knowledge about how the terms were associated with Reciprocal Teaching nor could they explain the importance of the strategies. The Reciprocal Teaching strategies need to be taught to all students, by all teachers. The strategies should be internalized by the students and instruction in all content areas must incorporate the strategies. To be effective, even the terminology used in Reciprocal Teaching should be familiar to and used by all students and teachers.

While some of this was noted in the interviews, the results suggest the students and teachers both have a long way to go. To see if student achievement has increased, the scores on a reading comprehension test could be analyzed for the participating students. The results of the standardized test indicate consistent growth in the median scores in reading comprehension over three years. There has also been a decrease in range scores of 29% indicating that the gap between the low end and the high end seems to be closing. We want to continue to move all students up while at the same time decrease the range scores. In other words, we don't want to decrease the range by only increasing the low scores. However, it is a small growth. There may not be enough evidence to support the conclusion that Reciprocal Teaching strategies contributed to the rise in scores. A new reading curriculum had been implemented a
year before Reciprocal Teaching and it could be the curriculum or a combination of the curriculum and Reciprocal Teaching that has had an effect on the scores.

Future Steps

This study is limited by the amount of participants. To truly gauge the involvement with and knowledge of the Reciprocal Teaching strategies, a larger number of students needs to be interviewed. Those same students should be tracked and their test scores analyzed for increased student achievement. Interviews should be conducted with all teachers and administrators and a survey should be sent home to all parents of Central students. Training for peer coaching should be provided. The experience for the participants was a positive one. Peer coaching is now being mandated for all of the reading teachers at Central. However, no training is being given, only handouts. Partners were chosen by an administrator. The level of trust needed for successful experiences with peer coaching is not yet present. For now, there is not enough evidence that supports the successful implementation of Reciprocal Teaching at Central.

If we, as a staff, feel that Reciprocal Teaching is an important tool that will positively affect student achievement then there is much work to be done. Teachers need to be accountable for the use of the strategies in the classroom and they also need to communicate the strategies and their importance with students and parents. Teachers need to collaborate and administrators need to provide the time for the collaboration. We feel that involving parents and familiarizing them with the strategies and correct terminology for Reciprocal Teaching can only enhance the relationship
between teacher, student, and parent. The entire staff needs to be involved, including the administrators. Accountability needs to be built into the implementation plan.

Innovations like Reciprocal Teaching need to be given at least three to five years in order to truly measure its effectiveness. I recommend training more teachers in Reciprocal Teaching and to continue inservicing those teachers already using Reciprocal Teaching because our earlier interviews with students showed positive effects of Reciprocal Teaching. Teachers will continue using the Target Teach reading curriculum because it is district mandated. Future studies could try and isolate the effect of Reciprocal Teaching on reading comprehension by: following a randomly selected group of students in a teacher's class who is trained in Reciprocal Teaching, collecting the data and comparing it to the data collected on a class taught by a reading teacher not trained in Reciprocal Teaching.

For the successful implementation of the initiative, Reciprocal Teaching, the following things need to happen: administrators need to be aware and supportive of the initiative, all teachers should be trained in the strategies, parents should be informed, a specific instrument for accountability should be used by all involved, test data should be gathered and analyzed, and time must be given to fully implement the initiative.


Reciprocal Teaching

Implementation Log

Implementation Information:
- I am using this log to plan or record notes for my lesson.
- I am using this log as I observe my peer coaching partner: 
- I am using this log as I observe a live or videotaped demonstration during staff development:

Date: ___________________________ School: ___________________________
Name: ___________________________ Grade Level/Role: ____________________

Reciprocal Teaching Strategy (circle one):
- Questioning
- Summarizing
- Clarifying
- Predicting
- Visualizing

Title of Book Used: ___________________________ Fiction / Non-fiction
Author(s): ___________________________ Pages: ___________

Implementation Data:

In the last week:
- I have worked with my peer coaching partner to plan and rehearse a Reciprocal Teaching strategy _______ times?
- I have demonstrated a Reciprocal Teaching strategy (with students) _______ times for my peer-coaching partner?
- I have used Reciprocal Teaching with students _______ times.
- I have used Reciprocal Teaching in the following subjects:

Complete a log on the following Tuesdays:

<table>
<thead>
<tr>
<th>Date</th>
<th>3/9</th>
<th>4/6</th>
<th>5/4</th>
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<td>3/23</td>
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<td></td>
<td>4/27</td>
<td>5/25</td>
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</table>
1. Concepts addressed from content area:

2. Planning: Organization of the lesson:
   
   Steps I'll take/I observed:

3. Reflections on attributes of Reciprocal Teaching (about my own lesson)
   
   + This worked well.... Strengths of the lesson

   ∆ I'd like to do over... Areas for refinement

   ! I noticed... Observations

4. I need:
## Interaction Analysis Data Table

<table>
<thead>
<tr>
<th>Category</th>
<th>Tally Marks</th>
<th>No. of Tallies</th>
<th>% of Tallies</th>
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</thead>
<tbody>
<tr>
<td>1. Accepts Students Feelings</td>
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<tr>
<td>2. Gives Praise to Students</td>
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<tr>
<td>3. Responds to Student Query</td>
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<td>4. Question is asked</td>
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<td>5. Lecture</td>
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<tr>
<td>6. Giving Directions</td>
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<tr>
<td>7. Criticize Student Behavior</td>
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<td></td>
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<tr>
<td>8. Student Responds to Teacher</td>
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<tr>
<td>9. Student Initiates the Talk</td>
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<tr>
<td>10. Silence or Confusion</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>11. Calls on boy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Calls on girl</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX C

Central Middle School Reciprocal Teaching Questionnaire – Parents

1. I spend time discussing homework with my child.
   daily ___ 2 to 3 days per week ___ once a week ___ never ___

2. I have heard about Reciprocal Teaching
   ___ from my child ___ from the school newsletter ___ from school posters ___ other (write in on back)

3. My understanding of Reciprocal Teaching is
   ___ very clear ___ somewhat clear ___ a little fuzzy ___ I don't understand Reciprocal Teaching
   ___ I haven't heard about Reciprocal Teaching

4. How many teachers have discussed Reciprocal Teaching with you?
   ___1 ___ 2 ___ 3 or more

5. My child asks me questions about his/her homework.
   A lot __ A little ___ Not At All ___

6. I talk to my child about the books she/he is reading.
   A lot ___ A little ___ Not At All ___

7. My child has discussed Reciprocal Teaching strategies with me.
   A lot ___ A little ___ Not At All ___

8. My child has talked about working in small groups within the classroom.
   A lot ___ A little ___ Not At All ___

9. My child talks about making mental pictures when he/she reads.
   A lot ___ A little ___ Not At All ___

10. My child predicts what will happen to the characters in her/his novels.
    A lot ___ A little ___ Not At All ___

11. I have seen evidence of summarizing, either verbalizing or writing.
    A lot ___ A little ___ Not At All ___

12. I have seen evidence that if my child is having difficulty understanding what he/she is reading, my child will continue
    to try to make sense of what he/she is reading.
    A lot ___ A little ___ Not At All ___

13. I believe teachers should work together to provide the best education for my child.
    A lot ___ A little ___ Not At All ___

14. I have seen evidence of teachers planning and working together.
    A lot ___ A little ___ Not At All ___

15. Reciprocal Teaching can enhance my child's learning.
    ___ Strongly Agree ___ Agree ___ Neutral ___ Disagree ___ Strongly Disagree

In the last year I have attended: a conference ___ an Open House ___

My student is in grade: 6 ___ 7 ___ 8 ___

My student is: Male or Female ___

How would you describe your household:
2 parent ___ single parent (mom or dad) ___ guardian ___

Father works: 1st shift ___ 2nd shift ___ 3rd shift ___
Mother works: 1st shift ___ 2nd shift ___ 3rd shift ___

Father's education: GED/HS ___ Years of College ___ Other ___
Mother's education: GED/HS ___ Years of College ___ Other ___
APPENDIX D

Student Interview

Initial Questions

1. Tell me about working in small groups. *Q, P, C
2. Tell me what you know about questioning. *Q
3. How important is past experience when learning. *P,V
4. How do your teachers help you understand/clarify the information presented? *C, P, Q, V
5. Tell me some of the things you think about when you're reading a novel? *C, P, Q, V, S
6. How is your thinking different when you read nonfiction or your social studies or science textbook? *C, P, Q, V, S

Follow up questions

1. Have any of your teachers talked to you about Reciprocal Teaching? How often and in what situations? *C, P, Q, V, S
2. What are the three types of questions in Reciprocal Teaching? Can you explain them and tell me if/when you use them? Or Do you know about literal, personal, and inferential questions? *Q, S
3. What classes have you heard the following terms in? clarify, predict, and summarize?
4. When have you used these strategies or heard these terms, last spring or at the beginning of this school year, or both?
5. Have you noticed the Reciprocal Teaching posters anywhere in the building?

*denotes specific Reciprocal Teaching strategy: Clarify, Predict, Question, Visualize, Summarize
32. **What makes a camel capable of retaining water?**

A. the large hump on its back in which it stores water  
B. the special water pockets in its stomach  
C. the unusual oval shape of its blood cells  
D. the fat in its hump

33. **The reason a camel needs sweat glands to survive in the desert is because**

A. they help the camel evaporate the condensed water on its skin.  
B. they help the camel store water in its hump.  
C. they help the camel keep cool in the desert.  
D. they help the camel stay warm in the desert.

---

**Read the following poem and then answer the questions.**

*From “The Barefoot Boy” by John Greenleaf Whittier*

Blessings on thee, little man  
Barefoot boy, with cheek of tan!  
With thy turned-up pantaloons,  
And thy merry whistled tunes;  
With thy red lip, redder still,  
Kissed by strawberries on the hill;  
With the sunshine on thy face,  
Through thy torn brim’s jaunty grace,  
From my heart I give thee joy,  
I was once a barefoot boy.

34. **How does the poet feel about the barefoot boy?**

A. The poet feels affection for him.  
B. The poet feels jealous of him.  
C. The poet feels annoyed by him.  
D. The poet feels blessed by him.

35. **How does the barefoot boy feel in this poem?**

A. blessed  
B. happy  
C. adventurous  
D. foolish

36. **Which words does the speaker use to express the boy’s feelings?**

A. barefoot, tunes, sunshine  
B. pantaloons, strawberries, hill  
C. merry, jaunty, joy  
D. cheek, lip, heart

37. **The barefoot boy can best be described as**

A. carefree and lonely.  
B. lighthearted and content.  
C. sneaky and deceitful.  
D. old and foolish.
Categories for Analysis of Teacher Interaction

1. **Accepts Students Feelings**: Accepts and clarifies the feeling tone of the students in a non-threatening manner. Feelings may be positive or negative.

2. **Gives Praise to Students**: Praises or encourages students' action or behavior. Acknowledges students with nod or other reassuring gesture.

3. **Responds to Student Query, Idea, or Statement**: Clarifying, building, or developing ideas or suggestions by a student. As the teacher brings more of his/her own ideas into the conversation, a shift is made to category five below.

4. **Questions**: Asking a question about content or procedure with the intent that a student answers. There are three types of questions that can be asked. They are:
   - A. Level I: Simple response
   - B. Level II: Critical thinking
   - C. Rhetorical: No student answer is expected

5. **Lecturing**: Giving facts or opinions about content or procedures.

6. **Giving Directions**: Directions, commands, or orders, with which a student is expected to comply.

7. **Criticizing Student Behavior**: Statements intended to change student behavior from non-accepting to acceptable.

8. **Student Responds to Teacher Idea or Question**: Talk by students in response to the teacher. Teacher initiates the contact or solicits students' statements.

9. **Student Initiated Talk**: Talk by students, which they initiate.

10. **Silence or Confusion**: Pauses, short period of silence, and periods of confusion in which communication cannot be understood by the observer.