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METACOGNITIVE EFFECTS ON READING COMPREHENSION

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Abstract
The following research study reports the effects of Think-Alouds, Reciprocal Teaching, and Reflective Journaling on the reading comprehension of third grade students. Data was gathered via pre- and post-surveys, researcher observations, student work, student quotations, member-checks, and assessment scores from global reading tests. The strategies were implemented one at a time. Think-Alouds and Reciprocal Teaching were modeled by the teacher and scaffolded so that most participants were able to use them independently by the end of the study. Reflective journal entries were collected throughout the study. Analysis of the data revealed that students’ reading comprehension was positively affected by the three metacognitive strategies. Appropriate instruction of metacognitive strategies have a beneficial impact on the reading comprehension of third grade students.
Acknowledgments

The fact that I even got to the point of writing a thesis is attributed to hundreds of students I’ve had the pleasure of working with for the past seven years. Without them I would not have a career. I am especially grateful to the students who participated in the study. It’s the students who make or break the study and they helped me be a better reader.

I thank the faculty of Moravian College. Their undergraduate and master’s of education programs were invaluable experiences and I am happy to have spent eight years of my school career at Moravian. I give special thanks to my sponsoring committee: Dr. Jack Dilendik, Dr. Connie Unger, and Debora Stinner. They’ve all been very patient with my work and have all contributed to the journey. I’d also like to thank Dr. Joseph Shosh and Camie Modjadidi for being there for support throughout the years.

The teachers that I work with each and every day have inspired me along the way, most notably, Dena Zimmerman, from whom I learned a great deal about creating a literacy-based lessons and multidisciplinary approach to teaching. It’s too bad she left my district.

I appreciate the support of my classmates throughout the years. My research support group helped guide me when all seemed lost. I only hope I had the same effect on them.
Finally, I thank my family. I met my wife, Heather, halfway through this program. We married and had our son, Nicholas. I did not know how I could possibly finish the program. I did not think I would. There were times that I thought I was going to quit. But they both pushed me to keep going. Now I will be able to make up the time spent away all of those nights. I appreciate the times that Heather took care of Nicholas while I sat working on my graduate work and thesis. I love and thank you both for giving me the support and motivation to finish the program and complete the thesis.
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Researcher Stance

My decision on my research topic: *What are the effects of Reciprocal Teaching, Think-Alouds, and Reflective Journaling on the reading comprehension of third grade students?* was not an easy decision to make. As I worked through the Master’s of Education Program, what I would inevitably choose seemed to elude me until the beginning of the 700-series.

At that point I thought about problems I was having in my teaching practice. I remembered a conversation I had with my principal as we reviewed 4Sight reading scores. Judging me over my students’ lack of progress he said, “Kevin, I don’t know how to say this but you’re just not a good reading teacher.” This remark offended me as a teacher. What was I doing wrong? Why did it seem like I was ineffective when I knew I was reaching my students?

I have always felt extremely self-conscious about my teaching. I still get paranoid when an administrator arrives to evaluate me. I’ve always felt especially worrisome over the subject of reading. For the first few years I relied heavily on the basal. It taught comprehension skills and strategies in isolation. It never assisted in guiding students to knowing which strategies would help them as they are reading. What was wrong with the way I was teaching reading?

As the time for selecting the action research topic was approaching, I knew that I wanted to design an intervention that would hopefully have a positive effect on my students’ reading comprehension.
I had experience in conducting a pilot study about reading comprehension. In 2009 I conducted an individual case study about a student with severe ADHD which was adversely affecting his reading comprehension. I implemented individualized modifications to his environment and instruction which helped him successfully improve his reading comprehension. None of these modifications were metacognitive, although they did cause the student to reflect on his learning and reading processes which meant that he also could adjust his learning and reading.

I had always self-reflected as a person in the same way that I think we all naturally self-reflect. In essence, if I make a mistake and adjust because of it, I’ve self-reflected. As a student in school I adjusted my learning subconsciously in class. In fact, as I think back to my own schooling I am reflecting on myself as a student. From K-6, I was an average student who got along in school. In middle and high school, those learning experiences that were most memorable were the ones that were of high-interest. I had to force myself to learn from the more boring subjects. Subjects that I had difficulty with such as trigonometry, geometry, and economics were a struggle because I was bored with the subjects. I consciously knew that then and would work hard to study the content. I never knew that what I was doing was called metacognition.

I think the most time I spent thinking about how I was learning was during my Spanish courses in high school and college. I knew that I learned vocabulary
best from creating flash cards. I knew that I learned how to speak appropriately by experiencing situations in the class where I was forced to use specific expressions and vocabulary. I noticed that my development in Spanish was having an effect on my development in English. The way I wrote and spoke in English steadily improved.

How students view themselves as readers and their understandings of the selections they read, their own views of their progress, and how they respond and react to components of their reading comprehension are of particular interest to me. How reading comprehension is affected by student self-reflection is especially important to me because it helps me address an area of my instruction where I feel I can and must do better. It would not have helped to choose a research topic and question that I feel either I already know the answer to or would be useless in my practice. As I gathered references for my annotated bibliography, I realized that there were more strategies out there that could reinforce self-reflection, especially the reciprocal teaching intervention model and the think-aloud comprehension strategy. As I perused research studies involving the two, I realized that I wanted to include the strategies in my action research study. I also wanted my students to react to the interventions in writing. Having the students keep a reflective journal about their own reading and learning would help support their own comprehension.

I understand that using reflection to affect student achievement has been
proven effective before. I am curious to see how well it applies to a younger class. I know it worked for my college courses and know that there is significant literature supporting the strategy. The fact that one can reflect on one’s learning, adapt, act, and reflect again on the results is an incredible thing to teach to students at any age and it may also prove to be more effective if started at a younger age.
Research Design & Methodology

In order to begin answering my research question, what are the effects of Think-Alouds, Reciprocal Teaching, and Reflective Journaling on my third graders’ reading comprehension? I set out with a preliminary data collection plan. As the study progressed, I modified some of the data sources and even added data sources as formative results led me to further investigate causes for participants’ responses to my interventions. In order to provide an appropriate and thorough explanation of my research design and its findings, it is imperative to provide some context of the study and its participants.

Setting

I teach in a mostly rural school district located in northeastern Northampton county in Pennsylvania. My school is one of two primary elementary schools in the district. We have approximately 590 students in grades K-4. My entire district became a Title I school district within the last year. Fifty percent of our district population receives free or reduced lunch and more than half of the student population are considered to be in the lower socio-economic class. The majority of the students in my school are Caucasian with a very small percentage of the students being African American, Hispanic, or Asian.

My school also has a class from the local intermediate unit which assists five life-skills students who interact with other classes. Each grade level, other than kindergarten, has a class of enrichment students who are typically reading at
a level above their grade level. Each grade level also has a class of students with special needs who are in the classroom all day and receive support from a special education teacher.

Students have access to many extracurricular activities including sports, science programs, instrumental music lessons, and many other activities. School-wide and grade-level assemblies usually occur monthly and each grade participates in two field trips per year.

During the 2008-2009 school year, I was on the Positive Behavior Committee which developed and implemented a school-wide positive behavior plan. This consists of a series of lessons in which students review the rules and expectations of settings around the school including the school bus, cafeteria, bathroom, playground, hallway, and classroom. Students earn tickets individually for their positive behavior. They get a chance to exchange their tickets for rewards on a weekly basis. Entire classes also try to earn stars to reach a grade-level reward. These are earned by getting compliments from adults other than the homeroom teacher. In my opinion, the system rewards those students who are behaving well naturally and does not deter those students who are extreme behavior problems.

In my classroom, students are seated in groups of four and five. I like to change their seats around every twenty schooldays so that students are meeting other students and getting to know each other. There are two moveable walls in
my room. When my school was constructed, they made quads of classrooms. I share one wall with another third grade teacher and one wall with a fourth grade teacher. The noise is not a bother for the most part. The room is relatively large. My students and I have enough room to work and move around and there is plenty of storage space. There are four computer workstations which function properly and provide me with resources for instruction and review software. Five bulletin boards take up one wall. A different subject is designated for each board. I try to change the boards as the concepts and terms of each subject change. A kidney table is used for guided reading groups and there is a long bookcase in which I keep over a thousand books categorized by subject. The desks are positioned in a way where students can view the chalkboard and overhead screen which I tend to use during presentations and demonstrations. A lot of thought went into the way I set up my classroom for this year, particularly in terms of the research I was about to do.

**Participants**

I am one of five third grade teachers in the school. I have a self-contained classroom of students. We are considered a regular education classroom because we do not have students receiving learning support services nor do we have students who are participating in the school’s enrichment program.

I started the year with 23 students. In October, one student transferred to the other elementary school due to the moving of his residence. For the remainder
of the study I had 11 boys and 11 girls. Their ability levels vary widely. Half of the class is at or above grade-level while the other half is labeled at risk. One participant is an English Language Learner and two participants are diagnosed with Attention Deficit Disorder. There are a few health considerations such as allergies, asthma, and diabetes but by no means do those health considerations affect the learning or instruction of those participants. One participant receives Occupational Therapy services and four participants receive Speech and Language Services. A few students have little to no parental involvement. Most of the participants read for pleasure and most of them also complete classwork, homework, and projects on time.

At first I did not expect to receive full consent from my participants’ parents due to their lack of involvement. Once I did receive full consent, I began collecting data.

**Data Sources & Consent**

I developed my data collection plan which I then added to my research proposal. Once completed, I submitted the proposal to Moravian College Human Subjects Internal Review Board (HSIRB). I was approved a few months later (Appendix A). I also obtained my principal’s consent. I did this preemptively since I heard that he might be retiring (Appendix B). It turned out I was correct. Before he gave me consent he explained that he was worried about agreeing to it arguing that he didn’t want to put this in the lap of the incoming principal. He
ended up giving his consent after I explained the details of the study and assured him that I would discuss my study with the new principal. At the beginning of the school year I obtained consent from the participants’ parents (Appendix C) and the new principal using the same format as before. She loved the study and remarked how refreshing it was to hear that I was conducting action research.

**Pre- & Post-Surveys**

Upon receiving the consent of my principal and parents I gave my students a pre-study survey (Appendix D). I did this to gather preliminary data about my students, how they view reading, how they value reading, and how they view themselves as readers and learners.

The study ended the day before winter break. During that day, I gave the students the same survey for the purpose of analyzing and comparing the results of the two surveys. I was more interested in whether or not students’ negative perceptions of reading, how they read, and how they feel about themselves as readers might affect their reading comprehension.

**Field Log & Double-Entry Journals**

Each strategy used for the study lent itself to specific data sources. For example, direct quotations and the double-entry journal were natural data sources for Think-Alouds, student work and samples were sources for analyzing the reflective journaling. I composed reflective memos twice a week. Ely, Vinz, Downing, and Anzul (1997) recommend using a field log and writing journal
entries that contain both observations from the observer as well as the observer’s interpretations. For Think-Alouds I wrote a double-entry journal containing my observations. I gathered direct quotations from students as they did their own Think-Alouds. I kept these in a field log along with several reflective and analytic memos. Students were encouraged to use Think-Alouds at anytime they were reading independently. Data was gathered from selections in my reading basal.

I also used the double-entry journaling when I observed students discussing aspects of the study. I recorded students’ responses to Think-Alouds, Reciprocal Teaching, and Reflective Journaling and then wrote my interpretations of my observations. I wrote what I thought were the students’ intentions and emotions in relation to how they were participating in and understanding the study.

Halfway through the study I observed students were using Think-Alouds while working with the Title I teacher. I gave her a consent letter (Appendix E) to sign and once she did, I began recording observations from her about the participants and their Think-Alouds. She was able to gather student Think-Alouds from selections she used.

I did note which students were using Think-Alouds the most and it did lead me to observe that a few students were not using Think-Alouds at all. I informally conferenced with those students about their reasons for not feeling that they needed to use a Think-Aloud.
Participant Checks

I set out to conduct group and student interviews during specific points of the study. Ely (1991) explains the importance of interviewing and conferencing with students as a way to hear their voices within the study and to help me see past my own interpretations of what was really happening in my classroom.

An interesting thing occurred during the first few weeks of the study. As I analyzed responses to my pre-study survey, observed students discussing aspects of the study, and analyzed the responses to the first Reflective Journal entry I saw the need to informally discuss their responses with the students. I set out to use one data source and saw the need for adding another source due to how the students were reacting to the interventions of the study. I prepared to collect and analyze the results of the pre-survey only. But then as I was analyzing the surveys I felt compelled to speak directly with students about the reasons for their answers.

I used participant checks for the pre-study survey, post-study survey, reflective journal entries, and at certain stages of the guided reading groups using Reciprocal Teaching. I spoke with students when their responses showed signs of anxiety and confusion. I also spoke with students who seemed to have misconceptions of aspects of the study. These member checks turned out to be some of the most valuable sources of data.
Student Artifacts & Quotations

Students completed reflective journal entries every other week for the duration of the study. This led to the students completing six entries. Entries ranged from topics such as how students viewed themselves as readers to how they think someone could become a better reader.

I am using the five reflective journal entries as well as work recorded in students’ composition books used for guided reading. As part of the Reciprocal Teaching intervention, students were given composition books to record their work as they took on their assigned roles. I collected the books every two weeks to analyze how well students understood what was expected of them in their groups.

Where possible, I recorded direct quotations from students throughout the course of the study. I recorded what the students said as they did Think-Alouds, spoke with each other in guided reading groups, participated in a member check with me, and discussed aspects of the study with each other or me. The Title I teacher also recorded quotations from the students that worked with her during guided reading. MacLean and Mohr (1999) state that salient student work and direct quotations are powerful sources for action research studies because they offer insight into how students are reacting to the study.
Assessment Scores

Natural data sources for tracking the impact of the interventions on students’ reading comprehension scores are the multiple assessments used during the school year. By analyzing classroom-based assessments as well as the 4Sight Reading tests which are given globally, I was able to perceive the type of effect that the Think-Alouds, Reciprocal Teaching, and Reflective Journaling were having on my students. A baseline was given in September. Another round of testing occurred in November and finally another round in February. I was specifically interested in which students would improve, decline, or stay the same throughout the testing and the reasons why these would be occurring.
Trustworthiness

My research study must be reliable and valid. I obtained the approval of Moravian College’s Human Subjects Internal Review Board (Appendix A). I then obtained written consent from my principals and participants (Appendices B & C). When I realized that I would need the observations and notes of my Title I teacher I obtained her consent to use her notes (Appendix E). Hendricks (2009) recommends several steps that an action researcher can take to increase both the reliability and validity of the research study. I am using a variety of data sources as mentioned in the preceding section. I am using a double-entry journal to clearly distinguish my observations from my interpretations.

The anonymity of my study’s participants will be protected by keeping data and results in a securely locked container at my home. I was lucky and was able to obtain every student’s consent which keeps me from having to withhold data. All contents will be destroyed upon completion of the action research study.

In the previous section I wrote a thick-description of both the setting and the participants of the study. This is to give other researchers looking to conduct a similar study background on who the participants were and the context in which we worked together.

The duration of this study also makes it more trustworthy. The study will last roughly three months. I also have enough data sources as well as accurate and reliable data sources. Data sources will relate to their respective activities. Writing
samples accurately give a snapshot of the reflective writing journal. There is no better data source for the reflective journaling strategy than the student artifacts. Other data sources previously selected will accurately give me a snapshot of the effectiveness of the strategies used in the intervention. Looking across all of those data sources including my double-entry observations will lead me to come up with more support for my conclusions, recommendations, and plan for action (Hendricks, 2009). Pre- and post-surveys, student artifacts, interviews, conferences, double-entry journals, and direct student quotations will be systematically collected and analyzed. These will be compiled into a field log for further analysis and presentation (Bogdan & Biklen, 2003).

Validity & Bias

Validity is defined as how accurately my study will report that which it purports to discover. In order to make my study valid I need to report personal and professional biases that I already have about the nature of my study and how my audience of third graders will respond to the interventions (Ely, Vinz, Downing, & Anzul, 1997; Hendricks, 2009). I will already state that I believe my third grade students’ reading comprehension will improve as a result of this intervention. I am also aware that reading comprehension also improves without these specific interventions. I do know that I am investigating how the metacognitive strategies selected affect the third grade class and their perceptions of themselves and their reading comprehension. Knowing this will not negatively
affect how I analyze the data, but rather I will take the stance that I need to provide data to show that comprehension was affected positively, negatively, or not at all. This is why the types of data being collected are so varied.

I will also consider that my speculations and biases of my research study will also guide me in identifying instances of negative case analysis (Hendricks, 2009; Holly, Arhar, & Kasten, 2005). If I am hoping to discover specific results then I will also be open-minded to the fact that there is the possibility of cases where I am not getting those results and that those incidences will lead to further redirection of the research study.

**Analysis of Data**

Ely, Vinz, Anzul, and Downing (1997) recommend an inductive analysis to be the best method for triangulating data. Placing recurring key themes and examples into categories helps triangulate data concerning both the people being studied, third graders, and the metacognitive strategies being used.

Looking at the types of data, how it’s collected, analyzed, and triangulated, I can see how the validity of my study is elevated. I am using both data and method triangulation. With my double-entry observations I will be sure to use low inference descriptors by making note of direct student quotations. I will also use participant feedback by presenting those discovered themes to my class (Hendricks, 2009). Peer review is something that I might also try by discussing this study with other grade-level colleagues. I am working with a reading
specialist who I’ve asked to participate in hopes of gaining a new perspective of my work. Their interest in my study and its discoveries may also directly or indirectly affect my study’s reliability too. I also have the benefit of working with other graduate degree candidates who are conducting their own research studies. As a support group we will be assisting each other during our study. We have already promised each other that we will effectively analyze and critique each other’s findings, assumptions, and interpretations. We will also be able to assist one another when we find ourselves at a stalemate with our own action research studies.

Analyzing data in a thorough manner will lead to noticeable patterns. Also, there will be cases where the data is contradictory to those patterns. The think-aloud strategy may not work for each student. I will have to refine my analysis by conducting member-checks with those students who are not using Think-Alouds. Analyzing these negative cases has led to the revision of the study which could lead to the confirmation of said patterns.
The Story of My Study

Introducing the Study

This year’s class is the fifth group of third grade students I’ve taught in my career. I spent the first two years of my career as a long-term substitute teaching Spanish at both the high school and middle school. Having dual certification to teach kindergarten through sixth grade as well as Spanish opened my options. In 2006 a full-time position opened in third grade which is how I came to teach eight and nine year old children.

I had the pleasure of teaching students with special needs for my first three years in third grade. According to my principal, no teacher should work with learning support students for longer than three years. I began teaching students in the regular education classroom in the fall of 2009 and it has been a challenging adjustment.

I made the mistake of planning this action research study while considering my students from the 2009-2010 year. I thought I wouldn’t have to adjust the study to meet the needs of my new class. I would be in for quite the learning experience with my new class!

I started the study with twenty-three students, twelve boys and eleven girls. I began talking to my class about my study on the very first day of school. Lance exclaimed, “You still go to school?” With that remark, I knew that we would have a good year together. I described the study to the students. I explained
that we would be using strategies to help become better readers and thinkers. My students were excited to hear that I had an interest in what makes them better readers.

In the course of this study we would use the Think-Aloud strategy, Reciprocal Teaching, and Reflective Journaling together in order to see how these strategies would affect the students’ reading comprehension. I use the pronoun we because I heavily modeled each strategy as I introduced them. Think-Alouds would not be a new strategy for me because I’ve been modeling them for years. The challenge for Think-Alouds would be having the students use them independently. Reciprocal Teaching and Reflective Journaling would both need to be well-planned and researched in order to be appropriately implemented.

I made the decision to implement the strategies one at a time rather than all at once. Think-Alouds were the first intervention that I implemented. I knew by the end of the first week of school that my students would be able to handle all three simultaneously once we were well into the study. These students seemed less mature than what I was used to seeing at the beginning of the year. I cautioned myself that they would have to focus on one intervention at a time just to learn them.

During the second day of school I went into further detail about the study and discussed the strategies. I felt that instructing the students on the academic language used when discussing the study and its components was necessary. I
eased them into my language by starting with the term *reflect*. I pointed out that this is what readers with good habits do to make sure that they understand what they are reading. I modeled by pointing to my head and saying, “I have a Think-Aloud, I predict that this story [Cliffhanger] will be about a boy who is going to rescue his dog from a cliff. I am using the picture from the cover to help me.” Then I lowered my finger. The gesture of pointing to my head when conducting a Think-Aloud would become the gesture that the students would reciprocate throughout the study. This helped notify other classmates and me that the student was using a Think-Aloud. While pointing to his head, Lance, a pleasant but highly impulsive boy, stood up right away and shouted, “Think-Aloud!” I could only smile and hope that the rest of the class would take his lead.

**Getting the Students to Think Reflectively**

During the second week of school, I wanted the students to begin to think about themselves and to consider how they view themselves. I had them respond to a very informal writing prompt about what they thought about the first week of school. I asked them to write how they felt. What did they enjoy about the first week of school? What didn’t they enjoy about the first week of school? Was it what they expected? I did this to get them started on thinking reflectively.
Initial Data Collection

It was also during the second week of school that I began collecting important forms of baseline data. I gathered all consent forms (Appendix C) for the twenty-three participants. It excited me knowing that I would be able to use every student’s data and not have to exclude anyone’s information.

I also gave the pre-study survey (Appendix D) and explained to the students that I wanted them to answer each question honestly. I explained that no one would know how they responded and that it was for my study.

It was during this week that students took the initial baseline 4Sight assessment. My district gives these global assessments to discern how students will perform on the standardized state assessment. The baseline assessment is not seen as an indicator of performance and merely functions as a starting point for each child. The second assessment occurring in November would be the more telling assessment and then the third assessment in February would be the most important indicator. Instructional decisions and adjustments are made based on these comprehension scores combined with student performance on Dynamic Indicators of Basic Early Literacy Skills (DIBELS). Students’ baseline scores would be compared with subsequent assessments as well as how students progressed. Would they grow? Would they stay the same? Would they decrease?
Obtaining Baseline Data

My district uses student scores from 4Sight assessments to predict how well the students will perform on the yearly Pennsylvania System of School Assessment (PSSA). I wanted to use these scores as another data source. My class took the Reading 4Sight Test in September and took the test again in November and February. I knew it would be difficult to discern the degree to which the strategies would affect the scores since they’d predictably increased in the past without the implementation of these strategies. I also knew that I was instructing students on how to use several other reading comprehension strategies and skills at the same time as the Think-Aloud, Reciprocal Teaching, and Reflective Journaling interventions. The improvement of the scores would not serve as preferable data source completely separated from the other data sources. They would act as one of my sources for triangulation later. Table 1 displays the baseline scores from September. These scores represent the percentage of items scored correctly. The students are assessed on 3rd grade material at the beginning of the year which means that low scores are expected. I hoped that each student would show improvement by November.

Implementing Think-Alouds

Thinking-aloud is the act of verbalizing the thoughts that are running through the mind while reading and/or solving problems. It’s metacognitive because those individuals who engage in Think-Alouds are able to control their
thought processes and reevaluated their learning and thinking.

The way I envisioned the Think-Alouds evolving in the study started with my use of modeling how and when to use a Think-Aloud. This was the strategy I was most comfortable with to begin. I was already using Think-Alouds during read-alouds and shared reading in language arts as well as solving problems in math.

Ultimately, my intention was to have my students use Think-Alouds on their own before, during, and after reading. I also wanted students to use the strategy on their own without being prompted. These were the goals that I intended for the strategy. As it turned out, the goals were not completely achieved by each student.

I spent the first two weeks modeling Think-Alouds using the physical gesture of pointing to my head. I initially encouraged the students to use Think-Alouds under three conditions. Students were to make predictions before and during reading. This condition comes naturally to students at this level.

Students were encouraged to use a Think-Aloud when they could vocalize a connection they made from their experiences to the texts they were reading. I chose this condition to increase their motivation and interest in the stories we were reading with the expectation that their comprehension would be affected by their interest.

The third condition would challenge the students. I encouraged students to
use a Think-Aloud when they came to a word that they could not read and to attempt to decode the word. They were also encouraged to use a Think-Aloud when they came to a point in their reading where they did not understand something in the text. This would challenge the students by causing them to reflect on their reading while they were doing it. It is fundamentally the monitoring and clarifying reading comprehension strategy but I wanted students to use the strategy on a consistent and active basis.

*Table 1. 4Sight Reading Baseline Scores 09/09/2010*

<table>
<thead>
<tr>
<th>Student</th>
<th>Baseline Score (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abby</td>
<td>50</td>
</tr>
<tr>
<td>Beatrice</td>
<td>55</td>
</tr>
<tr>
<td>Camille</td>
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</tr>
<tr>
<td>Lance</td>
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<td>Neville</td>
<td>50</td>
</tr>
<tr>
<td>Eileen</td>
<td>65</td>
</tr>
<tr>
<td>Francine</td>
<td>30</td>
</tr>
<tr>
<td>Gina</td>
<td>60</td>
</tr>
<tr>
<td>Omar</td>
<td>85</td>
</tr>
<tr>
<td>Paul</td>
<td>50</td>
</tr>
<tr>
<td>Quincy</td>
<td>70</td>
</tr>
<tr>
<td>Hannah</td>
<td>40</td>
</tr>
<tr>
<td>Ivy</td>
<td>65</td>
</tr>
<tr>
<td>Raphael</td>
<td>25</td>
</tr>
<tr>
<td>Judith</td>
<td>75</td>
</tr>
<tr>
<td>Scott</td>
<td>50</td>
</tr>
<tr>
<td>Travis</td>
<td>50</td>
</tr>
<tr>
<td>Kayla</td>
<td>35</td>
</tr>
<tr>
<td>Urim</td>
<td>35</td>
</tr>
<tr>
<td>Victor</td>
<td>35</td>
</tr>
<tr>
<td>Whitley</td>
<td>20</td>
</tr>
</tbody>
</table>
I modeled each condition for the students several times before expecting them to begin using the strategy on their own. The monitor and clarify Think-Aloud was modeled on a daily basis by using the read-alouds from my class curriculum.

Early in the study I faced the conundrum of how to encourage the students to use the strategy without making them feel as if they were being forced to use the strategy. I wanted them to see the benefits that the strategy would provide them. So when situations where students could use Think-Alouds arose, I encouraged them to use the strategy but explained that they don’t have to use them unless they feel it is needed. This led to the majority of the class using Think-Alouds. Unfortunately, a few students did not use a Think-Aloud once throughout the course of the study. This was a weakness in my study. Perhaps a better approach would have been to set a limit so that students had to use at least two to three Think-Alouds during a reading. The result was my vision of students using Think-Alouds conflicting with my methods of creating environments for students to use Think-Alouds and how I set directions for using them.

**Student Think-Alouds**

I introduced a writing project that I’ve done for years. Students take home Templeton and journal what he does with them during the weekend. Templeton is a stuffed rat and is named after the character from E. B. White’s novel, *Charlotte’s Web*. The students look forward to being chosen to take Templeton
home with them. To enhance this, my first read-aloud is always *The World According to Humphrey* by Betty G. Birney. It is about a class pet, a hamster that must spend its weekends with students. It is told from the point-of-view of Humphrey as he describes his adventures and experiences with the majority of the class.

This was the first story that students heard read aloud in third grade. I used it to model several Think-Alouds and I encouraged students to volunteer their own Think-Alouds. Students connected with the theme of being responsible for a pet.

“I have a hamster!” exclaimed Camille.

“I have a guinea pig!” exclaimed Victor.

These remarks showed the rest of the class how Think-Alouds can be done. On the surface, these examples might have looked simple but they show a deep understanding of being responsible for a pet as well as the comparison of two animals. These were shared for the whole class and served as preliminary models for students.

While reading the selection from our anthology, I encouraged students to use Think-Alouds. The selection was *Cliffhanger* by Jean Craighead George and it was about a boy who must climb a cliff to rescue his dog, Grits. It involves rock-climbing techniques and equipment. To further complicate the situation, a thunderstorm takes place during the most suspenseful moments of the rescue. This
was the class’s second day with this selection which is when I have them reread the selection with a partner and complete a graphic organizer related to a comprehension skill. I walked around the room with a clipboard in order to record direct quotations. I explained to the students beforehand exactly what my role would be while they were using Think-Alouds. They knew that I used the clipboard to record information throughout the day so they were used to it. I reminded students to indicate that they were using a Think-Aloud by pointing to their heads. These are the following Think-Alouds I recorded:

“I can’t figure out this word because I can’t read it. I know st. I will chunk the rest. It ends with ly. St...e...ly. St...ea...d...ly. Steadily!” said Camille.

“I’ve done rock climbing too! Me and my cousin had to race to the top. There was a clown we had to grab. So we, so we got it and brought it down. When we got to the bottom, we threw the clown back up,” Said Eileen.

“It’s scary being caught in a thunderstorm. I’ve been in one before. I got inside and then watched it,” said Melvin.

“I’ve been in a storm before. I almost got struck by lightning. It was the scariest day of my life,” said Omar.

“My friend’s mom had a horrible storm and it made a bad flood,” said Abby.

“When we were coming back from a movie it stormed bad. The roads were flooded and the lights were out. It took us 3 hours to get home even though we weren’t that far away,” said Dannielle.

“I know why Axel doesn’t want Grits to fall. My cat got stuck on top of the cabinets in the kitchen and I didn’t want it to get hurt. There was a ladder but I didn’t climb it,” said Beatrice.
From these Think-Alouds I was able to determine that students would use them to make connections from the selection to their own life more frequently than the other two conditions. I was very impressed with the way that Camille used one to accurately read a word she evidently never came across before in her reading. These examples were exactly what I wanted the students to do!

Not only were the connections important, but the way some of the connections were similar made the discussion of the Think-Alouds after the activity more enlightening for the rest of the class. Eileen connected her own experience with rock climbing to the rock climbing in the story. Beatrice could connect with the feeling of being afraid for a beloved family pet just like the main character. Melvin, Omar, Abby, and Dannielle all connected to the storm in the story and related it to experiences they had with storms. The lesson culminated with bringing the class together and sharing the Think-Alouds I observed. Both of these helped encourage students to use Think-Alouds more and demonstrated the appropriate ways to use them.

**Reciprocal Teaching Begins**

Reciprocal Teaching is a reading comprehension intervention developed by Annmarie Sullivan Palinscar and Ann L. Brown. It develops a dialogue between the students, the teacher, and the text. The students take on roles as they read segments of text. The four strategies concerned are summarizing,
questioning, clarifying, and predicting.

It took three weeks for me to grow comfortable with how the students were using Think-Alouds independently. I continued to encourage them to use Think-Alouds and I continued to record them. Towards the middle of September I began discussing the intervention we were going to use during guided reading.

For guided reading, students were divided into five homogeneous groups according to their reading levels. Students were divided into a high-reading group, two on-level reading groups, and two below-level reading groups. The next challenge was to make the roles more interesting for the students. If each student took a different role and needed to debrief the reading with their group, then it should be kid-friendly. In order to do this I developed the idea of creating superhero cards for the students to use (Appendix G). Each superhero has its own powers that explain what the students are to do when they are that specific superhero. The roles in Reciprocal Teaching are: the Summarizer, the Questioner, the Clarifier, and the Predictor. Colorful pictures were adhered to the front of the card which was made from oak tag. While working in groups, students would be able to see which students had which roles. On the side facing the student there was a brief description of what the student was supposed to prepare for the group after reading an assigned section.

The students were genuinely excited to begin this phase of my study. They thought that the superheroes were awesome as they passed each one around. We
discussed how the heroes would function within the guided reading groups. This intervention evolved throughout the course of the study. It began with the five superheroes and expanded to include a sixth hero, the Captain. The Captain was included because guided reading groups typically range from five to six members and each member should have a role. The Captain is in a supervisory position and aids other members while they are preparing their jobs. Both the Illustrator and the Captain were added to the heroes. They are not normal roles in Reciprocal Teaching.

A guided reading schedule was created so that I would be meeting with each group at least twice during a six-day cycle. The title I teacher would meet with the groups with the most needs each day. Meanwhile, students would move around learning centers when not meeting with one of us (Appendix G). This structure was necessary in order for me to properly collect data, assist students with understanding my expectations, and observe the students working.

I began the Reciprocal Teaching intervention with each group by meeting them on the class rug. Each child brought a pencil and I provided them with a composition book. I explained to them that I wanted the composition books to function as note-taking tools. It would be where the Questioner could jot their questions down. Readers could also write challenging words that they encountered in the composition book. It would also serve as the area where the Illustrators could prepare their picture. The Summarizer and the Predictor would
use the composition books if they thought it necessary. I took the time to model how the composition book could be used for the roles.

I also modeled each role during the first few meetings that the groups had. The Summarizer’s job was to retell the important events of an assigned section in the shared books. After reading the section, the Summarizer constructed a retelling with the composition book and the assigned section. The Questioner was to write two to three answerable questions that were first posed to the Clarifier. These questions could be about any challenging words that the Questioner encountered or comprehension questions. I encouraged the Questioner to think of themselves as the teacher asking questions to the student, the Clarifier. The Questioner used the composition book where necessary. The Clarifier needed to find ways to answer the questions given by the Questioner. The Clarifier could use any reference resources available in the classroom such as dictionaries, encyclopedias, or thesauruses depending on the nature of the question asked.

Once the Questioner and the Clarifier are done, a discussion of other words and events follows between all members of the group facilitated by me. The Predictor shared what they think would happen in the subsequent section. In cases where the book was completely read, the Predictor anticipated what the characters would do next if the genre was fiction. When reading nonfiction books, the Predictor anticipated what could be written next regarding the topic of the selection. Finally, the Illustrator would display their sketch for the other members
of the group. The Illustrator had to draw an event from the selection or sketch a connection that they could make to the selection. After viewing the picture, the rest of the group would infer what the Illustrator drew and why they drew it. While members guessed, the Illustrator remained quiet and was not to indicate whether members were correct or incorrect. Once attempts at guessing were through, the Illustrators would explain what they drew and why they drew it.

All of these roles were explained to the students days before we began. During preliminary group meetings, I selected and modeled the roles as an active participant. As we were beginning, a few students mentioned how much they were looking forward to being a superhero:

“I can’t wait to pretend to be the superheroes!” said Urim.

“I want to be the Illustrator first,” said Quincy.

“I’m excited too!” said Victor.

I tracked and cycled the Reciprocal Teaching roles in order to ensure that every student would eventually take on every role. I prevented repetition by writing students and their roles in my own composition book. When students prepared for the next section, they were given new roles.

Early Issues & Solutions with Reciprocal Teaching

As students embarked on their own journeys with the superheroes, I fully participated with each group guiding them along the way. Students seemed to grasp the roles of Questioner, Clarifier, Predictor, and Illustrator easily. The one
role that students struggled with the most was the Summarizer. I wanted a concise retelling of the section with a noticeable beginning, middle, and ending. A lot of students began rereading what the selection believing that to be a summary. Urim noticeably struggled with being the Summarizer. During one debriefing of the roles he glanced at the illustrations of the book and described what was happening. He lacked important events and even omitted characters’ names. I had to intervene several times with the Summarizers at the beginning of the intervention due to the lack of them highlighting the major points of the sections read. I resolved to continually model how to make a good summary including making sure that I had important events and omitted unimportant details. I also had to force Summarizers to use their composition books to plan their summaries.

When students displayed their illustrations during the group meeting they made the mistake of letting their classmates know whether they were right or wrong with their guesses right away. It stopped other students from trying to infer what the Illustrator accomplished. The Illustrator would either deny or confirm guesses by nodding or shaking their heads or vocally telling other classmates if they were right or wrong. I reminded the Illustrators as they began reading and working about how important it was for them to not say anything while sharing.

The only problem with the Questioner would be the occasional unanswerable question for the Clarifier. I would ask the Questioner, “Now, think about that question. Can that be answered from what we read?” That usually
redirected the Questioner to evaluate their question and create a new one.

Whenever students began reading and preparing their roles, I first asked them, “Does anyone need help understanding what their role is?” They would usually reply that they didn’t need help, they knew their role. However, after reading and while sharing, students showed that they did not understand their roles because it was evident that they were unable to complete their tasks in a suitable manner. What key was I missing? I had modeled the roles and had students practice several times, but in these instances the intervention was failing the students. How could it be changed?

“Because I’m Not Really Sure That I’m a Good Reader”

While reviewing the responses to the pre-study survey (Appendix D), I kept track of how students responded. I studied a chart that I had made (Table 2) and realized that it was absolutely necessary to informally discuss with a few students their reasoning for specific answers.

I created the following pastiche to display certain responses from the students as we discussed their surveys. In particular I was most interested in how they saw themselves as readers. Quite a few students responded that they disagree that they are good readers (Figure 1).
Table 2. Responses to Pre-Study Survey  
Taken From 23 Participants

<table>
<thead>
<tr>
<th>Question</th>
<th>Agree</th>
<th>Disagree</th>
<th>Not Sure</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I see myself as a good reader.</td>
<td>15</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>2. I get nervous when reading difficult text.</td>
<td>12</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td>3. I know what fix-up strategies are and how to use them.</td>
<td>4</td>
<td>7</td>
<td>13</td>
</tr>
<tr>
<td>4. I understand better when the teacher shows me how.</td>
<td>21</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>5. I know what thinking about my own reading means.</td>
<td>12</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>6. I enjoy stories more if I can connect with them.</td>
<td>13</td>
<td>7</td>
<td>3</td>
</tr>
<tr>
<td>7. I read for fun.</td>
<td>18</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>8. I think reading is something only done for school.</td>
<td>2</td>
<td>20</td>
<td>1</td>
</tr>
</tbody>
</table>
Figure 1. Pastiche of Why Students Disagreed

I erased a lot of my answers because I didn’t believe my first answer. I do not know if I am a good reader.
- Francine

I mess up on a lot of words when I read and another person says I read slow so I don’t know if I am a good reader.
- Camille

I don’t know if I’m a good reader.
- Ivy

Everybody says I read slow so I’m not sure.
- Melvin

Uhhh…I don’t know a lot of words I’m not sure.
- Paul

Because I’m not really sure that I’m a good reader.
- Victor

I am a good reader a little bit. If I say agree than it means I am a great reader. Long words who I don’t know I get stuck on and the words with different sounds.
- Raphael

I’m not sure about that because sometimes…a lot of times I don’t say the word right.
- Judith
These responses revealed several things. These students lacked the self-confidence necessary to be good readers. A lot of the responses came from negative self-perceptions. Camille felt that since she read at a slower pace, then she must not be a good reader. Melvin mirrors the same feeling. I wondered how many of the students thought that reading fast made you a better reader and that reading slower meant you weren’t a good reader. Where were these thoughts coming from? Paul believes a good reader knows a lot of words and since he doesn’t know many words then he’s not a good reader. I wanted my students to realize that good readers are simply readers who practice good reading habits to make sure that they understood what they were reading, that good readers do read slow and recognize that they may not know every word but that they can find ways to learn those words. Raphael revealed an interesting aspect in how students connected to the survey. Even though it wasn’t indicated that marking Agree meant you saw yourself as an excellent reader, Raphael indicated that he believed this to be the case. Did other students feel this way?

I began thinking that perhaps these individuals didn’t understand what it means to be a good reader. I reassured each of them that a good reader is a reader that practices good reading habits. I explained that even great readers make mistakes while they are reading. I went further by discussing with the students that what makes someone become a better reader is the ability to recognize when they are not making meaning from what they are reading and to use strategies to
fix that break in comprehension. These participant checks gave me a new insight into knowing my students and finding ways to guide them to better understanding.

I had not set out to conduct the interviews while I was developing my data collection plan. But when I noticed the responses to the pre-study survey, I thought it would be valuable to check with those students about their choices and it turned out to be a very powerful and influential component of my study and its effects in my classroom.

**Think-Alouds Revised**

The three strategies: Think-Alouds, Reciprocal Teaching, and Reflective Journaling did not all begin at the same time. Once students were comfortable with Think-Alouds I introduced the Reciprocal Teaching intervention. The time between lasted about two weeks. The class quickly understood the specific settings and situations for which we used the strategies. They knew that Reciprocal Teaching was something we did during Guided Reading and that the Think-Alouds could be used anytime that they were reading. I wanted to emphasize that even though we began a new stage of the study, it didn’t mean that students should neglect using the Think-Alouds. On the contrary, I encouraged them to use the strategy more. I continued modeling Think-Alouds and asked students to share the Think-Alouds they came up with during any form of shared or group reading. Around the same time I created the superhero cards I made a cue card for students to keep at their desks (Appendix H). I wanted this to be a
reminder to students to continue using Think-Alouds and to prompt them to use them in various situations.

During the second reading selection, *The Ballad of Mulan*, I observed that no one used a Think-Aloud. This perturbed me and I brought it up with my research support group. They suggested that I ask the students their reasons why they decided not to use Think-Alouds. They also recommended combining the two strategies by encouraging students to use Think-Alouds while reading independently during Guided Reading.

When I asked students why they didn’t use Think-Alouds for the selection they issued a general response of being unable to connect to the events of the selection. Were they just saying this to cover up that they really forgot?

**Reflective Journal Entry #1**

I used this strategy as a means to receive student input about the study and its aspects, especially how the students felt about their learning and ability to read. The format simply has students respond to prompts by writing.

In all honesty the most challenging piece of the study was planning and explaining the Reflective Journaling. Would I prompt students to think about themselves? How would they respond in writing? How developed is their writing? Would that affect their ability to effectively respond? I had no idea what to expect. I gave each student a composition book for their writing. I told the students to label each entry RJ so that I would be able to discriminate these entries
from other writing pieces that the students would be completing. Students did not put their names on the entries but did write the dates. I simply posed a question and asked them to respond in writing. I explained that these entries would not be graded but that I was interested in reading what they thought about the study, themselves, and school. In particular, my intention was to generate the reflective process in my students so that they could set goals for themselves and evaluate their reading and learning processes.

We were reviewing how to make inferences during and after reading during our class reading of *The Ballad of Mulan*. For the purpose of bringing closure to the lesson, I gave students the following prompt:

- *How do you feel about your ability to make inferences? How can you change that?*

I was not prepared for how unprepared the students were to respond to this. Every student responded but all of the responses could be organized into two general categories: students either did not know how to make inferences (Figure 2), or they misread the prompt (Figure 3)

I felt at the time that I explained explicitly what making inferences meant and how students used them to make meaning. I remember the students meeting eye contact and watching me model making inferences about the selection and I remember feeling good about the way they seemed to be receiving my instruction. At least these two students were very honest about how they felt regarding the
comprehension skill we were reviewing. I would have rather had the majority of the class respond this way than the number of responses I received otherwise.

*Figure 2. Lance’s & Travis’s Responses to Entry 1*

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**Lance’s Response**

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**Travis’s Response**
Figure 3. Eileen’s & Gina’s Responses to Entry 1

Gina’s Response

I feel happy about going to the dentist because I lost a filling and it hurts to eat bread. I’ve been eating bread since I could chew and that was 11 months ago. I was tread and I think I’m going to have fun today.
Eileen’s Response

Although Gina and Eileen had no trouble writing at length about a topic, they were completely off-task when it came to responding to the prompt. These four entries showed me a few things. Students were honest about what they knew and that which they didn’t know regarding reading
strategies and skills. Other students could write at length, remain on topic, and have a sense of basic writing conventions but completely misunderstand a prompt.

I also learned that although this wasn’t the worst choice in journal prompts, it revealed to me that I needed to simplify my prompts and write them in more general terms about reading and the study itself rather than make it particular about specific curricula.

2nd Attempt at Reflective Journals

I wanted the next journal prompt to be directed towards the study itself. The students seemed excited about the superheroes and taking on a different hero’s role each time we read a section in our guided reading books. Victor went out of his way to exclaim to me how excited he was before dismissal the day I introduced the heroes to the class.

For those reasons I gave the students a prompt about a week after the first:

- How do you feel about the superheroes? Do you think they will help you? Why or why not?

The reactions I got from this prompt were definitely more on-topic. Generally the students wrote that they were excited to begin and that they believed the heroes would help them become better readers. They wrote that they thought taking on the roles would be fun and even silly but that
ultimately they loved reading and were looking forward to the guided reading time. Students also indicated areas of weakness that they perceived in themselves and expressed hope that the heroes would help them improve (Figure 4).

*Figure 4. Students’ Positive Reactions to the Superheroes*

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Scott’s Response

I do really like the superheroes because it’s making me be a better reader. When I was in 2nd grade I was not a very good reader but when I was on summer vay cecedn
04-30-10 RJ

I like it because it is cool and fun being a super hero. It might get me better at reading. I struggle a little. I'm not so good at reading. I hope it gets me better. I read it reading it out loud. I'm terrible. I wish I could get better. I think this will get me better. I need to get better at it.

Gina's Response
Not all of the students’ responses favored the superheroes in a positive manner. I appreciated getting these responses (Figure 5) because it showed me
that the students were willing to be honest and didn’t want to just agree with everything I was doing. They had their opinions and needed the outlet to express them.

*Figure 5. Camille’s & Travis’s Responses to Entry 2*

*Camille’s Response*

*RJ 9-30-10*

*F* *think supper* Heros reall little
to childish I think that I could use a little more help*

*Travis’s Response*

Perhaps these students viewed the superheroes as a means to help the students who viewed themselves as poor readers thus they did not believe the Reciprocal Teaching roles would help them. Camille thought them to be childish. Did she feel older than the rest of the class? Travis didn’t see their use or perhaps he didn’t know how the roles were supposed to help him comprehend what he
was reading. Just as the students who disagreed that they were poor readers needed a boost in their self-confidence, did that mean that the reverse was true? Did I have students who believed they were great readers and didn’t think they needed any help?

Think-Alouds Revisited

Students would continue to use Think-Alouds for the next few months. As stated previously, the strategies in the study are happening within the same timeline, although they were implemented at different points. Think-Alouds were introduced and students used them from September through the end of the 2010-2011 school year. Towards the end of September, students began taking on the Reciprocal Teaching roles within their guided reading groups. They would continue this strategy through the end of the 2010-2011 school year. From the middle of September to December, students were given Reflective Journal prompts once every other week.

For the purpose of presenting a variety of situations for using the Think-Aloud strategy, I purchased a bulletin board set of Think-Aloud cues to display in my classroom (Appendix H). I found it from the Creative Teacher Press website (Figure 6). I continued the best practice of modeling Think-Alouds through the use of my read-alouds with students. I modeled the situations presented on the bulletin board as well as the skills and strategies highlighted within the students’ reading anthologies.
Towards the end of September, students began using Think-Alouds to help them sound out challenging words and to clear confusing events. Students also notably used Think-Alouds to use context to deduce word meaning. The majority of Think-Alouds observed were still based on connections that the students made with the literature. Here are examples of connections students made while reading.
Mark Teague’s *The Lost and Found*. The story is a fantasy about children who fall into their school’s lost and found bin and enter a different world.

“It says that later she’s gone. It reminds me of playing hide-and-seek with my friend. I would hide and she couldn’t find me. She thinks I’m gone so she tells her mom and I pop out!” said Eileen as she smiled and raised both hands into the air.

“I lost my hat at Dorney Park. I never got it back and it was my luck hat. I used to wear it every day,” said Scott.

“There’s a box on the bus and it’s like the lost and found. It’s full of toys and clothes and it reminds me of the one in the story because if I reach into it it feels bottomless,” said Camille.

“I know what the lost and found looks like. I’ve been to the one in school and my mom has one at home. I have to go there a lot,” said Dannielle.

It made me wonder if students were able to connect to this selection because it was an amusing story that was relatable. Students predicted events of the story as well:

“I think that the girl is going to get lost looking for her hat. The boys are going to go in after her for to help,” said Francine.

“They try to find her. They are going into the bin and they are trying to go into the lost and found to find the hat and get lost,” said Victor.

Victor said that right after hearing Francine’s prediction about the selection.

Students began using Think-Alouds to decode unfamiliar words and to deduce meaning from context while reading *Radio Rescue* and *Sybil Ludington’s Midnight Ride*. In the first selection, a boy uses a ham radio to alert rescuers during a hurricane of a family that is stranded in their home. The latter selection is
about a girl who rides a horse from home-to-home alerting families and soldiers
of an impending attack by the invading British military. The following examples
were observed:

From *Radio Rescue*
Camille: “I don’t know what that word is [emergencies]. I will put it into
chunks. Ė_mer_mer_gen-c...emergen___...emergencies. Oh, emergencies
I know what they are. That’s one people are in danger.”

Gina: “I am stuck on this [operations]. I will sound it out.
Op__er___ā___shns. Operations. That’s like when people get stitches.”

From *Sybil Ludington’s Midnight Ride*
Camille: “I don’t know what a cloak is. I was able to read it.” [Looks at
picture] “It’s what she’s wearing it's like a petticoat.”

Gina: “I don’t know what seep means. I am reading the sentence but I
don’t know what it means. I also don’t know what cloak means. The
picture is showing her in the rain on her horse so I think that the cloak is
what she is wearing and seep means the water is soaking through the
cloak.”

In some cases, students tried to decode unfamiliar words and couldn’t
quite read the whole word. I eventually had to decode the word for the student:

Francine: “I’m stuck on this word [ferocious].
Fee_rō_ ck...Fee_rō_ ck__s.” [After a few more seconds I had to tell her
the word.]

Scott: “I don’t know this word [acknowledged]. I can chunk it.
Ack___now. Ack___now. I know the last part from *Cliffhanger*. It’s
ledge__ed. I just can’t get the middle.” [I had to tell him.]

I also asked students to volunteer why they didn’t use a Think-Aloud. A few
students remarked that they didn’t make a connection to the selections. Other
students claimed that they could read all of the words.
Urim does something remarkable. He conducts a Think-Aloud that is different from the situations I discussed with the students:

Urim: “She couldn’t knock at every door because they were coming so she told the other people to tell the other people.”

Urim thought he was either making a connection or a prediction. However, Urim clarified a story event for himself. Whether or not he was conscious of this was a mystery.

**How Can You Be a Better Reader?**

That was the prompt I used for the third journal entry. The intention was to cause the students to evaluate themselves critically as readers. Perhaps some would think they were fine as a reader and didn’t need to get better. I wanted to discern how students perceived themselves as readers and which habits they had identified to help improve their own reading.

Their responses supported how they responded to the survey statements: 7. *I read for fun* and 8. *I think reading is something only done for school.* Eighteen of the twenty-three respondents stated that they agree they read for fun while twenty out of twenty-three respondents stated that they disagree reading is something only done for school. Generally, responses to the prompt discussed such things as reading every day, reading for enjoyment, strategies to improve reading, and tips for creating a comfortable environment for reading. While they
listed strategies that would improve their reading it made me wonder if the students actually consciously used the strategies while reading on their own.

*Figure 7. Students’ 3rd Entries*

**Paul**

If you bracce.  
Solving out word.  
Read more and more.  
Reading alone in my room.  
Reading with the teacher.  
Reading to my Dad or mom.  
Reading on the bus.  
Reading in school.

Reading with my brother.  
Reading before dinner.  
Reading with my friends.  
Reading on a camping trip.

Holy Bible

Reading in my house.  
Reading on the beach.  
Reading at the beach.  
Reading in the store.  
Reading in church.  
Reading in church.  
Reading at the beach.  
Reading at the beach.  
Reading in school.  
Reading in the park.  
Reading a book fast.  
Reading a hard book last.  
Reading with my sister.
Dannielle

I learn more words I don't know and don't know how to spell so I can be a better reader and read older books.

Lance

I can read every night and challenge myself and I will get better.

Raphael

I just go to a quiet place and get my glass and think about the mover and inner and make a book that's funny and cool and gross and scary and amazing and sad and feeling and I can get Esae Reader and get pencil and write about the book.

The End
Vignette: Lance

Lance transferred out of my class halfway through the study. He didn’t leave the district but due to his change of address he had to be placed in the other elementary school. It was a very sad day when he left. Our class made a book for him telling him how much we would miss him and thanking him for the things he helped the class with. This vignette is based on observations and an exit-interview I had with him:

I was not looking forward to today. It’s October 15th and it’s my last day in Mr. Lilly’s class. I made a lot of friends who cried as I left. They made me a nice book which I wasn’t expecting. I actually had to leave early because I was going to be shown around the other school.

I liked being where I was. I get a little excited about things and can’t control myself sometimes but Mr. Lilly understood that and didn’t get mad at me when I did those things. I just can’t help it when I know the answer to something. I also always want to be the first one to help and I accidentally interrupt the class sometimes. Mr. Lilly noticed right away that I focused better when he let me stand at my seat. This kept me paying attention to stuff and I got my work done. I hope I can do that in my new class.

As far as the stuff Mr. Lilly was trying to help me with reading. I guess it helped. The superheroes were my favorite part. It was fun to pretend to have superpowers. If you had told me that we were just going to do that stuff it would have been boring. I didn’t really understand the thing with pointing to my head and saying things. It confused me so I just started saying random things. I liked writing my thoughts down. I am not sure how I really feel about that, I just know that I liked it.

I still don’t understand why I have to leave. I mean we moved but we didn’t go far. It doesn’t make sense. I hope I make new friends ‘cause I’m going to miss my friends from my old class.
Reciprocal Teaching: Striving for Student-Centrisμ

It was around the midpoint of the study that I wanted to take away some of the scaffolding I had in place for the guided reading groups. Students knew each role at this point and so I intended to step back from the group and monitor the group as they discussed the readings.

I explained to them that I wanted the students to run the discussions. They would conduct the debriefing in the same order as before: summarize, question, clarify, predict, and discuss the illustration.

It was a challenge for each group at first. They weren’t used to carrying on without me leading the charge and prompting the students when it was their turn. I had set up the students to help each other with their jobs. The Summarizer would share while the rest of the group evaluated the summary. Other members could add more events or details once the summary was complete. The Questioner set up the questions and worked with the Clarifier. At the point where they were done, other members could ask questions about the reading. The rest of the group either agreed with the prediction or disagreed and offered their own predictions. I encouraged the Illustrator to do more than just copy pictures from the books. This was a problem that I noticed after a few weeks into the intervention. The Illustrator simply copied their favorite part of the reading but they weren’t clearly explaining why they drew it. I wanted them to think deeper and find a connection to the reading and illustrate that.
Students worked like this for the remainder of the study. Three out of the five groups were able to read, prepare their roles, and share their roles effectively. The two lowest reading groups still required my direction.

In the cases where students were absent, I continued to take on the assigned role. This gave me a chance to continue modeling the specific job, appropriate group behavior, and how to interact with the other students who just completed their job.

I took great care in moving students between guided reading groups. While monitoring their performances on classroom based assessments I made several decisions in moving students into appropriate groups. I also noted how students performed in the Reciprocal Teaching groups. Students should not have felt out of place. I did not keep a student in a group if it wasn’t an appropriate place for that student. The groups that weren’t functioning without support were those groups comprised of students who generally were low-achieving and needed continued support in several areas such as phonics, fluency, and behavior. This was most evident after students took their second 4Sight Test.

**Entry 4: Do You Feel You Are Becoming a Better Reader?**

I gave the students this prompt in order to engage them in thinking about their progress thus far in the study. Students evaluated themselves based on their comfort-level with the reading selections they’d read as well as their grades on classroom based assessments. I make it a routine to review tests after they’d been
graded as well as have students collaborate with each other on the tests after getting them back to understand their errors.

Generally, the students’ responses were optimistic. Some students mentioned that they thought they were getting better because of me. Those comments may or may not have been produced just to flatter me. Other students directly indicated that the superheroes and the Think-Alouds were helping them. (Figure 8)

Figure 8. Students Mention the Heroes and Think-Alouds

I think the super heros work great on me

Ivy

yes because I like the super heros and not just
writing I am good at reading
but the heros are creep I do a lot of
think a lot at home

Kayla
Students indicated that they recognized their improvement. While some students mentioned that they’d noticed their grades going up as a sign of progress, other students expressed the belief that they were getting better because of their good reading habits (Figure 9).

Figure 9. Students Mention Their Habits
The most insightful responses came from those students who seemed to reflect back to the second and third journal entries. These examples (Figure 10) seem to show reflection on growth. Students mention that their reading abilities had changed. They’re able to read longer words and more challenging texts.

Figure 10. Student Reflections

Yes because at home I help my little sister and I have to read out loud. That’s my problem. I really couldn’t read out loud good. I could read to myself. Great, but now since I help my sister Taylor it helps me out.

Gina

Yes because I can read big words. Student Achievement

Neville
Other entries indicated that students felt they were improving but that they needed more help from me. That’s when I spoke with the students about what we could and made changes to further support them in challenging themselves and seeking out challenging texts.

**Comparing Scores**

I created Table 3 to evaluate how well students scored on the second reading 4Sight compared to their scores on the baseline.

These scores are derived from the computer software, Success For All, which is used to assess and review the 4Sight assessments.

Admittedly, I expected every student to improve by some amount of points. I was alarmed to see that a few students did not improve at all and devastated to find that a handful decreased. What was going on? The students that stayed the same or decreased all had other factors affecting their ability to improve. Melvin has severe ADD and struggles to decode words. Comprehending on-level text can be a challenge for him because he struggles with phonemic awareness, phonics, and fluency.

Raphael is an English Language Learner who has not had any effective
language development in his native language nor English. He can read quickly but makes several miscues and struggles with reading for understanding. Raphael’s needs are not addressed by the study without their being adaptations to address his vocabulary development and reading accuracy.

Table 3. Student Progress Chart

<table>
<thead>
<tr>
<th>Student</th>
<th>4Sight 09/09/2010</th>
<th>4Sight 11/08/2010</th>
<th>Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abby</td>
<td>50</td>
<td>66.67</td>
<td>+16.67</td>
</tr>
<tr>
<td>Beatrice</td>
<td>43.33</td>
<td>70</td>
<td>+26.67</td>
</tr>
<tr>
<td>Camille</td>
<td>66.67</td>
<td>83.33</td>
<td>+16.66</td>
</tr>
<tr>
<td>Dannielle</td>
<td>76.67</td>
<td>96.67</td>
<td>+20</td>
</tr>
<tr>
<td>Melvin</td>
<td>36.67</td>
<td>36.67</td>
<td>0</td>
</tr>
<tr>
<td>Neville</td>
<td>46.67</td>
<td>63.33</td>
<td>+16.66</td>
</tr>
<tr>
<td>Eileen</td>
<td>66.67</td>
<td>76.67</td>
<td>+10</td>
</tr>
<tr>
<td>Francine</td>
<td>30</td>
<td>46.67</td>
<td>+16.67</td>
</tr>
<tr>
<td>Gina</td>
<td>60</td>
<td>80</td>
<td>+20</td>
</tr>
<tr>
<td>Omar</td>
<td>73.33</td>
<td>63.33</td>
<td>-10</td>
</tr>
<tr>
<td>Paul</td>
<td>36.67</td>
<td>23.33</td>
<td>-13.34</td>
</tr>
<tr>
<td>Quincy</td>
<td>56.67</td>
<td>70</td>
<td>+13.33</td>
</tr>
<tr>
<td>Hannah</td>
<td>33.33</td>
<td>43.33</td>
<td>+10</td>
</tr>
<tr>
<td>Ivy</td>
<td>53.33</td>
<td>73.33</td>
<td>+20</td>
</tr>
<tr>
<td>Raphael</td>
<td>26.67</td>
<td>26.67</td>
<td>0</td>
</tr>
<tr>
<td>Judith</td>
<td>70</td>
<td>73.33</td>
<td>+3.33</td>
</tr>
<tr>
<td>Scott</td>
<td>53.33</td>
<td>60</td>
<td>+6.67</td>
</tr>
<tr>
<td>Travis</td>
<td>60</td>
<td>46.67</td>
<td>-13.33</td>
</tr>
<tr>
<td>Kayla</td>
<td>43.33</td>
<td>63.33</td>
<td>+20</td>
</tr>
<tr>
<td>Urim</td>
<td>33.33</td>
<td>20</td>
<td>-13.33</td>
</tr>
<tr>
<td>Victor</td>
<td>33.33</td>
<td>26.67</td>
<td>-6.66</td>
</tr>
<tr>
<td>Whitley</td>
<td>16.67</td>
<td>40</td>
<td>+23.33</td>
</tr>
</tbody>
</table>

Omar missed an entire month and a half of the study due to a bite he received from a barn cat. Losing ten points is not an issue when considering how much of the time in the study he spent out of school.
Paul, Travis, Urim, and Victor all decreased and as I observed their behaviors and attitudes over the length of the study I realized that they were grossly unmotivated. Even Whitley, who improved, was a motivation problem. These were the boys who always put their heads down while seated, they always appeared disconnected from the activities of the lessons, and did not see reading as a pleasure but rather a chore. I spoke with each one after reviewing the results and carefully told them that they did not improve. I used a positive tone with them and reassured them that I knew they could do it and that they weren’t trying hard enough and taking what we were doing seriously. Immediately after our conversation, each child showed improvement on the classroom based assessments that followed.

I am aware that there are other factors that had contributed toward the students’ improvements. During the course of this study, other comprehension strategies and interventions were put into place. Think-Alouds, Reciprocal Teaching, and the Reflective Journaling strategies were all in addition to the other comprehension strategies and skills that students normally review and learn throughout the year. I was fully aware of those skills and strategies and their influence on student scores. It is also the common trend that students’ scores improve throughout the year. What is most eye-opening is the amount of growth. The average improvement of the fifteen students that did improve was an increase by 16 points.
The parameters of what is considered proficient on the 4Sight assessments changes with each test. According to the parameters, twelve out of twenty-two students, fifty-five percent, were proficient in September. In November, only one more student achieved proficiency for a percentage of fifty-nine percent. This did not bother me because of how much the students grew. Although students did not achieve proficiency, the rate of their growth was reassuring to me.

**Entry 5: What Are Your Plans?**

For the last Reflective Journal entry of the study I gave students their two scores from the baseline 4Sight and the second test. I also highlighted how the initial score changed. I prompted students to give me a plan to address one of the three results: What are your plans to make sure it keeps going up? What are your plans to make it go up? I used the latter question to prompt those students who either stayed the same between tests or dropped. Overwhelmingly students indicated that they would do several things that can be categorized as good test-taking strategies. They wrote about slowing down, relaxing, taking their time on questions and problems, not skipping questions, concentrating on what they were reading, not letting themselves get distracted, and studying hard. Figure 11 shows how some of the students who needed to improve responded.
### Figure 11. Students’ Fifth Entries

<table>
<thead>
<tr>
<th>September 4Sight</th>
<th>November 4Sight</th>
<th>Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>60</td>
<td>46.67</td>
<td>-13.33</td>
</tr>
</tbody>
</table>

Looking at your scores tell me what happened. Why did your score go down? What are your plans to make it go up? *I need to slow down.*

**Travis**

<table>
<thead>
<tr>
<th>September 4Sight</th>
<th>November 4Sight</th>
<th>Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>26.67</td>
<td>26.67</td>
<td>0</td>
</tr>
</tbody>
</table>

Looking at your scores tell me what happened. Why did your score stay the same? What are your plans to make it go up? *I work hard and but don’t my growth. I try to hide my best to work hard.*

**Raphael**
Reflective Journal Entry #5 – 11/18/10

Here are your scores for the Reading 4Sights!

<table>
<thead>
<tr>
<th>September 4Sight</th>
<th>November 4Sight</th>
<th>Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>66.67</td>
<td>83.33</td>
<td>+16.66</td>
</tr>
</tbody>
</table>

Looking at your scores tell me what happened. Why did your score go up?
What are your plans to make sure it keeps going up?

I think my score went up because I try and try
and I got better and I’m happy with my score
and I did all that I could do
because it effects my grade and effects my future of being a singer songwriter.

Camille
Vignette: Raphael

Raphael is an excitable student who lacks the necessary attention to perform well in school. He is an English Language Learner and has been a negative case at times during the study. The long run on sentence is not an exaggeration of how Raphael expresses himself verbally.

*Um, I have trouble speaking at times. I went to a speech teacher but my dad said it was hard to get there on time after school so he talked to Mr. Lilly and they got me to see the speech teacher here at the school I have a lot of friends I always like to bring my DS and play videogames with my friends. Both my parents know Spanish but I don’t know it I use English*
all the time but it’s hard to talk with my parents ‘cause they mostly know Spanish and not much English. I know a lot of things but it’s hard for me to pay attention. I miss directions a lot so I make mistakes but Mr. Lilly doesn’t get mad at me. The superheroes are fun to do I especially like the Illustrator ‘cause I can draw a picture while I read. I try really hard but I get bad grades. Mr. Lilly can help me and he tries but sometimes it’s still too hard.

Raphael needs more than what the study has to offer. He needs developmentally appropriate lessons in English including vocabulary development and comprehension.

**Ceasing Collection & Comparing the Three 4Sights**

Even though I stopped gathering data in December, I continued using the Think-Aloud and Reciprocal Teaching strategies throughout the remaining school year. Reflective Journaling also continued but not at the same pace as before. One of the reasons for the continued use of the strategies was to analyze the results of the third 4Sight assessment which occurred in February. This was the final test before the PSSA. The last test would be given in May when the data is used for grouping students for fourth grade. Table 4 displays student growth from the baseline to the second test. It also shows growth for each student from the second test to the third test. The last column contains the overall growth of each student from the baseline to the third test. Students’ scores are also displayed for each test.
Most students improved greatly over the course of the study. Most telling is the data in the last column. Almost half of the class improved by a quarter of the possible points from test one to test three.

Both Omar and Paul managed to gain back what they lost from the previous test which accounts for the lack of growth overall. Only Scott dropped

<table>
<thead>
<tr>
<th>Student</th>
<th>4Sight Test 1 09/09/2010</th>
<th>4Sight Test 2 11/08/2010</th>
<th>4Sight Test 3 02/08/2011</th>
<th>Growth From Test 1 to Test 2</th>
<th>Growth From Test 2 to Test 3</th>
<th>Growth From Test 1 to Test 3</th>
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<tbody>
<tr>
<td>Abby</td>
<td>50</td>
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<td>Beatrice</td>
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<td>+36.67</td>
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<td>83.33</td>
<td>96.67</td>
<td>+16.66</td>
<td>+13.34</td>
<td>+30</td>
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<td>Dannielle</td>
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<td>93.33</td>
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<td>-3.33</td>
<td>+13.33</td>
</tr>
<tr>
<td>Eileen</td>
<td>66.67</td>
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<td>86.67</td>
<td>+10</td>
<td>+10</td>
<td>+20</td>
</tr>
<tr>
<td>Francine</td>
<td>30</td>
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<td>66.67</td>
<td>+16.67</td>
<td>+20</td>
<td>+36.67</td>
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<tr>
<td>Gina</td>
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<td>80</td>
<td>83.33</td>
<td>+20</td>
<td>+3.33</td>
<td>+23.33</td>
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<tr>
<td>Omar</td>
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<td>73.33</td>
<td>-10</td>
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<td>+16.67</td>
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<td>Hannah</td>
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<td>63.33</td>
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<td>Ivy</td>
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<td>+36.67</td>
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<td>0</td>
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<td>+23.33</td>
</tr>
<tr>
<td>Judith</td>
<td>70</td>
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<td>86.67</td>
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<td>+16.67</td>
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<tr>
<td>Scott</td>
<td>53.33</td>
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<td>46.67</td>
<td>+6.67</td>
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<td>-6.66</td>
</tr>
<tr>
<td>Travis</td>
<td>60</td>
<td>46.67</td>
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<td>-13.33</td>
<td>+20</td>
<td>+6.67</td>
</tr>
<tr>
<td>Kayla</td>
<td>43.33</td>
<td>63.33</td>
<td>80</td>
<td>+20</td>
<td>+16.67</td>
<td>+36.67</td>
</tr>
<tr>
<td>Urim</td>
<td>33.33</td>
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<td>76.67</td>
<td>-13.33</td>
<td>+56.67</td>
<td>+43.34</td>
</tr>
<tr>
<td>Victor</td>
<td>33.33</td>
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<td>43.33</td>
<td>-6.66</td>
<td>+16.66</td>
<td>+10</td>
</tr>
<tr>
<td>Whitley</td>
<td>16.67</td>
<td>40</td>
<td>46.67</td>
<td>+23.33</td>
<td>+6.67</td>
<td>+30</td>
</tr>
</tbody>
</table>
overall. Scott progressively lost focus during the study and at times, appeared to be inattentive and unfocused. He couldn’t seem to find a balance between not thinking enough about what he was reading and thinking too much to the point where he confused himself. The point is that it was evident that Scott could read the assessment and that he misunderstood questions and fell into the pratfalls of the test. When I spoke with him he mentioned that he never looked back into the selections to support his responses. Scott and I have since discussed and practiced good test-taking habits.

Paul, Travis, Melvin, Raphael, Urim, and Victor improved from test two to test three after losing points previously. It’s also important to note that each test was more challenging than the one preceding it.

**Concluding the Study**

Before the winter break I shared my thoughts about the study with the students. I thanked them for all of their hard work and comments. I administered the post-survey (Appendix D) and after collecting the surveys I explained to the students that we would still continue to use the three strategies. They agreed that they saw the benefits of Think-Alouds, Reciprocal Teaching, and Reflective Journaling for themselves as readers and learners. I teased that I was going to stop using the superheroes and they all complained; even Camille and Travis who initially didn’t like the idea of the superhero roles.

I tabulated the responses (Table 5) in an identical way of tabulating the
responses to the pre-study survey.

*Table 5. Responses to Post-Study Survey*

*Taken From 22 Participants*

<table>
<thead>
<tr>
<th>Question</th>
<th>Agree</th>
<th>Disagree</th>
<th>Not Sure</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I see myself as a good reader.</td>
<td>21</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>2. I get nervous when reading difficult text.</td>
<td>8</td>
<td>13</td>
<td>0</td>
</tr>
<tr>
<td>3. I know what fix-up strategies are and how to use them.</td>
<td>14</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>4. I understand better when the teacher shows me how.</td>
<td>22</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>5. I know what thinking about my own reading means.</td>
<td>22</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>6. I enjoy stories more if I can connect with them.</td>
<td>21</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>7. I read for fun.</td>
<td>20</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>8. I think reading is something only done for school.</td>
<td>0</td>
<td>22</td>
<td>0</td>
</tr>
</tbody>
</table>

There were several notable differences from the pre-study survey responses. Most students agreed that they saw themselves as good readers. Not as many students admitted to feeling nervous when reading difficult text which was a big deal because we had read several difficult selections throughout the study and during
testing. Students became more knowledgeable about fix-up strategies and thinking about their own reading. They also realized that reading can be fun and does not have to be just done for school and students understand books when they can make a connection. Students who previously answered positively to each question did not change their responses. Those students with whom I’d conducted member-checks with had switched their responses. Some students still felt the same. Most notably, Melvin, who continued to struggle with his low self-confidence.
Literature Review

Introduction

This review of literature supports my thesis that the implementation of specific metacognitive strategies: reciprocal teaching, think-alouds, and reflective journaling will have positive effects on third-grade students’ reading comprehension. This review is organized to first give studies using the three strategies and combinations of the strategies, followed by the definition of reading comprehension that this review supports, a widely-accepted definition of metacognition, and an overview of student-centered learning. The review closes with a summary that relates the review to the study. Within each section, studies are synthesized to support the related portions of the thesis.

Think-Alouds

The think-aloud strategy is the use of orally describing one’s thinking process out loud (Baumann, Jones, & Seifert-Kessell, 1993; Block & Israel, 2004; Henry, 2003; Lapin, 2003; Oster, 2001; Pearson, 1985; Serran, 2002; Walker, 2005). While this may sound rather simple, it is far more complex than merely saying out loud what one is thinking while one is reading. As the teacher models the strategy, the teacher may choose to model using specific comprehension strategies such as: predicting, questioning, monitoring, summarizing, analyzing cause and effect, highlighting a text connection, etc (Pearson, 1985). A think-aloud can also be used to decode new vocabulary or unknown words. It is a
strategy designed with the purpose of creating the eventuality that students will begin thinking-aloud. Eventuality is used as a way to describe the process a strategy goes through to become useable by the students independently.

The think-aloud is a metacognitive strategy because it involves consciously monitoring one’s thought processes. It is a strategy that influences reading comprehension greatly (Barbe-Clevett et al., 2002). Research suggests that good readers monitor by keeping a voice in their head that is supposed to process material being read and that poor readers merely see words but do not synthesize the words (Barbe-Clevett et al., 2002; Bellanca & Fogarty, 1992). This connects to Piaget (1928) in that the reader in the third grade classroom is right on the limit of understanding that they are to make some meaning of what they are reading and that reading is no longer about decoding words but that reading will now help in the learning process. Developmentally, students spent the first few years of elementary school learning how to read. At the stage of third grade, students must learn from what they are reading.

Block and Israel (2004) found in their study of the think-aloud that proficient readers tend to use similar thought processes while less able readers do not unless the teacher demonstrates the thought process. A trend was found that many students are able to decode words and read fluently, but may not necessarily be able to monitor their comprehension and make meaning of what they are reading.
Using Vygotsky’s concept of scaffolding and the direct instruction model of teaching, the think-aloud strategy can be transferred to the students. This combination is a natural fit. Scaffolding describes the gradual transfer of conceptual and cognitive processes to the student. The direct instruction model of teaching follows distinct steps: teacher-modeling, guided practice, and independent practice (Pearson, 1985). A think-aloud can assist students in getting over the gaps or blocks they may encounter while reading the text. The teacher is giving insight into how they are deriving meaning from the text. Students view this and begin to replicate it though not without additional support. Younger students will need prompts or cues during their reading in order to stop and say out loud what they are thinking about. The very act of having students actively think about what they are reading is essentially comprehension monitoring and having them say out loud what their thought process was while they were reading makes them an active participant in their reading and learning (Pearson, 1985).

As teachers identify the specific reading strategies that they want their students to learn, the teachers begin to model those strategies by thinking aloud their cognitive processes to the students. This can be done before, during, and after reading fulfilling several situations. Activating prior knowledge, predicting, questioning, monitoring, clarifying, summarizing, and connecting are a few examples of the strategies modeled by think-alouds. This conveys the idea to the targeted audience that there is a difference between strictly reading words and
comprehending the text (Barbe-Clevett et al., 2002). With the use of self-monitoring and coached-practice, students grow to know the behaviors of good readers and begin to practice these strategies and behaviors independently (Barbe-Clevett et al., 2002). Researchers have found that poor readers do not hear the inner voice of their cognitive processes as they read a text. This can be developed through well-planned thorough teacher modeling think-alouds (Barbe-Clevett et al., 2002).

Readers orally relate the strategies they are using and how they are facilitating the construction of meaning. Think-alouds assist in identifying areas of weakness as well as points in reading when a reader recognizes when they are either using a strategy incorrectly or they see the need to change the strategy (Baumann et al., 1993; Henry, 2003; Oster, 2001). It is poor judgment to assume that readers, especially young readers, already know how to use the strategy. As stated previously, the strategy must be transferred from the teacher to the students. It is most effective when the students can utilize the think-aloud independently (Oster, 2001).

The think-aloud strategy connects to the educational philosophy of Vygotsky (1978) in that when students are conducting collaborative think-alouds they are participating in social construction of comprehension and meaning (Baumann et al., 1993; Ulicsack, 2004). Vygotsky theorized that students could learn in social situations and that the construction of knowledge and meaning
could be fostered through social collaboration (Vygotsky, 1978). This helps in the transfer of the think-aloud strategy from the teacher to the student. Thinking-aloud with peers creates more relevance as the students learn from each other.

Researchers argue that if reading comes from comprehension and comprehension is not occurring, then teachers must be equipped with a variety of strategies that they can use to instruct their students. Furthermore, a specific strategy to the researchers of this review is how to improve metacognitive awareness in students by using the think-aloud strategy (Henry, 2003; Serran, 2002; Smith, 2006; Walker, 2005).

The think-aloud strategy, when implemented correctly, can have an impact on the reading comprehension of readers as young as the primary grades. It is the first of three metacognitive strategies that comprise the focus of this review.

**Reciprocal Teaching**

Reciprocal teaching (RT) is an instructional activity that incorporates a dialogue between the teacher and the students about a piece of literature (Palinscar & Brown, 1984). RT is considered an effective instructional intervention to help develop metacognitive awareness and reading comprehension (Palinscar & Brown, 1984; Pilonieta & Medina, 2009; Serran, 2002; Sporer, Brunstein, & Kieschke, 2009; Todd & Tracey, 2006). The intervention focuses on the use of four central comprehension strategies: summarizing, monitoring, questioning, and predicting or inferring. The speakers take turns discussing key
The aforementioned researchers agree that once students can decode and read fluently, reading comprehension is factored by three main concepts: students prior knowledge of the content, considerate texts, and a variety of comprehension strategies that readers can use as well as the development of the ability to get around comprehension obstacles (Palinscar & Brown, 1984; Pilonieta & Medina, 2009; Serran, 2002; Sporer et al., 2009; Todd & Tracey, 2006). Considerate texts are described as reader-friendly and following a familiar structure and development. Palinscar and Brown (1984) describe a distinction between the automatic and debugging state of mind that proficient and struggling readers have developed when reading. Proficient readers read automatically until a triggering event occurs which alerts them to an issue in their comprehension (Palinscar & Brown, 1984). While the reading flows smoothly for proficient readers, when they find a part where their comprehension breaks they must slow down and put time and effort into using a strategy to fix the comprehension issue. Either an expectation of the literature is not being met or the same unfamiliar concepts are encountered too consistently to ignore are the causes of a proficient reader too slow down and fix the break in comprehension. The struggling reader in these studies is described as the reader who can decode and read fluently but has yet effectively constructed significant meaning from the text (Palinscar & Brown, 1984).
Reciprocal teaching is a metacognitive intervention. Pilonieta and Medina (2009) found that proficient readers self-regulate and use an assortment of reading strategies and also know comprehension is breaking down. Serran (2002) conducted a research study that used a combination of RT and the think-aloud strategy. The hybrid of those strategies showed significant gains in the research subjects’ reading comprehension scores as well as their motivation and metacognitive awareness.

Instructing the cognitive activities of recognizing comprehension failures is imperative. Giving students a variety of fix-up strategies and instructing them on how to actively use these strategies is the goal of reciprocal teaching as well as ultimately the goal of developing metacognitive awareness in students (Collins, 2001; Palinscar & Brown, 1984; Serran, 2002).

Predicting, questioning, monitoring, and summarizing were selected due to their functionality in meeting two goals: enhancing comprehension and giving the student a chance to evaluate whether or not the strategy is occurring. Students read a section of a text and then prepare to debrief their roles with the rest of the group. Students evaluate each other based on what they know about the specific strategy that is being used. For example, the student who is summarizing must retell the important parts of a section. While the student is summarizing, the other members of the group evaluate what the student is saying and add their own commentary to the student’s summary. The student developing questions asks
questions about confusing events and/or words of the selection. The student clarifying the selection responds to those questions. The student making predictions share what they believe will happen in subsequent sections. The other group members agree or add their own predictions. All four rely heavily on the reader’s prior knowledge of the relevant content. Having students predict causes them to create and test predictions on future events or content of the literature. Having students generate questions forces them to focus on a main idea of the text. Having students monitor and clarify means they are engaging in critical evaluation while having students summarize forces them to show understanding and order of text events (Palinscar & Brown, 1984).

Palinscar and Brown cite specific cases where struggling readers show significant deficiencies in being able to aggressively engage in the four strategies on their academic reading levels. Vygotsky is mentioned again in the development of RT. The instructional activities of RT are employed using Vygotsky’s (1978) expert scaffolding concept. The teacher assumes complete responsibility in the introduction of the strategy while the student participates merely as a spectator. The responsibility is gradually shared by the teacher and the student with the teacher becoming the guide and sympathetic facilitator of the student’s use of the strategy. Eventually, the student takes full responsibility of using the strategy. One of the goals of this is that the students becomes critical of themselves as they read and learn (Palinscar & Brown, 1984; Vygotsky, 1978). It
was also found that struggling readers are lacking even the most basic of skill instruction due to their deficiencies in decoding and fluency which in turn lead to the students receiving instruction and intervention in those areas in place of the thinking skill instructional activities.

In those studies involving RT, subjects began their respective studies with a degree of shyness and hesitation. By the end of the studies subjects gradually displayed independence and responsibility of using the four central activities. The structure of RT has the teacher and the student switching roles with each other with each reading of a selected passage. They then discuss the passage as naturally as possible through the lenses of the four strategies (Palinscar & Brown, 1984; Pilonieta & Medina, 2009; Serran, 2002; Sporer et al., 2009; Todd & Tracey, 2006). Some of the studies focused on struggling readers who weren’t at that time receiving the skill instruction alongside the decoding intervention (Palinscar & Brown, 1984; Pilonieta & Medina, 2009; Serran, 2002). All of the studies involving RT had profound results. Reading comprehension scores and motivation improved for all research subjects including the struggling readers. Subjects and grade-levels studied were seventh (Palinscar & Brown, 1984), primary (Pilonieta & Medina, 2009; Sporer et al., 2009), eighth (Serran, 2002), and four at-risk fourth graders (Todd & Tracey, 2006). It is important to note that Pilonieta and Medina 2009 took a more direct approach in creating an instructional resource to assist primary teachers in implementing RT in their
classrooms.

It is important to note that two studies found significant gains when RT was implemented in tandem with the think-aloud strategy (Serran, 2002; Todd & Tracey, 2006). This is of great significance for this literature review and for the purpose of the action research study. The purpose of this action research study is to further observe the effects of implementing the think-aloud strategy along with RT along with a third strategy: reflective journaling.

**Reflective Journaling**

Reflective journaling refers to the students reflecting on their thought and feelings throughout the lesson and/or day. The journaling aspect is the use of the skill of writing to reflect. Proponents of this strategy state that it encourages metacognitive processes. Much research has been done concerning the use of reflective journaling in adult education classes, secondary education classes, and post-secondary institutions. A few research studies have evaluated concepts such as the relationship between reading and writing (Shanahan & Lomax, 1986). One of the metacognitive strategies utilized in the 2002 study conducted by Barbe-Clevett et al., was reflective journaling. The subjects were sixth graders. The study ultimately concluded that the student’s motivation to read and reading comprehension improved greatly although post-survey results found issues with journaling. It was a generalization that the students found journaling to become an academic chore. It may have had a positive effect on reading comprehension and
motivation to the perceptions of the researchers but the subjects perceived the use of reflective journaling as meaningless. Regardless, when used properly reflective journals effectively capture the students’ views of their own learning within the scope of learning a new and/or complex process or concept. It is an assessment tool used by teachers to formatively assess student progress. Very little formal research is found where reflective journaling is used as a strategy for primary-aged students. Furthermore, very little formal research is found where reflective journaling is used in conjunction with the think-aloud strategy and reciprocal teaching. Knowing that reading and writing interacting together is an instructional model that will benefit both skill areas (Shanahan & Lomax, 1986), this research study will utilize the reflective journaling as a formative assessment tool and data collecting tool to observe the effects of the other two metacognitive strategies.

Comprehension

Reading comprehension is complex. It is a process that is more than the rote memorization of a specific skill set. There are many obstacles that impede a student from constructing meaning from text: deficits in areas of phonemic awareness, sight word recognition, and fluency. The challenge of the teacher is in facilitating the students in reaching the point of having adequate fluency and comprehension skills all within a heterogeneous group of differing reading abilities. The challenge is coupled by accomplishing this without diluting curriculum (Smith, 2006).
For this review and study, the closest definition to how comprehension is viewed comes from Maureen McLaughlin’s (2008) article. She cites the definition from *The Literacy Dictionary* (1995) edited by Harris and Hodges. Reading comprehension is defined as:

> The construction of meaning of a written or spoken communication through a reciprocal, holistic interchange of ideas between the interpreter and the message in a particular communicative context. *Note:* The presumption here is that meaning resides in the intentional problem-solving, thinking processes of the interpreter during such an interchange, that the content of meaning is influenced by that person’s prior knowledge and experience, and that the message so constructed by the receiver may or may not be congruent with the message sent. (p. 39)

McLaughlin takes the reader through a historical overview of how reading comprehension and how it is perceived by educators and policymakers has changed over the past several decades. Although reading comprehension is one of the five building blocks of literacy, it is viewed as the ultimate goal for which phonemic awareness, phonics, fluency, and vocabulary contribute.

McLaughlin describes comprehension’s role in education through the decades and cautions readers that there is a significant gap of time between the
research she reviewed and the effects on teaching practice. During the 1950s comprehension was not emphasized and basals were primarily used. Phonics was the main focus. Developments in understanding comprehension occurred during this time but the theories were not put into practice. The psycholinguist movement of the 1970s further clarified the idea of comprehension and defined it as “making meaning, to value texts that used natural language patterns, and to understand the reading process and appreciate children’s efforts as readers” (p. 87).

Vygotsky is cited as making an impact on the evolution of comprehension by the research done on his zone of proximal development theory and his theory on foundational scaffolded teaching and learning. McLaughlin cites Rosenblatt’s (1978) work on transactional theory in which meaning is described as the transaction between the reader and the text and that it is vital to consider the readers’ abilities to think and express themselves. In the 1980s, schema theory was developed as well as the conducting of significant research which supported the reading-writing relationship. Schema theory is described as the reader’s use of his or her prior knowledge to better understand new knowledge. The research of the 1980s also brought forth the importance of metacognition. The impact of students thinking about their own thinking led to further studies on helping readers to develop awareness of the strategies of comprehension. Reciprocal teaching also became a prominent routine. The movement became more concerned about specific comprehension strategies and how they were taught. The
1990s saw a decline in the instruction of comprehension strategies due to the whole-language movement. Comprehension developments included those strategies which focused on making meaning. The early 21st century saw a shift in focus on the professional development of teachers. This was done so that the research and theories that were developed could be imparted upon professional educators. There is also a movement to focus on how curricula on reading comprehension can focus on helping English language learners, students with special needs, and diverse students. With technological advances there also comes new forms of literacies which must be taken into consideration.

In 2000, the National Reading Panel (NRP) issued a report that led to a reemergence of focus on comprehension skill instruction. Teachers reflected on their practice and how they were employing the comprehension strategies. This thorough reexamination of how comprehension was previously taught, led to skills and strategies being taught in isolation and broken down into individual parts. Teachers rely on basal anthologies that tend to neglect the interrelationships of the core reading skills and strategies which have led to a disconnect between the student and what they are reading. Researchers have suggested showing students how the skills and strategies are connected. Being conscious of the myriad of strategies and when to employ specific ones to reconstruct meaning is another suggestion (Dewitz, Jones, & Leahy, 2009; Marcell, DeCleene, & Juettner, 2010). The goal of reading comprehension is that readers are able to
construct meaning of the text they are reading independently.

Teachers often misconceive a student’s choice in literature as a signal for something different. Students sometimes select books that are easier for them to read and may not choose a book that would challenge them. It’s important for students to broaden their reading selection and students may not choose certain texts because they do not feel confident in reading a certain genre. A poor attitude can be mistakenly perceived by the teacher. The poor attitude may be caused by a student’s lack of self-confidence in how they see themselves as a reader. The teacher must challenge the student to challenge themselves as readers and learners. When the teacher assumes that a student can read and construct meaning and just suffers from a bad attitude without further investigating the core of the issue, more comprehension deficits can occur (Dewitz et al., 2009; Marcell et al., 2010).

The same report by the NRP recommended that teaching reading comprehension should meet three goals: develop vocabulary knowledge, learn reading strategies, and provide professional development for teachers unfamiliar with the instructional implications of the report’s recommendations. Publishers developed reading texts that taught reading skills and strategies in isolation. Dewitz et al., 2009; Marcell et al., 2010 eventually concluded that although students could name strategies they could not actively use the strategy on their own due to being unaware, consciously, of a processing break in their
constructing of meaning of the text.

Due to the NRP report, the noticeable trend in students still struggling with reading comprehension, and the implementation of high-stakes testing in the nation’s schools, further research and theories have reviewed the effects of using metacognitive strategies in the classroom and children’s metacognitive awareness development.

**Metacognition**

The development of student metacognition is enhanced when Vygotsky’s theory of the zone of proximal development is applied to how metacognitive ability is developed in the classroom along with the use of the best practice of scaffolding instruction. Researchers have found that in relation to the amount of empirical educational research only a small amount of research has been conducted on metacognitive awareness and the use of metacognitive strategies in the classroom (Barbe-Clevett, Hanley, & Sullivan, 2002; Barton, Freeman, & Lewis, 2001; Collins, 2001; “Learning to Learn”, 1997). Furthermore, not much has been done in the primary-aged classrooms. Many researchers have discovered, though, that the earlier students can become metacognitively aware or conscious of their learning and employ strategies the more positive the outcome in the classroom (Barbe-Clevett, Hanley, & Sullivan, 2002; Barton, Freeman, & Lewis, 2001; Collins, 2001; “Learning to Learn”, 1997). These sources as well as this study support the hypothesis that developing student metacognition can
positively affect students in their areas of need. Researchers from Saint Xavier University conducted an action research project in 2002. Their plan was to develop metacognitive reflection in readers to improve reading comprehension in both fiction and nonfiction text. During their literature review they found several conclusions which led to the theory that metacognitive reflection can be a solution to several deficits in readers: student’s lack of motivation, comprehension skills, and the transfer of comprehension strategies to other content areas (Barbe-Clevett et al., 2002). Those aforementioned deficits were discovered through pre-intervention data gathered by the researchers. The researchers implemented several strategies. Two strategies that are of great significance to other sections of this study are the researchers’ use of think-alouds and reflective journaling in their project. This study was conducted with a heterogeneous group of sixth grade students.

Kuhn (2000) describes metacognition as “enhancing (a) metacognitive awareness of what one believes and how one knows and (b) metastrategic control in application of the strategies that process new information” (p. 178). This correlates to the issues of comprehension strategies being taught in isolation. Metacognition is defined here as one’s ability to know how one thinks, learns, and controls those processes as one solves reading and arithmetic problems.

Boulware-Gooden, Carreker, Thornhill, & Malatesha (2007) studied the effects of systematic direct instruction of metacognitive strategies on
comprehension and vocabulary development. This connects back to two out of the three recommendations of the NRP report from 2000. The study also incorporated the intervention model of reciprocal teaching into its instruction. This is significant because their study dealt directly with the first two goals set by the NRP in 2000. The study is comparable to those found in the section about reciprocal teaching found later in the review.

Cattell (1999) also studied the effects of metacognition on reading comprehension with high and low achieving fourth grade students. Cattell cites Vygotsky (1978) and his transfer-of-responsibility model of instruction as a way to instill metacognitive skills and awareness in students. The goal of reading comprehension is to develop active independent readers. This can be done via classroom instruction and by transferring the responsibility of regulating one’s cognitive processes from the instructor to the students with the teacher modeling the strategies from the beginning with the students eventually achieving independence with the strategies.

It is more important for teachers at the primary level to be actively instructing and modeling these metacognitive strategies. Piaget (1928) describes children as young as third grade as not being able to tell the difference between thought content and knowledge about thinking processes. Flavell (1976) describes the issue further by declaring that the young child does not know of the metacognitive components and cannot feasibly apply strategies independently
without heightened awareness.

Flavell found that those students who suffer from comprehension deficits also suffer from metacognitive deficits. Furthermore, Kolic-Vehovec and Bajsanski (2006) found that young readers generally overestimate their understanding of a passage of text. They lack the conscious control of monitoring their comprehension. They are often not constructing meaning and often feel that simply decoding words is enough to understand a text. Young readers do not discriminate between decoding words and understanding their meaning.

Metacognition is a concept not taught explicitly in teacher’s resource manuals and texts. It is something that must be modeled and taught using Vygotsky’s scaffolding and zone of proximal development.

As stated in the beginning of this section, several studies have shown that the use of metacognitive skills are not limited to adults (Barbe-Clevett et al., 2002; Barton & Lewis, 2001; Boulware-Goodeen et al., 2007; Cattell, 1999; Desautel, 2009; Eilers & Pinkley, 2006; Kolic-Vehovec & Bajsanski, 2006; Ulicsack, 2004). This supports the theory that metacognitive strategy intervention can be highly effective for school-age children. The studies also indicated a significant link between at-risk students and metacognitive deficits. Several studies support the use of think-alouds and reciprocal teaching as strategies that can positively affect student metacognition. A few studies found support the use of reflective journaling as a strategy to enhance student metacognition. Its purpose
is to also look closely at specific findings that involve reflective journaling, the use of modeled think-alouds, and reciprocal teaching. Key literature that utilizes any combination of those strategies will be highlighted in the following sections.

**Student-Centered Learning**

For a long period of time the direction of learning was led by the classroom teacher. Though there are many benefits to student achievement through this approach, historical and empirical research has shown that student achievement is greatly impacted by student-centered learning. The developmental psychologist Jean Piaget was one of the researchers who studied how children learn and developed the constructivist learning theory as well the theory of cognitive development. The Soviet psychologist Lev Vygotsky founded cultural-historical psychology and also researched how children learned. Both psychologists contrast in how they view the cognitive development in children and its impact on their learning. Piaget theorized that children learned through their interaction with their environment while Vygotsky theorized that children learned through social interaction (Woolfolk, 2004). Piaget and Vygotsky had made a profound influence on instruction, student achievement, and how educators viewed student achievement.

A revision of research on student-centered learning in the 1980s led to continued cognitive research on teaching (Ornstein, Pajak, & Ornstein, 2007). The research focused on the teaching of reading comprehension. Before the findings
of the revision, comprehension skills were taught in isolation and student understanding of reading comprehension was generally assumed by educators including those teaching primary-age children (Ornstein et al., 2007). Research results led to the impetus of granting more autonomy to the students thus supporting student-centered learning. Researchers looked for ways to encourage self-monitoring and self-teaching to foster independence. Skills were seen as important but priority was given to the learner’s monitoring and management of skills. Before, teachers took the responsibility of planning, allocating time, and reviewing. These findings suggested that those functions, primarily done by the instructor, served the students more if they could be transferred to the students. The terms metacognition and scaffolding became pedagogy (Ornstein et al., 2007). This brought the theories and ideas of Piaget and Vygotsky together. Piaget’s Theory of Self-Regulation discusses self-monitoring and self-regulation as being integral components of how children learn. These components aid students in conducting their behavior. Due to younger students’ maturation levels keeping them from understanding appropriate and inappropriate behaviors, Piaget also researched the effect of teachers modeling appropriate behaviors (Ormrod, 1999).

Vygotsky’s work was reviewed more specifically, his concepts of scaffolding and the zone of proximal development. The zone of proximal development is the difference between what the learner can do on their own and
what the learner can do with support. Scaffolding refers to the amount of support provided to the learner. Scaffolding and the gradual removal of scaffolding aims to lead the student from that point of needing support to that of independence (Ornstein et al., 2007; Vygotsky, 1978). Although the two researchers differed in theories, components from their research were drawn into the cognitive research studies of teachers and students.

In order for student-centered learning to work, students ultimately need to be able to solve open-ended questions and work through problems independently. To that end, the teacher acts as the facilitator and model of skill development and usage. The literature shows that this has major impact on student achievement. This literature review focuses on how specific metacognitive strategies affect the reading comprehension of students. Piaget’s self-regulation and self-monitoring concepts are foundations for the concept of metacognition. Metacognition was first described as a person’s ability to understand their cognitive processes, how they learn, and how they know what they know (Flavell, 1976). The important aspect of this definition is the learner’s ability to control their learning and cognitive process.

There is significant literature on metacognition and its affect on reading comprehension. Moreover, within the realm of metacognition lie a number of instructional strategies educators can use to instill self-regulation and metacognitive awareness in their students: think-alouds, reciprocal teaching, and
reflective journaling. Piaget proposes having learners use self-monitoring and self-regulation while Vygotsky’s theories on scaffolding and the use of the zone of proximal development suggest how those concepts may be taught to the students. This review of literature seeks to find the connections between the three metacognitive strategies and reading comprehension.

Summary

Reading comprehension has been taught primarily as a set of skills in isolation in a disconnected discourse of lessons centered around a basal unit. This approach is being proven to be insufficient by itself. Extensive research was conducted in relation to the effects of self-reflection and the development of metacognitive awareness in students and how those concepts affected reading comprehension and learning. At first, self-reflection and metacognition were concepts considered limited to groups of older populations including high school aged students and beyond. More research studies have concluded that developing metacognitive awareness in students at the younger age levels have a large positive impact on reading comprehension as well as student achievement, student self-efficacy, and motivation.

From the concept of metacognition comes another set of strategies that teach metacognitive skills to students. This research study is specifically looking at the effects of employing the think-aloud strategy, reciprocal teaching, and the use of reflective journaling. These strategies were implemented using the concept
of scaffolding. Research has supported the use of these strategies in affecting reading comprehension.

Through methodical and well-planned scaffolding of the aforementioned strategies, students should experience positive effects from the strategies and will eventually use the strategies independently in later school years.
**Mining the Data**

Although I was collecting data, I had begun my analysis of what I was observing and interpreting immediately. Even though these two lenses were coinciding I needed to be able to separate my interpretation from my analysis.

Johnson describes analysis as the “means to break something down into its component parts so that it can be understood” (2008, p. 100). Separating the two modes of interpretation and analysis improved the accuracy of what I was seeing.

I wrote a timeline (Appendix J) that set up how I would implement each strategy, collect data, analyze my data, and consistently keep the timing of each phase of the study in perspective. I did not follow it exactly to the date but I did follow the sequence of the timeline and adhered to the events that would help me in my analysis.

I began my analysis by keeping a field log throughout the four-month study. I kept my pre-study and post-study surveys, student journal entries, and comprehension scores. I also wrote several reflective and analytic memos at different stages of the study.

I wrote my biases early in the field log in order to keep a clear and precise picture of what I was observing. I kept a double-entry journal for the length of the study. Ely, Vinz, Downing, and Anzul (1997) suggest that this is where the reporting of action research truly begins and that it is how researchers begin to make sense of what they are doing. I created a table with the left-hand column
designated for my observations. I recorded these observations as objectively as possible. I wrote that which I was seeing and hearing during segments of the study as the participants conducted Think-Alouds, worked in their guided reading groups using Reciprocal Teaching, and wrote their Reflective Journal entries. Alongside my observations in the right-hand column of the table I wrote my interpretations of what I was observing. I did this during prep periods and after school on the same day I made my observations.

I also wrote reflective memos that connected my study to several educational philosophers’ works: Dewey (1997), Freire (1970), Delpit (2002), and Vygotsky (1978). Each one helped me establish a philosophical connection from my study to philosophy. Vygotsky and his Zone of Proximal Development helped the most.

Midway through the study I wrote a memo (Appendix K) regarding the data I’d collected before that point and what my plans were through to the end. This helped guide me in knowing the amount and types of data I had already gathered as well as what I needed to anticipate collecting for further analysis. I wrote insights that I had gleaned from each data source that I had gathered. Keeping in mind which sources of data I had yet to collect kept me focused on the study and how it was evolving over time.

I composed a thick-description of the setting and participants for researchers to understand the context of the study. I conducted participant checks
throughout the study in reaction to my analysis. While analyzing the surveys, journal entries, and assessment scores I informally spoke with participants about the study and their responses to the surveys and journal entries. I shared feedback with the students about their assessments scores and discussed how the study could be adapted to help them.

Based on my observations and discussions with students, I wrote vignettes and made pastiches in response to the feedback I was receiving from the students. I did this to help me make sense of how the students were responding to the study and its components.

I also made sure that I used the analysis procedure of triangulating my data. I collected from the different types of data listed, collected the data periodically throughout the study from the multiple sources listed, and had peers review the data (Johnson, 2008). These peers included gradel-level colleagues. I also inductively analyzed the data by continually coding my field log. I read through my field log several times and coded its contents. Ely, Vinz, Downing, and Anzul (1997) describe this as “a process of sorting through the fabric of the whole for our understanding of the threads or patterns that run throughout and lifting them out” (1997, p. 206). I compiled the codes into an index correlating similar codes into common bins. I then organized the codes into bins and created a hierarchical graphic to categorize my codes into their main ideas. These bins then led to my theme statements.
Figure 12. Bins & Theme Statements

Research Question
What are the observed and reported effects of metacognitive strategies, Think-Alouds, Reciprocal Teaching, and Reflective Journaling, on reading comprehension of 3rd grade students?

Metacognitive Awareness
- Scaffolding of Strategies
- Guided Practice
- Direct Instruction

Modeling
- Observations
- Presentation
- Self-Monitoring

Student Achievement
- Self-Awareness
- Application
- Independence
- Direct Quotes
- Comprehension Scores

Obstacles & Adaptations
- Anxiety
- Confusion
- Self-Esteem
- Lack of Motivation

Accountability
- Comprehension Scores
- Member-Checks
Preliminary Theme Statements

1. Students who develop their metacognitive awareness must have received scaffolded instruction on several metacognitive techniques and strategies.
2. Teacher modeling of metacognitive strategies is necessary to ensure that students utilize the strategies independently.
3. Student achievement in the area of reading comprehension is positively affected by students becoming more aware of themselves as readers and students setting their own goals, and through the use of high-interest activities and methods.
4. Students who are not using metacognitive strategies are lacking motivation, confused about tasks and/or suffer from anxiety of reading.
5. Providing students with feedback, having the students be accountable for their performance, and informally communicating with the students on their progress is necessary to raise their metacognitive awareness and to make them better prepared for a reading comprehension task.
6. Students struggle if no scaffolding of instruction is provided.
7. Some groups of students need less scaffolding than other groups.

Research Question: What are the effects of metacognitive strategies on reading comprehension?
Findings

The purpose of the study was to improve the reading comprehension of my third grade students. I searched the data sources to discern whether or not improvement was indeed evident and supported with the literature I reviewed. Based on my analysis of data sources, the metacognitive strategies of Think-Alouds, Reciprocal Teaching, and Reflective Journaling all had positive effects on my students’ reading comprehension.

_The Think-Alouds were more effective once students began using them on their own._

Evidence of improvement was found in the double entry journal I maintained regarding Think-Alouds. Direct student quotations were recorded by the Title I teacher and I. Student samples were pulled from the reflective journals concerning the students’ reactions towards using the Think-Alouds. The most influential type of Think-Aloud students made consisted of connections students made with the selected texts. Research by Barbe-Clevett et al. (2002), Block and Israel (2004), Oster (2001), and Pearson (1985) all supported the link between Think-Alouds and comprehension.

Oster’s study maintained that Think-Alouds were most effective when the students used them independently. My students had opportunities to share their Think-Alouds with each other. The social collaboration of sharing the construction of meaning directly ties to the work of Vygotsky (1978). Another variable affected by the Think-Alouds was my students metacognitive
awareness. As they became more thoughtful about how they learned and how they perceived themselves as readers their comprehension improved as a result of their goal-setting and pursuit of understanding difficult texts. Research by Henry (2003), Serran (2002), Smith (2006), and Walker (2005) support that this is a result of having students use Think-Alouds.

I have always used Think-Alouds with my lessons in the past. This was the first year where I had my students actively use them. Dannielle improved her vocabulary by using Think-Alouds. When she encountered the words *cloak* and *seep* from a selection, she was able to read them but could not figure out their meanings at first. She verbalized the strategy of deducing their meanings using their contexts.

Students continued to verbalize the personal connections they made with literature after the study. The two lowest guided reading groups ended up reading grade-level selections of topics that were of great interest to them. They read books about robots and then about the *Titanic*. Their interest, the fact that they were given choice, and that they verbalized their personal connections increased their motivation to read difficult text and also increased their achievement. *Reciprocal Teaching had a positive effect on the comprehension of the students.* This was evident in the double-entry journal I kept in my field log. I wrote several reflective memos as students worked through the roles in their guided reading groups. The overall growth of student performance on the 4Sight Assessment also
supported the positive effect the intervention had on the reading comprehension of my students. Most of the students improved from test to test. Reciprocal Teaching is a research-based intervention that is supported by the work of Palinscar & Brown (1984), Pilonieta & Medina, (2009), Serran (2002), Sporer et al. (2009), and Todd & Tracey (2006). In each of these articles, Reciprocal Teaching proved to help students become better readers. It clearly had an effect on the metacognitive awareness of my students due to the gradual change each guided reading group underwent. As the groups changed and became more student-centered, the students evaluated and supported each other in their roles. This is also why the groups reading on lower reading levels struggled with the procedure of the intervention as well as the completion of their jobs. Their metacognitive awareness had not yet been increased enough to have an effect. Reciprocal Teaching eventually did create a heightened metacognitive awareness as supported by the research of Collins (2001), Palinscar & Brown (1984), Serran (2002).

Post-study, students are still using Reciprocal Teaching during their guided reading meetings with me. I continued to be an observer of the interactions and dialogue. Each group was capable of running itself and remaining on-task. Students like Quincy, Paul, Beatrice, and Hannah became leaders when it came time to debrief the guided reading roles.
Very little can be proven by the student work taken while students wrote their reflective journal entries within the perused research.

In truth, very few research studies focused on the intervention’s direct effects on reading comprehension. The reason why I limited the number of entries for the study was because I realized that the strategy was not directly affecting comprehension. The prompts made students think about themselves as readers which enhanced their metacognitive awareness. But there is not enough evidence to sufficiently state that the strategy affected the students’ reading comprehension in a positive way. Barbe-Clevett et al. (2002) also combined the use of Think-Alouds and Reflective Journaling and ultimately found that the students did not enjoy the journaling aspect of the study.

There is something to be said regarding the reading-writing relationship at work in the study. Students wrote about themselves as readers which caused them to think about themselves. They also read what they wrote and after setting plans, in writing, about how they would become better readers, students reminded themselves by checking their entries throughout the study. That reading and writing can positively affect each other is supported by the study of Shanahan & Lomax (1986).

The way in which the strategies were implemented helped in the improvement of student comprehension. I scaffolded instruction for both the Think-Alouds and Reciprocal Teaching. I did not remove support until I knew for
certain that students were ready to handle the next steps in the study. Vygotsky (1978) described scaffolding before it was ever given the name. His zone of proximal development theory was also evident in my methods. I modeled Think-Alouds and superhero roles until students could appropriately use each independently. Had I not employed these methods the study may not have had the same results.

_Students who develop their metacognitive awareness must have received scaffolded instruction on several metacognitive techniques and strategies._

By observing how students read and understood their reading from the beginning of the year to the close of the study I found that they became more aware of themselves as readers and learners. This was evident as I began taking away scaffolding. At one point in the study, students used Think-Alouds without prompting. Guided reading groups began running themselves and students increasingly used clarifying strategies.

_Teacher modeling of metacognitive strategies is necessary to ensure that students utilize the strategies independently._

Looking over the reflective memos, observations, and reflecting on my own practices, I found that the best way to get the students to use the strategies effectively, I needed to model how to use each strategy. I engaged in constant modeling practices. I modeled thinking-aloud each day during my own class read-alouds. I also participated in several groups in order to replace an absent student.
This gave me a chance to model the assigned strategy.

*Student achievement in the area of reading comprehension is positively affected by students becoming more aware of themselves as readers and students, students setting their own goals, and through the use of high-interest activities and methods.*

I found this by analyzing the overall growth of the global 4Sight scores. Students revealed that they were setting goals throughout several of the journal entries. They became more aware of themselves as readers. This led them to identify which areas they needed extra support. Generally, students responded positively to the use of the superheroes. It engaged them in the Reciprocal Teaching strategy. The students believed that the superheroes would help them become better readers when the truth is that the students themselves chose to seek improvement.

*Students who are not using metacognitive strategies are lacking motivation, confused about tasks and/or suffer from anxiety of reading.*

Students chose to not use the metacognitive strategies from time to time. As I spoke with the students about their reasons, they explained that they weren’t certain about presented tasks. I knew that these issues would have to be addressed before the students could effectively think reflectively. I had to motivate them and increase their self-confidence. I also had to direct them to see that none of them were bad readers.
Providing students with feedback, having the students be accountable for their performance, and informally communicating with the students on their progress is necessary to raise their metacognitive awareness and to make them better prepared for a reading comprehension task.

I responded to students’ journal entries and comments I recorded during my observations. I encouraged students to keep trying. I would ask them to clarify what they meant in their responses to the pre-study surveys, direct quotes, and journal entries. I showed the students how they performed from the baseline reading 4Sight to the subsequent test a few months later.

Students struggle if no scaffolding of instruction is provided.

It was evident when I gave the first journal entry to students that scaffolding was vital to the effectiveness of the strategy.

Some groups of students need less scaffolding than other groups.

The higher-achieving students were ready to enter into dialogues about their Reciprocal Teaching roles and the assigned text at a quicker rate than those students in low-achieving groups. By looking through my observations I noticed the dates of when students were conducting themselves during guided reading. The students who are reading below grade-level still needed my scaffolding long past the point of when the above-level and on-level groups were working without my direct guidance. By the end of the study, the below-level groups were able to begin working without my direct facilitating.
Where Do We Go From Here?

It’s been a few months since the study ended. Looking back through the data and my analysis of the data there are certain aspects I would have done differently.

I realized I could have done this study emphasizing only one of the strategies as opposed to all three. In hindsight, taking on all three strategies proved to be a daunting task for me. I would have either chosen Think-Alouds or Reciprocal Teaching for my research question. Doing all three has left me with the feeling of being all over the place. I hope that I haven’t left you, the reader, feeling all over the place with what I’d done.

If I were to conduct the same study next year using all three I would have improved the writing prompts. The first was too difficult and might have turned the students away from the strategy. I struggled with wanting my prompts to either be about my students’ reading abilities or the study itself. Had I improved the prompts I would have used them more consistently.

The way the Think-Alouds and Reciprocal Teaching roles were modeled and scaffolded during the course of the study is something that was effective. Students used Think-Alouds on their own and the guided reading groups were led by the students as they discussed the reading selections through their assigned roles. I would take more time to explain to the students how Think-Alouds were
going to help them because a small number of students never used a Think-Aloud during the study. Was it because they didn’t see the value?

Even though the data collection portion of the study ended months ago, I continue to use Think-Alouds. The students also continue to use the superheroes during guided reading. Additional research could lead to the finding of appropriate adaptations to the interventions that help the unmotivated students improve their comprehension. It would behoove further research to find what works to help improve the comprehension of low-achieving students, students with ADD, and English Language Learners. This study had little to no positive effect on those students. I would seek out modifications to the study that would better support those students.

As a teacher, I’ve become more aware of the way I communicate with my students. As I conducted Think-Alouds, I attempted to think as a third grader would to solve comprehension breakdowns. I carefully chose my words as I modeled to give clearer examples of how these metacognitive activities were done. I have used Think-Alouds during math, science, writing, and social studies.

I’ve also learned that students cannot Think-Aloud if they don’t know they are missing a piece of their understanding. It was a challenge to get students to actively think about their thinking and learning processes.

As a professional, I will share my study with colleagues and discuss the positive and negative aspects of what I’d done. I will seek out further literature
and resources that will enhance my reading instruction and use of metacognitive strategies. I fully intend to continue improving the metacognitive awareness of my students. Conferencing with students about how they feel about the way they are thinking would lead to advancements in personal goal-setting. Those students who set goals for themselves were the ones who improved the most.

One thing I took for granted before this study was the impact of providing students with feedback. This was the first school year that I gave feedback to students on every assessment. In the past, I only talked to the students about the 4Sight tests and the results. This was the first year I provided them with their comparative scores and asked them what happened. This was powerful and I will continue to provide constructive feedback to the students as a result of this study.
References


Appendixes

A. Human Subjects Internal Review Board Consent Letter
B. Principal Consent Letter
C. Parental Consent Letter
D. Pre- & Post-Survey
E. Colleague Consent Letter
F. Superhero Information Cards
G. Sample Guided Reading Schedule
H. Think-Aloud Cue
I. Proposal & Study Timeline
J. Methodological Memo: Mid-Study Data Assessment
Appendix A. Human Subjects Internal Review Board Consent Letter

MORAVIAN COLLEGE

May 10, 2010

Kevin R. Lilly
716 Roosevelt Avenue
Roseto, PA 18013

Dear Kevin R. Lilly

The Moravian College Human Subjects Internal Review Board has accepted your proposal, “Metacognitive Effects on Reading Comprehension.” Given the materials submitted, your proposal received an expedited review. A copy of your proposal will remain with the HSIRB Chair.

Please note that if you intend on venturing into other topics than the ones indicated in your proposal, you must inform the HSIRB about what those topics will be.

Should any other aspect of your research change or extend past one year of the date of this letter, you must file those changes or extensions with the HSIRB before implementation.

This letter has been sent to you through U.S. Mail and e-mail. Please do not hesitate to contact me by telephone (610-861-1379) or through e-mail (brower@g.moravian.edu) should you have any questions about the committee’s requests.

George D. Brower
Chair, Human Subjects Internal Review Board
Moravian College
610-861-1379
Appendix B. Principal Consent Letter

March 28th, 2010 (Principal A) & September 2nd, 2010 (Principal B)

Dear Principal Name,

For the 2010-2011 school year, I am taking courses towards a Master’s Degree in Curriculum and Instruction at Moravian College. These courses assist me in implementing highly-effective instructional strategies in order to provide valuable learning experiences for my 3rd grade students.

Over the course of several weeks, from early October to the middle of December, I would like to conduct a systematic study of my teaching practices. The focal point of the research will be seeking and implementing metacognitive support strategies that will benefit students with reading comprehension. My intention is to find a support or system of supports that will greatly affect the students for current and future educational achievement.

I will be gathering data to support the study via surveys, interviews, observations, and student work. This data will help determine how the students needs can be better met. Names will be kept confidential as well as the names of other staff members at the school. Only my name, the names of my advisors and Moravian College will appear in this study. Confidentiality is vital and it is ensured that names will be altered for those who participate in the study. Research materials will be kept securely at my home and all materials will be destroyed at the conclusion of the study.

Every student in my classroom will be receiving the same instruction, tasks, and assignments as part of our entire third grade curriculum and I will utilize appropriate instructional differentiation to support the needs of my students. Participation in this study is completely voluntary and will not affect the student’s grade in any way. I will appropriately seek the consent of the parents for their child to participate with the consent of you, the principal. The parents will be made aware that the decision is available if they wish to end their student’s participation in the study without penalty.

My advisor at the Moravian College Education Department is ___________________. He can be contacted at Moravian College by phone at _____________ or by email at ___________________.

If there are any questions or concerns about my study, please speak with me or contact me by phone or email. If there are no questions then please sign and return the bottom portion of this letter. Thank you for your time and cooperation.

Sincerely,
Kevin Lilly

I attest that I am the principal of the teacher conducting this research study, that I have read and understand this consent form, and that I have received a copy. Kevin Lilly has my permission to conducts this study.

Signature: ___________________________ Date: ______________
Appendix C. Parental Consent Letter

Dear Parent(s) or Guardian(s),

Currently, I am taking courses toward a Master’s Degree in Curriculum and Instruction at Moravian College. The current course, as well as the other courses in the program, assists me in implementing highly-effective instructional strategies in order to provide valuable learning experiences for my 3rd grade students.

Over the course of the next few weeks, from early October to mid-December, I would like to conduct a systematic study of my teaching practices. The focal point of the research will be seeking and implementing metacognitive support strategies that will benefit students with reading comprehension. My intention is to find a support or system of supports that will greatly affect the student for current and future educational achievement.

I will be gathering data to support the study via surveys, interviews, observations, and student work. This data will help determine how the students’ needs can be better met. Names will be kept confidential as well as the names of other staff members at the school. Only my name, the names of my advisors and Moravian College will appear in this study. Confidentiality is vital and it is ensured that names will be altered for those who participate in the study. Research materials will be kept securely at my home and all materials will be destroyed at the conclusion of the study.

Every student in my classroom will be receiving the same instruction, tasks, and assignments as part of our entire third grade curriculum. Participation in this study is completely voluntary and will not affect the student’s grade in any way. Any student may withdraw from the study at any time by writing me a letter or sending an email stating that they would like to do so. The parent/guardian may also request to withdraw the student through a letter or email. If a student is withdrawn from the research study, or if the parent/guardian chooses to not permit the student to participate in the study, none of the information gathered that relate to the student will not be used nor will the student be penalized in any way.

My advisor at the Moravian College Education Department is ________. He can be contacted at Moravian College by phone __________ or by email at__________________

If you approve of your child’s participation in my teacher research, please sign and return the bottom portion of this letter. Thanks for your time and cooperation.

Sincerely,
Kevin Lilly

______________________________ Date: ______________

I understand that Mr. Lilly will be collecting data and observing my student as part of a teacher research study on improving a child’s reading comprehension. My child has permission to participate in the study.

Signature: __________________________ Date: ______________
Appendix D: Pre- & Post-Survey

Directions: Read each statement carefully. Circle the item that best describes how you feel.

1. I see myself as a good reader.
   Agree  Disagree  Not Sure

2. I get nervous when reading difficult text.
   Agree  Disagree  Not Sure

3. I know what fix-up strategies are and how to use them.
   Agree  Disagree  Not Sure

4. I understand better when the teacher shows me how.
   Agree  Disagree  Not Sure

5. I know what thinking about my own reading means.
   Agree  Disagree  Not Sure

6. I enjoy stories more if I can connect with them.
   Agree  Disagree  Not Sure

7. I read for fun.
   Agree  Disagree  Not Sure

8. I think reading is something only done for school.
   Agree  Disagree  Not Sure
Appendix E. Colleague Consent Letter

November 3rd, 2010

Dear ____________,

For the 2010-2011 school year, I am taking courses towards a Master’s Degree in Curriculum and Instruction at Moravian College. These courses assist me in implementing highly-effective instructional strategies in order to provide valuable learning experiences for my 3rd grade students.

Over the course of several weeks, from early October to the middle of December, I would like to conduct a systematic study of my teaching practices. The focal point of the research will be seeking and implementing metacognitive support strategies that will benefit students with reading comprehension. My intention is to find a support or system of supports that will greatly affect the students for current and future educational achievement.

I will be gathering data to support the study via surveys, interviews, observations, and student work. This data will help determine how the students needs can be better met. Names will be kept confidential as well as the names of other staff members at the school. Only my name, the names of my advisors and Moravian College will appear in this study. Confidentiality is vital and it is ensured that names will be altered for those who participate in the study. Research materials will be kept securely at my home and all materials will be destroyed at the conclusion of the study.

Every student in my classroom will be receiving the same instruction, tasks, and assignments as part of our entire third grade curriculum and I will utilize appropriate instructional differentiation to support the needs of my students. Participation in this study is completely voluntary and will not affect the student’s grade in any way. I will appropriately seek the consent of the parents for their child to participate with the consent of you, the principal. The parents will be made aware that the decision is available if they wish to end their student’s participation in the study without penalty.

My advisor at the Moravian College Education Department is ___________. He can be contacted at Moravian College by phone at ___________ or by email at ____________

If there are any questions or concerns about my study, please speak with me or contact me by phone or email. If there are no questions then please sign and return the bottom portion of this letter. Thank you for your time and cooperation.

Sincerely,
Kevin Lilly

I attest that I am the Title I teacher for the teacher conducting this research study, that I have read and understand this consent form, and that I have received a copy. Kevin Lilly has my permission to conduct this study and use my observations of students working with me during guided reading.

Signature: ____________________________ Date: ______________
## Appendix F. Superhero Information Cards

<table>
<thead>
<tr>
<th>The Summarizer</th>
<th>The Summarizer’s Superpowers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fiction: after reading to a given page, the Summarizer retells the important events of the story.</td>
<td></td>
</tr>
<tr>
<td>Nonfiction: after reading to a given page, the Summarizer highlights the important information.</td>
<td></td>
</tr>
<tr>
<td>Must Be Able To: rely on their teammates to help them find the important words.</td>
<td></td>
</tr>
<tr>
<td>Can summarize in 1 or 2 sentences.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>The Predictor</th>
<th>The Predictor’s Superpowers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fiction: suggest what the next events in the story might be.</td>
<td></td>
</tr>
<tr>
<td>Nonfiction: guess what the author will tell the group next.</td>
<td></td>
</tr>
<tr>
<td>Must Be Able To: use book clues, illustrations, and other text features to make predictions.</td>
<td></td>
</tr>
<tr>
<td>Can predict in 1 or 2 sentences and explain why they made their prediction.</td>
<td></td>
</tr>
<tr>
<td>The Questioner’s Superpowers</td>
<td>The Clarifier’s Superpowers</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td>Fiction &amp; Nonfiction: the Questioner creates questions for the rest of the group. The Questioner will ask questions about:</td>
<td>Fiction &amp; Nonfiction: the Clarifier will attempt to fix the confusing parts.</td>
</tr>
<tr>
<td>- Unclear parts</td>
<td>- The Clarifier will also be the first teammate to try answering the questions.</td>
</tr>
<tr>
<td>- Puzzling information</td>
<td><em>Must Be Able To:</em> use references like the dictionary and rely on the other teammates to help solve confusing parts and questions.</td>
</tr>
<tr>
<td>- Connections to other books or concepts</td>
<td><em>Must Be Able To:</em> ask questions that can be answered.</td>
</tr>
<tr>
<td>- Decisions of the characters</td>
<td></td>
</tr>
<tr>
<td>The Illustrator</td>
<td>The Illustrator’s Superpowers</td>
</tr>
<tr>
<td>----------------</td>
<td>--------------------------------</td>
</tr>
<tr>
<td>Fiction: draws a picture related to what was read. This can be a diagram, cartoon, picture, or stick figure scene.</td>
<td></td>
</tr>
<tr>
<td>Nonfiction: draws a diagram or a graphic organizer based on what was read.</td>
<td></td>
</tr>
<tr>
<td>The Illustrator shows their picture to the rest of the group without telling the group about it. The teammates must guess what the picture is about.</td>
<td></td>
</tr>
<tr>
<td>Must Be Able To: explain the picture and why it was drawn. The Illustrator can draw a picture about something that the story reminded them about, a story element, or a story connection.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>The Captain</th>
<th>The Captain’s Superpowers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fiction &amp; Nonfiction: the Captain leads the group as they complete their missions. He also helps the different group members work through the challenging parts of their missions</td>
<td></td>
</tr>
<tr>
<td>The Captain is a member of the groups of 6. No Captain is needed to lead the groups of 5.</td>
<td></td>
</tr>
<tr>
<td>Must Be Able To: know the other missions and help where needed.</td>
<td></td>
</tr>
</tbody>
</table>
## Appendix G. Sample Guided Reading Schedule

<table>
<thead>
<tr>
<th>Groups</th>
<th>Day 1</th>
<th>Day 2</th>
<th>Day 3</th>
<th>Day 4</th>
<th>Day 5</th>
<th>Day 6</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Handwriting</td>
<td>Handwriting</td>
<td>SSR</td>
<td>Science</td>
<td>Computers</td>
<td>Computers</td>
</tr>
<tr>
<td></td>
<td>Math</td>
<td>Math</td>
<td>Handwriting</td>
<td>Handwriting</td>
<td>Mr. Lilly</td>
<td>Mr. Lilly</td>
</tr>
<tr>
<td></td>
<td>Computers</td>
<td>Computers</td>
<td>Mr. Lilly</td>
<td>Mr. Lilly</td>
<td>SSR</td>
<td>SSR</td>
</tr>
<tr>
<td></td>
<td>Math</td>
<td>Mr. Lilly</td>
<td>Handwriting</td>
<td>Handwriting</td>
<td>Time</td>
<td>Time</td>
</tr>
<tr>
<td></td>
<td>VOCAB</td>
<td>VOCAB</td>
<td>Math</td>
<td>Math</td>
<td>Math</td>
<td>Math</td>
</tr>
<tr>
<td></td>
<td>Computers</td>
<td>Computers</td>
<td>Handwriting</td>
<td>Handwriting</td>
<td>Title I Teacher</td>
<td>Title I Teacher</td>
</tr>
<tr>
<td></td>
<td>Mr. Lilly</td>
<td>Mr. Lilly</td>
<td>Mr. Lilly</td>
<td>Mr. Lilly</td>
<td>Computers</td>
<td>Computers</td>
</tr>
<tr>
<td></td>
<td>Mr. Lilly</td>
<td>Mr. Lilly</td>
<td>Computers</td>
<td>Computers</td>
<td>Time</td>
<td>Time</td>
</tr>
<tr>
<td></td>
<td>Title I Teacher</td>
<td>Title I Teacher</td>
<td>Title I Teacher</td>
<td>Title I Teacher</td>
<td>Time</td>
<td>Time</td>
</tr>
<tr>
<td></td>
<td>Mr. Lilly</td>
<td>Mr. Lilly</td>
<td>Computers</td>
<td>Computers</td>
<td>Handwriting</td>
<td>Handwriting</td>
</tr>
<tr>
<td></td>
<td>Title I Teacher</td>
<td>Title I Teacher</td>
<td>Title I Teacher</td>
<td>Title I Teacher</td>
<td>Time</td>
<td>Time</td>
</tr>
<tr>
<td></td>
<td>Mr. Lilly</td>
<td>Mr. Lilly</td>
<td>Computers</td>
<td>Computers</td>
<td>Handwriting</td>
<td>Handwriting</td>
</tr>
<tr>
<td></td>
<td>8:55-9:15</td>
<td>8:55-9:15</td>
<td>8:55-9:15</td>
<td>8:55-9:15</td>
<td>Name that Number</td>
<td>Name that Number</td>
</tr>
</tbody>
</table>
Appendix H. Think-Aloud Cue

**Do a Think-Aloud when:**
1. You make a connection to the book.
2. You get confused or stuck on a word or event.
3. When you want to predict.
Appendix I. Proposal & Study Timeline

Phase I: Preliminaries

- May 2010-July 2010 – Literature Review & HSIRB Approval
- August 2010-Mid-September 2010 - Gather Participant Consent
- End of September 2010 - Introductory Observations Before Intervention
- End of September 2010 - Gather Benchmark 4Sight Data & Student Survey After Receiving Consent

Phase II: Intervention Schedule & Subsequent Data Collection

- End of September/Beginning of October 2010 - Implement Introductory Lessons of Reflective Journaling, Think-Alouds, and Reciprocal Teaching
- October – Mid-December 2010 - Conduct Double-Entry Observations Two-Three Times a Week
- October – Mid-December 2010 - Gather Writing Samples Once a Week & Individual Student Conferences Daily, Use One Day Out of the Cycle to Group Conference

Phase III: Conclusion of Study

- Mid-December 2010 - Gather Final Writing Samples From Students
- Last School Week of December 2010 - Conduct Final Individual Conferences, Class Surveys, and Gather 2nd of 4Sight Data

Phase IV: Further Analysis & Thesis Development

- January 2011-April 2011 – Inductive Analysis of Data, Data Sources, & Gathering of Participant Feedback
- January 2011-April 2011 – Continual Drafting, Revising, & Editing of Thesis
- January 2011-April 2011 - Ask for Possible Peer Review of Thesis

Phase V: Final Thesis & Defense

- May 2011 – Graduation
Appendix J. Methodological Memo: Mid-Study Data Assessment

October 24\textsuperscript{th}, 2010

RM = Reflective Memo I = Insight

I. Research Question - What are the effects of three metacognitive strategies on students’ reading comprehension?

A. Research Sub-Questions

- What are the effects of making activities with components of high-interest to the students on motivation?
- How do I get students to use the strategies independently?
- Why aren’t students using the Think-Aloud strategy?
- How can the guided reading groups become more dialogic?

II. Observational Data

A. Initial Thoughts RM 09/11/10

I - I am biased towards the effects of my intervention. I believe that it will have a positive effect on reading comprehension.

B. Double-Entry Journal 09/14/10

I - Students are excited about the study. They see that I care about their learning and want to help make the study a success.

C. Research Group RM 09/15/10

I - A great source of data is checking with students as to why they did not use a Think-Aloud. These are the negative cases. I need to consider that every opportunity for students to read independently is a chance to use a Think-Aloud.

D. Double-Entry Journal 09/16/10

I - Students are using Think-Alouds but only to rationalize connections that they can make with the texts. This is promising and I need to ensure students use Think-Alouds whenever they are reading and for more than making connections.

E. Reciprocal Teaching RM 09/17/10

I - Students are engaged in the roles of Reciprocal Teaching because of the high-interest they have for the superheroes.

F. First Reflective Journal Entry RM 09/26/10

I - This is the most difficult strategy for the students. I implemented the strategy in a way that did not help students to understand what they are to gain from it. I realized that I must change the way I give the students the reflective journal prompts.

G. “Because I’m Not Sure That I’m a Good Reader” RM 09/27/10

I - Member-Checks are going to be the most valuable source of data. As I analyze data I need to converse with students about the
results and my findings. I need to understand their perspectives in terms of the study.

H. Double-Entry Journal 09/30/10
I - More high-interest from students regarding the use of superheroes for reciprocal teaching roles.

I. Double-Entry Journal 10/01/10
I - Students are using Think-Alouds to make predictions, too. Making connections to the text is the most used Think-Aloud cue.

J. Frustration RM 10/07/10
I - This was important to write. It identifies the struggles of the study as it continues in my class. This was also brought on by the limitations and stress of the context of the study (see Thick Description).

K. Double-Entry Journal 10/12/10
I - Students are using Think-Alouds for decoding difficult words and also deducing the meanings of words. Sometimes I need to converse with students to help them through the decoding.

L. Double-Entry Journal 10/13/10
I - Continued analysis of negative cases is necessary. I am getting Think-Alouds from only a few students. Specific students are not using Think-Alouds.

M. Mid-Study Reflection RM 10/20/10
I - It was very important to stop and reflect on the components of the study as it approached its midpoint. This helped pinpoint areas in the study that need to be revisited.

III. Observational Data for November
A. Daily Double-Entry Journal Entries. Rationale: to gather more data from Think-Alouds and guided reading Reciprocal Teaching groups. Analysis of observations will give me more insight.
B. Reflective Memos on a Needed Basis. Rationale: as I take moments to reflect on how the study adapts and meets the needs of the students these memos will help when coding the field log and examining results.
C. Direct Student Quotes. Rationale: As students discuss the study and/or conduct their own Think-Alouds I will need to record what they are saying.

IV. Interview/Survey Data
A. Pre-Study Survey 09/22/10
I - Students did not understand some questions or even what their responses meant in relation to the questions.
B. Frequency Table of Survey Questions-Responses 09/26/10
   I - Noticeable trends in responses were identified.
C. Analytic Memo of Survey 09/26/10
   I - Led to vital Member-Checks. Students clarified their answers.
D. Informal Member-Checks 09/27/10
   I - Students perceive themselves as poor readers because they think they read too slowly or do not know a lot of words. I reassured them that good readers are just readers who have good habits.
E. Lance Gets Transferred: Exit Interview 10/20/10
   I - Students need to see how the three strategies will help them with their reading comprehension. Lance verified the high-interest in Reciprocal Teaching

V. Interview/Survey Data for November
A. Member-Check. Rationale: As I continue to analyze student responses the need to do member-checks will be evident. I also believe that this is the most important data source as it clarifies other sources of data. I will record these in the field log as I conduct them.

B. Post-Study Survey (December). Rationale: To conclude the study and compare with pre-study survey.

VI. Student Work
A. 1st Reflective Journal Entry 09/21/10
B. Analytic Memo of 1st Reflective Journal Entry 09/30/10
   I - Having students write about their ability to make inferences was not a wise start for this strategy. I will have to be more deliberate in the future.
C. 2nd Reflective Journal Entry 09/30/10
D. Analytic Memo of 2nd Reflective Journal Entry 09/30/10
   I - More opportunities for Member-Checks. Why do the two students think that the superheroes won’t help them? The rest of the class loves them!
E. 3rd Reflective Journal Entry 10/07/10
F. Analytic Memo of 3rd Reflective Journal Entry 10/07/10
   I - Students seem to know how to become better readers but these entries make me want to ask the students how much they practice the habits they wrote about. I need to gather more entries.

VII. Student Work Data for November
A. Weekly Reflective Journal Entries (Weeks of: 10/25/10, 11/01/10,
11/08/10, 11/15/10, 11/22/10, 11/29/10, & 12/06/10) Rationale: Further data for how the students are responding to the parts of the study as well as placing the emphasis on self-reflection as a critical-thinking skill.

VIII. Other Data
   A. Reading 4Sight Baseline Scores 09/09/10
      1 - It’ll be important to compare these scores with the scores in November.

IX. Other Data for November
   A. Reading 4Sight Test 1 Scores Week of 11/01/10. Rationale: The study’s inception coincided with the end of the baseline test. It will be of great value to compare the baseline test score with this test.