

4-25-2015

# The Effects of Explicit Instruction in Metacognitive Reading Strategies Using Graphic Organizers on the Comprehension of Intermediate Elementary Students

Jody V. Folkedahl Eppolito

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The Effects of Explicit Instruction in Metacognitive Reading Strategies Using Graphic Organizers on the  
Comprehension of Intermediate Elementary Students

By

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A Graduate Field Experience

Submitted in Partial Fulfillment of the

Requirements for the Degree of

Master of Arts

Urban Special Education

At Cardinal Stritch University

Milwaukee, Wisconsin

2015

This Graduate Field Experience

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4-13-2015

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**ABSTRACT**

This study documents the effects of explicitly taught metacognitive reading strategies using graphic organizers and the effect on two intermediate elementary students. Students met with the researcher for individualized instruction focusing on comprehension and use of metacognition and self-monitoring while reading. The study gathered data from multiple sources including pre and post-testing from the Qualitative Reading Inventory 5 (Leslie & Caldwell, 2011), and researcher-created data records. Both of the subjects made significant gains in retell, vocabulary and comprehension, leading to an increased reading level. The use of graphic organizers to support metacognitive reading practice is a promising practice and has many applicable uses for the classroom. The results of this study indicate that explicit instruction on processes like self-monitoring for comprehension can increase comprehension of an instructional level non-fiction text.

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## CHAPTER I

### Introduction

Intermediate elementary grades, or third, fourth, and fifth grade, are important years in which the instruction a student receives changes dramatically. No longer are students only expected to decode increasingly difficult words, but the focus of instruction shifts from “learning to read” to “reading to learn.” It becomes crucial for students in the intermediate elementary grades to be able to read and comprehend grade level texts as they are asked to read and comprehend complex texts in multiple subjects and content areas. This becomes increasingly important as students progress throughout the grade levels (Temple, Ogle, Crawford, & Freppon, 2011). A student who struggles in decoding or comprehension will feel the consequences of their deficit all day long, as they are asked to read difficult content texts in subjects like social studies, science, and math. The vocabulary becomes more complex, and without the metacognitive skills to self monitor, students may read a text unaware that they have not understood anything that they read.

Annually, across the United States, students' skills in reading and math are measured to determine which students meet the standards set by the state, and which students are not reading at grade level proficiency. The state of Wisconsin annually measures the reading performance of all students in the third through eighth grade and tenth grade. In the 2013-2014 school year, 15.7% of students in Milwaukee Public Schools (MPS) were proficient or above proficient in reading according to Wisconsin Department of Public Instruction District Report Card of that school year (DPI, 2014). A large majority of the students in Milwaukee Public Schools are not reading at grade level. Students with disabilities in Milwaukee have even greater struggles in reading with 9.9% of students at or above proficiency. The statistics are alarming, and the needs of the 70,558 students served by the 4,853 teachers in MPS are great, especially when one considers the needs of the 20.6% of students receiving special education services (DPI, 2015). Reading instruction is a vital part of a person's education and educators, teachers and instructors must refine their instruction to meet the growing needs of the students they serve.

This study documented how of the use of graphic organizers focusing on metacognitive reading skills would affect the reading comprehension of intermediate elementary students in the greater Milwaukee area. The researcher wanted to determine if the participants' reading comprehension skills would improve through explicit instruction using metacognitive checklists and questioning as well as graphic organizers, focusing on summarization and identification of main idea and key details in non-fiction texts to guide instruction. The hypothesis was that with explicitly taught reading skills and visual aids, student's reading comprehension scores will increase from pretesting to post-testing.

### **Description of Participants**

The group of students invited to participate are representative of readers in the 3rd to 5th grade who participate at the Cardinal Stritch University Literacy Centers in Milwaukee, WI. This study focused on the growth of two subjects, AW and SR, who received a one-on-one targeted reading intervention from the researcher. The instruction, focused on the guiding question of this study, was tailored to each student and their individual needs.

The first subject, AW, was a nine year old African American girl who attended F. J. Gaenslen School in Milwaukee, Wisconsin. It is a public kindergarten through eighth grade school with approximately 600 students. AW had recently completed the third grade and was entering the fourth grade.

AW's mother expressed concern that her daughter was struggling with reading, which was collaborated by the reports from her third grade teacher. AW's teacher reported that AW has difficulty with independent reading and text analysis. She struggled with finding evidenced-based questions and answers from a given text. Her mother described AW as "loving school" and her teacher described her as a hard worker who works well in small groups.

AW expressed interest in reading about science, animals and art. AW described herself as a "medium" reader and as being a "kind of good" reader. She worked very hard in tasks during the intervention and was very patient. AW worked hard to please instructors and took pride in her work and accomplishments.

The second subject, SR, was an 11 year old student of mixed ethnicity. SR completed the fifth grade at Grace Lutheran School in Menomonee Falls, Wisconsin and was entering the sixth grade at the same school. Grace Lutheran School is a private school with 250 students in grades 3K (kindergarten for three year olds) through eighth grade.

SR's mother reported that SR had "always struggled to keep up" and had attended summer schools for two years prior for help in reading and math. SR took medication for ADHD daily and had been evaluated for special education but did not qualify. SR's fifth grade teacher reported that she struggled with new vocabulary and comprehension of non-fiction materials. She also said that SR needed help in finding main ideas of content area texts and formulating coherent thoughts and ideas on to paper.

SR was interested in reading about civil rights and slavery. She had a personal connection to the subject and felt strongly about it because of her African American heritage. She identified that she enjoys reading about people who helped make the world better. SR was enthusiastic to make personal connections to what she was reading. Before and during reading she would frequently make connections to other facts she either knew from prior reading, experience, or knowledge. As students read, they make inferences and connect what they are reading to their background knowledge or cognitive schemes. This process is what helps them to understand a passage (Temple et al 2011). SR was enthusiastic to read aloud and confident in her ability to decode grade level texts.

Both subject's teachers expressed concern about the subject's ability to work with non-fiction texts, citing evidence and finding main ideas and content. This study addressed those needs directly in a systematic approach including pre-reading and during reading connection building, vocabulary work, and explicit instruction and reminders to use metacognition while reading. The study used graphic organizers to help students identify the main idea and key details of non-fiction texts. In planning the intervention for the students, the researcher used the Wisconsin Department of Public Instruction's (DPI) *Common Core State Standards for English Language Arts* (2011) to help plan for what the participants are asked to do and achieve within the regular school year. Students were assessed on RI.5.2: "Determine two

or more main ideas of a text and explain how they are supported by key details; summarize the text” for much of the intervention. With comprehension of non-fiction texts as the major focus of the study, the graphic organizers the researcher used and the questions that were verbally asked focused around the identification of main ideas and key details. Summarization and retelling is, traditionally, an important way that teachers assess student learning (Caldwell & Leslie, 2013). This study chose to reflect the current trends and methods used in the classroom during the school year.

An additional Wisconsin Common Core ELA standard addressed in this study is Language Standard 5.4 “Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 5 reading and content, choosing flexibly from a range of strategies” (DPI, 2011). To increase fluency and comprehension, the researcher chose to work on vocabulary along with comprehension which was identified specifically by SR's teacher as an area of need.

Both subjects' teachers identified comprehension as a concern. The purpose of the study was to investigate the effect of explicitly taught metacognitive reading skills on struggling intermediate elementary student's comprehension. Metacognitive strategies were researcher modeled, such as think-alouds, and students completed a graphic organizer to identify the main idea and key details of each section using a concept web and encouraged to make connections to their prior knowledge. A study by Jitendra, Hoppes, and Xin; *Enhancing Main Idea Comprehension for Students with Learning Problems: The Role of a Summarization Strategy and Self-monitoring Instruction* (2000) showed that explicit instruction on main idea comprehension and self monitoring can be beneficial to students with learning disabilities when asked explicit comprehension questions. This study sought to replicate the benefits shown in this study, and others, with the two student subjects at Cardinal Stritch Literacy Center.

Additionally, within the intervention, student participants received text coding instruction once (AW) or twice (SR) a week. SR's teacher had identified text coding and finding evidence within the text as a skills she needed instruction on. This is an increasingly important skill for students in middle school, so SR received more direct instruction on text coding than AW.

## Conclusion

This study sought to determine if the participants' reading comprehension skills would improve through explicit instruction using metacognitive checklists and questioning as well as graphic organizers, focusing on summarization and identification of main idea and key details in non-fiction texts to guide instruction. The researcher took the needs of the individual participants when designing the one-on-one intervention that the subjects would participate. The state standards that the subjects would be assessed on during the regular school year was fundamental in the planning of the intervention as well as the recommendations to their previous teacher. The next chapter will look at the prior research on graphic organizers and metacognition that were used by the researcher to help plan and guide the intervention.

## Chapter II

### REVIEW OF LITERATURE

There has been a shift in education away from narrative texts toward students reading more expository texts. It becomes crucial for students in the intermediate elementary grades to be able to read and comprehend grade level texts as they move away from learning to read and towards reading to learn. As discussed by Temple and co-authors in the book *All Children Read*, this becomes increasingly important as a student progresses throughout the grade levels (Temple Ogle, D., Crawford, A., & Freppon, P, 2011). Students are required to identify the topics of writings and key details, and to be able to synthesize and generalize information. The skills that they learn in the primary grades can be the keys to becoming successful learners throughout the grades.

As students read, they make inferences and connect what they are reading to their background knowledge or cognitive schemes. This process is what helps them to understand a passage (Temple et al, 2011). When reading, they visualize what the text is describing and they use their schema and knowledge of story or text structure to be able to make predictions, inferences, and are able to generalize information; all of these skills are important to the process of comprehension. Often referred to as a constructivist approach, the students' skills they possess in text structure and background knowledge, allow them to construct meaning from text and deepen understanding as they read.

Students who are good readers begin to develop skills to monitor their own comprehension. They are able to recognize when something makes sense and when it does not, allowing the reader to go back and correct their mistakes. This assumes that the reader is able to perform two tasks at once; that they are able to think about what the text means, and that they are aware of the process of understanding and their own skills and abilities in relation to the text. As defined by the researchers Ahmadi, Ismail, and Abdullah, the process of being self-aware of one's own learning needs, abilities, and strategies, is referred to as metacognition. Readers who have metacognitive skills are able to recognize the problem and come up with strategies and solutions when faced with difficulties (Ahmadi et al., 2013). These skills can deepen understanding and facilitate learning for students. In research by Wang, Spencer, Minjie, and Xing (as cited in Ahmadi et al., 2013) found that explicitly

teaching metacognitive strategies had various benefits on students' comprehension and confidence in their learning abilities. Students who are able to use skills like planning, monitoring their reading and evaluating their understanding, are more successful academically than students who do not use those strategies, especially among students who have difficulties understanding written text such as English Language Learners.

A strategy that is used by teachers to promote understanding of texts, both narrative and expository, is the use of graphic organizers. Graphic organizers can help students in self-monitoring their comprehension by helping them organize facts, sequence, summarize, and compare what they read (Pang, 2103). In a study by Boulware-Gooden et al.(2007), researchers found that creating a visual representation of a text structure made students more aware of what to think about while they were reading. They found that the use of graphic organizers supported metacognitive skills.

The purpose of this action research project is to determine what effects explicit instruction of metacognitive reading techniques with graphic organizers will have on reading comprehension. My hypothesis is with explicit metacognitive instruction and the use of graphic organizers, students will increase comprehension. This chapter summarizes studies that address the important questions pertaining to this action research project: What is the effect of graphic organizers on reading comprehension? Do explicit reading strategies and metacognitive skills have an effect on reading comprehension? What are the effects when an instructor combines the use of graphic organizers to enhance metacognitive skills? The first section focuses on how graphic organizers enhance comprehension. The next section presents the importance of metacognitive instruction and explicit instruction of the reading process for students. The subsequent section examines the best instructional practices combining graphic organizers and visual representation of strategies to strengthen comprehension.

### **Use of Graphic Organizers to Enhance Comprehension**

The article *Graphic Organizers and Their Effects on the Reading Comprehension of Students with LD: A Synthesis of Research* by Kim, Vaughn, Wankel and Wei (2004) looked at 21 group design intervention studies to determine the effectiveness the use of graphic organizers for students meeting specified criteria for inclusion. The purpose of the study was to determine the effectiveness of graphic organizers in enhancing

explicit comprehension for expository texts for students with LD. The researchers hypothesized that, according to research, students with LD have been shown to have strengths in spatial or visual modes to conceptualization, that the use of graphic organizers may assist them in recalling and organizing information.

The independent variable in the study was that the intervention had to use graphic organizers that either displayed concept relationships or provided an outline or overview of the text. The dependent variable was the measurement of student's comprehension of silent or oral reading and the accurateness and ability to answer questions about the text.

The participants in the 21 studies included 848 students with LD as defined as having “average intelligence with poor performance in at least one academic or related behavioral domain.” Also included were 16 students with a cognitive disability. Students in the studies that did not have a disability were not included in this synthesis and data was disaggregated from those four studies that included non-disabled students. Of the 864 total students in the 21 studies; six studies included high school students, six studies were of junior high school students, and five studies included elementary students. One study included students from both elementary and middle school, and three studies included both middle and high school students. Nineteen of the studies lasted between 1-3 weeks; the other two studies lasted between 12-16 weeks.

To determine which studies to use in their synthesis, the researchers used a three step process and criteria. Participating students had to be in grades K-12, they had to have an identified disability, and the research design had to be either a treatment-comparison design or a single-group design. The researchers used various on-line data-bases to gather information. They used 15 separate articles showing 21 different intervention studies.

There were four types of graphic organizers used in the study: semantic organizers, cognitive maps with a mnemonic display, cognitive maps without a mnemonic display, and framed outlines to help identify main ideas and important facts. The graphic organizers included those that were generated prior to instruction by the teachers/researchers that students filled out during instruction (16 studies) and independently student-generated ones (four studies), or a combination of the two (one study).

They found that students using semantic organizers demonstrated significantly higher scores on research

developed comprehension measures that students in comparison groups. Graphic organizers that include semantic mapping, semantic feature analysis, and semantic/syntactic feature analysis were shown effective on students with LD. Students using cognitive maps with a mnemonic were found to have improved reading comprehension, especially the students that generated their own organizer. The students using the graphic organizer outperformed those using conventional reading techniques in all the studies.

Students who used cognitive maps without a mnemonic were associated with higher comprehension score than those using conventional techniques, although one study did not show that cognitive maps had any significant results on reading comprehension, but those results could be from external variables such as delivery of instruction and methods between the intervention group and that studies comparison group. Six other studies demonstrated positive effects from the intervention.

Students who used framed outlines were examined in two of the studies. One showed significant improvement in comprehension and the other demonstrated positive effects on reading comprehension, In all of the studies, regardless of the graphic organizer used showed improvement in student comprehension scores, especially when the graphic organizers were student generated. This was shown across all the grade and age levels. Visual displays of information were shown to help students with LD retain and recall information from texts, although it is important to note that follow up with some of the studies showed that students were unable to generalize the skills to standardized tests or other passages that they did not generate a graphic organizer for.

The researchers concluded that more research on how graphic organizers can be effectively used to enhance reading comprehension in lower elementary grade levels should be conducted. This research will focus on how to enhance their explicit comprehension using graphic organizers to identify main ideas and supporting details as well as cognitive mapping for intermediate elementary students.

Another study that looked at student generated graphic organizers is study by Barrett-Mynes, Moran, and Tegano (2010). This study researched whether a reading intervention that included discussion and child-created graphic organizers during read-alouds would increase student's understanding of a given story. The researchers hypothesized that their intervention would increase their comprehension.

The researchers studied three students from a third grade classroom in a mid-sized city in the

southeastern United States. The students were selected due to low participation and basal reading comprehension test scores, responses on a home questionnaire, and from responses to a self-perception-as-readers survey. The intervention lasted for four weeks, focusing on one book per week.

The students were pre-tested and post-tested using Scott Foresman basal unit tests. The researcher would begin by introducing graphic organizer tools to the students. The graphic organizers included a character map, a setting sketch, and a sequence of events timeline. The children created their own graphic organizers based on the readings. While reading a story aloud, the researcher would ask questions to enhance comprehension and facilitate discussion about the story. Weekly, after creating all three graphic organizers, the students would complete an Accelerated Reader quiz to track individual comprehension. The researcher would complete the Teacher Observation Rating Scale (TORS) at the end of each week, as well as compile focused field notes and audio recordings of reading sessions.

The researchers found that the students' discussions became more collaborative and less dependent on the researcher for prompts and clues. They also found that the student creation of graphic organizers became more independent and that the descriptions of characters, settings, and events became progressively more detailed throughout the four weeks. Students achieved higher standardized test scores for both the Accelerated Reader quizzes and the Scott Foresman basal tests. The rate of change in comprehension was found significant compared to the students' previous three months of test scores.

The researchers concluded that using collaborative discussion and student-created graphic organizers to enhance read-alouds is a promising practice. The graphic organizers helped structure the students' thinking about the story and increase comprehension. The peer discussion enabled them to construct new knowledge and connect it to personal experience and support comprehension.

Ruya Guzel Ozmen (2011) study looked at the effectiveness of graphic organizers on students receiving special education services. The purpose of the study was to compare the effectiveness of two different presentations of graphic organizers on the ability of students with intellectual disabilities to recall information from compare/contrast essays. Ozmen (2011) hypothesized that the graphic organizers would have a positive impact on the student's abilities to recall information from expository texts and increase their ability to

determined similarities and differences within the text. In this study, the researcher studies the rate of recalling similarities and differences and the ability to make comparisons from a compare/contrast test (dependent variable). The researcher also compared the student results between researcher-constructed organizers that were completed for the student by the researcher, or organizers that the student filled in periodically as he/she read (independent variable).

The sample consisted of five participants who received special education services for mild intellectual disabilities in Ankara, Turkey. The participants were chosen for having met the following criteria: a) ability to read without syllabicate, b) enrollment in 6<sup>th</sup>, 7<sup>th</sup>, or 8<sup>th</sup> grade classes, and c) able to recall maximum one similarity and difference after reading a compare/contrast text. All five participants were male and ranged in age from 11 years old to 14 years old.

One the course of four weeks, students participated in the experimental process for two sessions per day, for five school days in each week. During the baseline session, the students read an expository compare/contrast text silently, and then were asked to verbally respond to the questions, “What are the similarities of the concepts?” and “What are the differences of the concepts?” For the first condition and the first session of the day, the students were provided with a graphic organizer containing all the similarities and differences filled out for them. They were asked to read the graphic organizer and the text and a post-assessment was administered. During the second condition and second session of the day, the students read a text, paragraph by paragraph, and filled out a graphic organizer as they read. A post-assessment followed the completion of the text and graphic organizer.

At the end of the four-week study, the data was analyzed based on a data trend. The researcher found that for four of the five students the second condition, in which the students completed the graphic organizer themselves, was more effective. For the fifth student, both presentations were equally effective. The researcher concluded that the blank graphic organizer guided the focus of the students while reading and prevented them from focusing on extraneous details and promoted active reading. The researcher also concluded that reading the text section by section was useful for the students who had limited ability to recall information, and that the ability to visually recall information units as a whole. The author suggests that further research should

investigate the two types of graphic organizers and their effectiveness for students with different reading levels, different grade levels, and with different types of expository texts.

Graphic Organizers are beneficial to a student's comprehension and understanding of a text. Expository texts are particularly complex and can be challenging for struggling readers (Caldwell & Leslie, 2013) who may need more guidance and assistance understanding the material. Visual representations that help students clarify meaning, ideas, and relationships in the text can assist students in their ability to retell and summarize a text. While filling out a graphic organizer, a student can monitor his or her understanding and comprehension of a given passage. It is the self-monitoring aspect of the graphic organizer that makes it an important part of this action research project.

### **Metacognition**

Metacognition is the ability to think about the strategies you are using to read and self-monitoring while reading. Metacognition and the ability to reflect on one's ability and comprehension are important skills for reading and often one that requires an explicit approach to build one's skills. A study by Prado and Plourde (2009) researched if there was a significant difference between how students perform on a reading test after having received explicit instruction on reading strategies and students who participated in the general language arts curriculum. Reading strategies included: creating mental pictures as they are reading, using background knowledge to build connections, asking questions before during and after reading, making inferences, determining important ideas or themes, synthesizing information, and using "fix up" strategies like rereading for comprehension, reading aloud, or using a dictionary for unknown words, when something doesn't make sense. The study focused on nonfiction texts and included teacher modeling, guided practice, and independent practice of the new skills.

Research Questions that guided the study were: 1. Using the aforementioned strategies, will there be a difference between students' pre-test and post-test scores on the Northwest Evaluation Association (NWEA) reading test? 2. On the NWEA reading pre-test and post-test, will there be a significant difference between male and female students?

The null hypothesis was applied to the study stating that there would be no significant difference

between the pre-test and post-test, nor would any significant difference exist between male and female students on the NWEA reading tests. The test consisted of 41 questions testing five sub-skills; word recognition and vocabulary, literal reading comprehension, inferential reading comprehension, evaluative reading comprehension, and literary response and analysis.

The pre-test was administered in October of 2008 and the post-test was administered in January 2009. The researchers used a single-group design to determine if there would be an increase in the reading comprehension scores when students were explicitly taught certain reading strategies and to observe if there was a significant difference in the scores between male and female students. The student received explicit reading instruction of the specified reading strategies for three months.

Three fourth grade classes (57 students) from an elementary school in the Columbia Basin located in eastern Washington. Of the students in the study, 32 were male and 25 were female, the majority of the students were either Hispanic or Caucasian. The limitations of the student were that of the three classes, the students were chosen by convenience and that the student's growth may have also been influenced by instruction from other teachers. There was only one assessment used to chart progress, the NWEA reading test. The independent variable for the study was the explicit teaching of reading using the listed strategies.

After the intervention, the students showed a statistically significant difference between the pre-test and the post-test. The mean of pre-test scores was 201.82, while the post-test score mean was 207.14, therefore, the null hypothesis was rejected. The researchers also found that there was no significant difference in the performance of male and female students. The research supported that explicit instruction of reading techniques supports comprehension.

Another specific skill and method that has been shown to promote comprehension and self-monitoring is reciprocal teaching (Temple et al., 2013). Students have to be able to summarize what they have read, as well as reflect upon the text to generate questions about it, clarify and ideas or information that they may have found unclear, and make predictions or applications of the knowledge. Assuming the role of the teacher can guide them through material and help develop metacognitive skills that are applicable to other tasks. A study by Hilde Van Keer (2004) examined the benefits of explicit reading comprehension strategies and peer and cross-age

tutoring on fifth grade student's reading comprehension. Van Keer (2004) sought to find out if explicit instruction in reading comprehension combined with teacher-led whole group activities, as well as reciprocal same age peer-group or cross-age peer tutoring activities would have differential effects on reading comprehension. Prior research had shown the benefits of both cognitive strategies, such as activating prior background knowledge, and adjustment of reading speed, as well as metacognitive strategies like self-monitoring for comprehension. There is a need for explicit instruction to develop these skills in young readers. Prior studies also have shown the benefits of peer-led interaction and instruction. Having students discuss the texts with each other leads to a higher level of cognition and application of the metacognitive strategies that should be taught as well, They are more likely to use the strategies when hearing peers talk about their reading process. Peer tutoring also has shown benefits in engagement with texts and on students emotional and social functioning and esteem. Van Keer (2004) hypothesized that “1. providing fifth grade students with explicit reading strategies instruction would have a significant positive impact on their reading comprehension achievement. 2. That the practicing the application of reading strategies during cross-age or reciprocal same-age tutoring activities would generate greater positive changes in reading comprehension than more traditional teacher-led practice in whole class activities. 3. The increase in reading comprehension achievement would be more pronounced for fifth graders functioning as tutors in cross-age peer tutoring activities than for their peers alternating between tutor and tutee role in reciprocal same-age activities”. (p.52)

Van Keer (2004) researched these strategies in 22 fifth grade classrooms in 20 schools in Flanders, Belgium. There were 454 students and 22 teachers involved in the study from a mostly Caucasian, middle class population. There was an equal distribution of males and females in the classrooms ranging from nine to twelve years old with an average class size of 22 students. The study lasted for the entire school year and into the next, from September of 1999 to December 2000.

All students participated in a pre-test, post-test, and a retention test (delivered the following school year when the students were in the sixth grade). Classes were assigned to four conditions. The four conditions were: six teachers and 107 students were in a control group who participated in traditional reading comprehension instruction; eight teachers and 177 students received explicit reading strategies and teacher led whole group

activities (STRAT); four teachers and 101 students received explicit reading strategies and participated in reciprocal same age peer tutoring groups (STRAT-SA); and four teachers and 69 students received explicit reading strategies and participated in cross-age peer tutoring, working with second grade students (STRAT-CA). All STRAT teachers were provided training, a manual and all the materials for their class.

The explicit reading strategies that were taught in the study were: activating prior knowledge, predictive reading, identifying main ideas and side issues, monitoring and regulating the understanding of words and expressions (vocabulary), tracing ideas expressed in difficult and not understood sentences or passages (context clues), classifying genres and their structures. In whole class instruction the teacher explicitly explained and modeled the think aloud method and allowed time for students to practice with explicit scaffolding or coaching. Students were provided with a “strategy assignment card” that visually supported the reading strategy and think aloud process.

Students who participated in the STRAT-SA and STRAT-CA conditions were trained on how to tutor and gave them specific tasks and responsibilities. The STRAT-CA group partnered the fifth graders with second grade students. The STRAT-SA condition paired classmates who were socially compatible and academically heterogeneous. The peer tutors met in their groups once or twice a week for 25-50 minutes. While in their sessions, each same age peer group took turns as the dialogue leader. Both SA and CA conditions had structured and task-centered interactions. Each peer tutoring session was followed by a class reflection.

The effectiveness of the interventions was assessed using a pre-test, post-test, and retention test using the Dutch standardized and IRT-modeled test battery, which is standard for evaluating primary school students' reading comprehension. The pre-test was delivered to the students in the beginning of the school year, post-test was collected at the end of the school year, and the retention test was collected in December of the following school year.

The results of the interventions collaborate the researcher's hypothesis; explicit reading strategies were found to be a feasible tool to enhance fifth graders reading comprehension for two out of the three intervention conditions. The STRAT and STRAT-CA conditions saw significant progress, while the improvement from the STRAT-SA condition does not significantly differ from that of the control group. The STRAT-CA classrooms

progress from the pre-test to the retention test is significantly higher than that of the STRAT-SA. Observations were made about the student's motivation in relation to the tutor responsibility for the younger students compared to the same age peer reciprocal model, which did not hold the same appeal or motivation for the students. The fifth graders who acted as tutors for the second grade students scored at least as well as the students who received explicit instruction in reading strategies alone. The researcher confirmed the first and third hypothesis; the students benefited from the explicit instruction and the cross-age tutoring the most, with the STRAT-CA condition scoring significantly higher than that of the STRAT-SA condition. The study did not confirm the second hypothesis; the progress of both tutoring conditions was not significantly higher than that of the STRAT condition.

This study showed that the metacognitive skills gained by the students significantly improved their comprehension test scores, and that cross-age group tutoring is especially beneficial for students in building the metacognitive skills. The students had to be aware of their comprehension and develop questions about the text before they could teach others. The current study will look at the importance of summarizing and developing questions about a text as part of the metacognitive comprehension of informational texts. The summarization and development of questioning are important features of post-reading strategies, designed to complement the pre-reading and self-questioning during reading.

An important strategy to promote comprehension that has been used in most of the studies used in the current research's literature review is the use of pre-reading, during reading, and post-reading strategies. A good reader is able to form mental expectations about a text based on their prior knowledge (Caldwell & Leslie, 2013) and apply that prior knowledge to the texts. Often struggling readers have a difficulty categorizing the new information and generalizing it to their prior knowledge base. Students' ability to connect the passages to their lives, ability to use think-aloud questioning, and reflect on the passage and their comprehension is fundamental to deepening schema.

A study by Santoro, Chard, Fien, Park, and Otterstedt (2013) examined the impacts of an intervention that focuses on read-aloud strategies that systematically used narrative and expository texts, delivered in a whole-group first grade classroom setting. Using pre-reading, during reading, and post-reading strategies,

teachers explicitly instructed first grade students on better ways to comprehend the text including explicit vocabulary instruction, think alouds, and dialogic interaction between students and teachers. The researchers predicted that students who received the intervention would outperform students who did not receive the intervention in the area of vocabulary and comprehension. The researchers predicted that the intervention would benefit all students who received it, but it would be most beneficial for students with language difficulties and/or language and literacy difficulties.

The study lasted 19 weeks and consisted of 225 students in 12 classrooms from three school districts in the Pacific Northwest. The classrooms were randomly assigned to either the intervention or comparison condition. All students were in the first grade and were in classrooms with a mean number of 20 and 18 students, respectively. Students were screened using the Test of Language Development- Primary (TOLD, 3<sup>rd</sup> ed.) and the Dynamic Indicators of Basic Early Literacy Skills (DIBLES, 6<sup>th</sup> ed.) to identify students at risk of either language or literacy difficulties. The data collected during the two screening test aided the researchers in creating two types of risk categories: students at risk for literacy difficulties and those at risk for language difficulties.

The researchers relied on four features to structure the intervention. First, teachers were instructed to choose a variety of books that are commonly read-aloud to first grade students. Second, consistent routines were to be used to explicitly teach the structure of both narrative and expository texts. Students were taught to make predictions about the text and apply prior knowledge and compare their predictions during read aloud sessions. A variety of pre-reading and post-reading methods were included in the lesson plans. Third, teachers were provided lesson plans, both long-form and short form, detailing content and instructional language. Fourth, dialogic interactions occurred between both students and teachers, but also between students. Structured verbal interactions between students were taught to perform tasks like summarization. Interventions were taught three or four times per week for 30 minutes each lesson. The comparison condition teachers were asked to use the procedures that they normally would use that they felt would promote student comprehension. They were asked to use some of the same books as the intervention comparison to better document read aloud instruction across conditions.

The researchers examined the impact of the read aloud intervention on four student outcomes: listening comprehension, narrative retell, expository retell, and vocabulary. The students were screened using the following assessments as pre-tests and post-tests to measure language and literacy: Test of Oral Language Development- Primary: Third Edition (TOLD-P-3; Newcomer & Hammill, 1997) and Dynamic Indicators of Basic Early Literacy Skills (DIBLES, 6<sup>th</sup> ed; Kaminski & Good, 1996). Students were also measured for listening comprehension using Gates-MacGinitie Test of Reading Comprehension, Listening Comprehension Subtest (MacGinitie, MacGinitie, Maria, & Dreyer, 2000), the Narrative Retells, Strong Narrative Assessment Procedure (SNAP; Strong, 1998) which was also adapted by the researchers to assess student comprehension of expository texts. To assess at pre-test and post-test vocabulary knowledge, the researchers developed the Depth of Vocabulary Knowledge (DOK) assessment.

Using a main-effects model, the researchers found that the read aloud intervention had significant effect on the student's ability to retell narrative texts and on vocabulary acquisition. The students in the intervention condition outperformed the students in the comparison condition on narrative retell by 2.42 points on average across the sub-risk groups. On the vocabulary outcome, students in the intervention condition outperformed those in the comparison condition by an average of 9.35 points. The read aloud intervention did not have a statistically significant effect on either listening comprehension or on expository retell. For vocabulary, the results were consistent with the researchers' prediction that students who received the intervention performed better on explicitly taught vocabulary words than those without any teacher definition or instruction. Students in the intervention condition scores translated to 35 percentile difference on vocabulary outcomes over the comparison condition.

The researchers surmise that explicit vocabulary instruction is beneficial to all students when delivered in whole-classroom settings. They found that there is value to conceptualizing read aloud practices for students and the creation of mental representations of text are beneficial to comprehension and well suited to read aloud environments. The structure of before reading, during reading (think alouds) and after reading components aides in comprehension and is worth further research. The researchers suggest that the integration of narrative and informational texts is a useful approach for first grade teachers. They assert that providing high quality read

aloud session for students including comprehension monitoring and explicit vocabulary instruction will deepen student understanding.

An important part of pre-reading strategies employed by teachers is connecting background knowledge. Students use their schema to understand the meaning of a passage (Temple et al., 2013) and to give meaning to the details of the text. In addition to knowledge of text structure and the knowledge of the content of the text, vocabulary also plays an important role in comprehension.

A study by Boulware-Gooden, Carreker, Thornhill, and Joshi (2007) looked at the effectiveness of the direct instruction of multiple metacognitive strategies and its effect on comprehension of expository texts for third grade students. The researchers specifically looked at the students reading comprehension and vocabulary achievement after having received instruction in self-monitoring and metacognitive strategies for both expository texts and vocabulary. Their hypothesis was that with these skills being explicitly taught, that students would have better acquisition of new vocabulary and reading comprehension when explicit instruction on metacognitive and “think out loud” strategies was delivered in the classroom.

The study took place for 5 weeks, or 25 days in two urban elementary schools in the southwest United States. Six third grade classrooms, 119 students, participated in the study with one school providing the intervention and the other school was the control group.

Both schools delivered a pretest to ensure they were of compatible decoding ability using the Woodcock Johnson III Test of Achievement, specifically the Word Attach, Letter-Word Identification, and Spelling subtests. The 2000 Gray Silent Reading Test and a criterion vocabulary test were used as a pre-test and post-test to measure comprehension and vocabulary acquisition.

In both schools the students received 30 minutes of reading comprehension instruction daily. All passages that were used in the 25 day study were expository and 300-400 words in length. The lesson plans for the students in both schools were similar, but the students receiving the metacognitive intervention was divided into five parts; introduction, vocabulary, Reading the story, Summary, and Questions. The intervention students created semantic webs for the vocabulary words introduced in the lesson. They were also encouraged to think out loud while they read, making comments about the text as they went along, leading into a group activity of

creating a “card pyramid” to identify main idea, supporting ideas, and details from the text. They also wrote summary paragraphs for each text using one quarter the amount of words in the passage. This was done, at first, as a group, and later independently. Finally the intervention students answered both explicit and implicit questions about the text orally and written questions about vocabulary in context, main ideas and details, and conclusions. The comparison, or control, school did not use vocabulary webs, reminders to think out loud, or identify the elements of expository passages.

Using the criterion-referenced vocabulary pre- and post-test and the reading comprehension pre- and post-test, the researchers analyzed the results after 5 weeks of the study. They found that the intervention group improved significantly in both vocabulary and comprehension when comparing the post-test scores to those of the comparison group. The intervention group showed a 40% difference in gains in vocabulary and 20% difference in gains in reading comprehension. The results show that students who receive vocabulary instruction requiring them to generate synonyms, antonyms, and other related words showed significant growth over the students who were required to write the definition and use the word in a sentence. The visual representation and the related words in the word web created a deeper understanding of the word increasing the students’ ability to recall meaning. The active engagement of the students with the text as facilitated by the metacognitive think out loud strategies, along with the visual representation of the expository text structure (card pyramid) were beneficial to the students in the intervention group. They were asked to recall main idea, supporting ideas, and details as a group, and again individually. Writing the summary paragraph was another important metacognitive strategy used by the students which required them to synthesize the information and review all the facts to limit it to the most important parts so that it would meet the word limit.

Boulware-Gooden et al. (2007), used a card pyramid to support comprehension and summarization of expository texts. The visual representation of information can proved to be beneficial for the students in the intervention. The next section of research reviews will focus on additional studies that have combined the use of graphic organizers with metacognitive instruction.

### **Combining Graphic Organizers and Explicit Metacognitive Instruction**

The current study will look at the skills discussed in previous section and specifically the skills listed in

the Prado and Plourde (2009), incorporating elements of a variety of research done on metacognitive instruction. Several studies have looked at the student's ability to reflect upon their skills as they read. A study with a similar structure as the current research is one by Nelson & Manset-Williamson.

The study by Nelson and Manset-Williamson (2013) compared the results of a reading intervention that focused on explicit, self-regulatory reading strategy instruction to reading an intervention that did not include metacognitive skills. The results of the interventions on students with reading disabilities were analyzed to compare the effects of the additional instruction in metacognition. The researchers specifically looked at reading specific self-efficacy, attributions and its effect on comprehension. The researchers hypothesized that the intervention group that received explicit, self-regulatory strategy instruction would possess greater reading self-efficacy, more adaptive reading attributions, and more positive affect for reading than the group receiving less explicit strategy instruction. The researchers believed that with a greater sense of competency and self-control over reading, students with reading disabilities would develop a positive affect for reading and improved outcomes.

The six week study looked at students entering fourth through eighth grade conducted over the student's summer break. Twenty-one students participated ranging from nine years old to fourteen, with an average age of 11. There were 15 males and five females; 17 of the subjects were Caucasian and three were African American. All students had scored at least two years below their expected grade level on the Reading Fluency and Passage Comprehension subtests of the Woodcock Johnson Tests of Achievement, Third Edition (WJ III; Woodcock, McGrew, & Mather, 2001).

Students' perceived ability to correctly answer comprehension questions (self-efficacy) about a given passage was measured by an instrument developed by Schunk and Rice (1987) Researcher J.M. Nelson (Nelson & Manset-Williamson, 2013) developed a measure to examine reading attributions to strategy use by student's responses to given scenarios. To measure both positive and negative affect for reading, the researchers used a modified version of the Positive and Negative Affect Scale for Children (PANAS-C; Laurent et al., 1999).

Both interventions, one with explicit reading strategies taught, one without, were implemented for six weeks; five weeks of one-on-one instruction for four days per week for an hour, and one week for pre-testing

and post-testing. All participants received 15 minute of phonological awareness training, 35 minutes of comprehension instruction, and 10 minutes of fluency per session. The Comprehension component was different between the two groups. The two groups were named the Guided reading group (n = 11) and the Explicit Comprehension group (n = 9). For the Guided Reading group, instructors modeled specific comprehension strategies to enhance active and strategic reading. They included prediction, summarization, and question generation. The Explicit Reading group used a mnemonic, "SUPER-G" to teach students self-regulatory procedures. "SUPER-G" stood for the following: set goals, use prior knowledge, predict what you think will be in the text, explain the main idea in your own words, retell the most important parts of the text, and give yourself feedback. Strategies were introduced one at a time and explicitly taught. The mnemonic served as a check off sheet for participants to use while reading.

Students from both the Guided Reading intervention and the Explicit Reading intervention showed gains on the reading comprehension measures. The researchers found that the students who participated in the Explicit Comprehension group with the metacognitive mnemonic made significantly larger gains in their reading comprehension skills than the students who participated in the Guided Reading group. Specifically, the Explicit Reading group outperformed the Guided Reading group on the oral retell quality and main idea identification at post-test. Participants in the Explicit Reading group also reported statistically significant increase in positive affect for reading. The Guided Reading group also showed a decrease in negative affect for reading that approached statistical significance. Students in the Explicit Reading group also made gains in their attributions to incorrect strategy usage rather than reading failure due to the coaching and emphasis placed on strategy from their intervention instructors. Both groups showed relatively high levels of reading self-efficacy prior to the interventions, although participants in the Guided Reading group reported higher levels of reading self-efficacy at post-test. There were no statistical differences between male and female participants, ethnicity, age, intellectual functioning, reading skills, or phonological processing.

The researchers attribute the lower level of reading self-efficacy in the Explicit Reading intervention group to the intervention leading to more accurate self-appraisals by those students. The researchers assert that students with learning disabilities tend to overestimate their abilities, and as a result of metacognitive

instruction, the students in the Explicit Reading group were more accurately assess themselves. They were able to use their metacognitive skills to attribute reading failure to incorrect strategy, rather than a lack of skills. The researchers suggest that implications for further practice include the self-regulatory strategies and instruction that attributes failure to incorrect strategy. These practices showed beneficial to students with learning disabilities in their study and increased student motivation to read. It will also help minimize the effects of an inflated reading self-efficacy that could hinder reading development.

The use of the mnemonic “SUPER-G” proved beneficial to students in the Nelson & Manset-Williamson study. Hall et al., (2013) define a mnemonic as a visual device that aims to assist students in recalling facts. They write that mnemonics are effect tools in classrooms for students with learning disabilities. They can be used to help students recall facts such as who, what, where, and when while reading expository texts. A study by Jitendra, Hoppes, and Xin (2000) uses a prompt card with many of the same questions to assist students in self-monitoring their comprehension of expository texts.

Summarization and retelling is, traditionally, an important way that teachers assess student learning (Caldwell & Leslie, 2013). This task becomes more difficult for struggling readers with expository texts. The study by Jitendra, Hoppes, and Xin *Enhancing Main Idea Comprehension for Students with Learning Problems: The Role of a Summarization Strategy and Self-monitoring Instruction* (2000) sought to investigate the effects of instruction that incorporated main idea strategy explicit instruction with a self-monitoring procedure to a group of 33 middle school students with disabilities. The researchers also sought to assess the ability of the student to generalize the skills and transfer training to other subjects and over time. The researchers had a focus on metacognition and students perceptions regarding main idea strategy. The researcher's hypothesis was that by making the main idea strategy more able to be generalized and monitoring for both near and far transference; as well as teaching both academic and behavioral self-monitoring skills, students with disabilities will improve their reading comprehension.

The study researched 33 middle school students with high-incident disabilities in an urban school district in the Northeastern United States. The students were divided into two groups, the experimental and the control group, with half of each gender represented. Thirty-three percent of student participants were female. Ethnicity

breakdown is as follows: 45% Caucasian, 15% African American, 39% Hispanic. All students received specialized services in reading instruction (40 minutes a day of reading intervention) and were at least two years below grade levels. None of the students scored below a 2.0 or 2.5 on the Woodcock Reading Mastery test on the Word Recognition or Comprehension subtests.

The experimental group was given prompt cards including cues for main idea strategy sessions reading prepared passages. Three tests (pre-test, post-test, and delayed post-test) were developed that included passages that were similar to training items, derived from basal reading texts to assess near transfer, and items based on social studies texts to show far transfer of main idea strategy.

Students in the control group attended instructional sessions for 15 days. These sessions were 30 to 40 minutes long and were conducted in small groups of six to eight students. Lessons included teacher modeling followed by guided and independent practice and performance was monitored and feedback was provided. Self-monitoring was incorporated throughout the lessons and students were taught to use cards to help them follow a four step process.

As a result of the intervention, the experimental group outscored the students in the control group on the post-test training items as well as maintained their improved performance on the delayed post-test. The intervention was successful at increasing comprehension and maintaining results for six weeks following post-test. On near and far measures the experimental group outperformed the control group on items requiring selection responses. The item requiring generated responses decreased from the pretest in both groups, in part due to the inferential nature of the questions. The students maintained progress with the near transfer, but not the far transfer six weeks out from the intervention. The study showed the students positive attitudes toward the strategies used in the studies and ability to focus on application rather than strategy recollection.

The study shows that explicit instruction on main idea comprehension and self-monitoring can be beneficial to students with learning disabilities when asked explicit comprehension questions. The current study will replicate Jitendra, Hoppes, and Xin's (2000) study's use of a self-monitoring tool to increase the students' ability to answer explicit comprehension questions and to visually check for understanding.

Specifically looking at students with Autism, the following study by Bethune and Wood studied the

effects of graphic organizers on the students' ability to determine “who, what, when, where, why.” Done partially with a computer based program and individual picture sorts, the study also emphasized the importance of these elements on comprehension even for students with more severe reading and learning difficulties.

In the study by Bethune and Wood (2013) the researchers studies the effects of “wh- questions” graphic organizers on the reading comprehension of students with autism spectrum disorders (ASD). The researchers believed that the use of graphic organizers to identify the questions “who, what, when, where, why” would increase the ability to answer comprehension questions for students with ASD.

Participants in the study were selected based on the convenience and their ability to meet the following criteria:

1. ability to orally read text at a minimum of a first grade level
2. ability to match written nouns to picture representations
3. prior to the study, the inability to accurately answer literal wh-questions about a previously read text
4. parental consent and student assent.

The study looked at the results of three young men with ASD with varying academic levels and skills. Aaron was an eight-year-old Hispanic boy who was able to vocally engage in conversation and could read sentences and paragraphs fluently, but was unable to answer comprehension questions. Mark was ten-years-old, Caucasian, and was vocally able to communicate wants and needs, was beginning to read sentences and paragraphs, but was unable to answer comprehension questions about passages. Joe was African American, ten-years-old, his speech was difficult to understand, he was able to read sentences and paragraphs, but could not answer comprehension questions.

The study took place in an urban public elementary school in the southeastern United States. The students were taught in three different self-contained classrooms for students with autism within the same school. The students read text at their instructional level as determined by a Direct Instruction reading program. Each session students read a different story. The probes were conducted in the students' special education classrooms, one-on-one, during instructional time for approximately 10 minutes.

There were two independent variables in the study. The first variable was the data collected by student's

accuracy in sorting words into a graphic organizer divided into the different wh-questions (who, what doing, where, etc) based on key text from the story after reading. The second dependent variable was the student's ability to accurately answer eight explicit questions about the text after completing the graphic organizer. The questions comprised of two questions from each of the following categories; who, what, where, and what doing. Aaron and Mark answer questions vocally, while Joe answered both vocally and by pointing to a written word on the graphic organizer.

The study used a delayed multiple baseline across participants design (Heward, 1978 as cited in Cooper et al., 2007). There were three phrases; a baseline phrase, intervention phrase, and a final maintenance phase. Researchers collected at least five data points per student per phase. The intervention ended when students, in three consecutive sessions, correctly answered at least seven out of eight comprehension questions. For the Baseline and Intervention phases; the graphic organizer probe and the eight comprehension questions were administered daily. During the maintenance phase; the researchers scored products from the students' responses to their reading in their special education classrooms. All of the students participated in a Direct Instruction reading curriculum, and the students did not use graphic organizers during instruction. Maintenance data was collected once per week following the intervention phrase. Aaron had five weeks of maintenance data, Mark had four weeks, and Joe had three weeks of maintenance data.

All three participants in the study showed an immediate improvement in reading level after instruction on the graphic organizer began. They all quickly met criteria by accurately answering comprehension questions and moved on to the maintenance phase. On the comprehension probes, Aaron started at average 3.8 correct answers per probe at the baseline, increase to 7.2 during the intervention phase, and averaged 7.6 correct explicit comprehension questions per probe during maintenance phase. Mark's baseline average score was 2.7 correct comprehension questions per probe, increasing to an average of 6.4 during the intervention phase, and 7.25 average correct comprehension questions during the maintenance phase. Joe's average correct questions during baseline phase was 3.6, increasing to an average of 6.1 questions per probe during the intervention phase and 7.0 correct questions per probe during the maintenance phase. All three students' scores improved from baseline to the generalization or maintenance phase. Teachers reported that the intervention was useful to the

students and the students reported that they felt they enjoyed the method of teaching.

This study showed that there was a positive effect from the use of wh-question graphic organizers on the explicit comprehension of texts for students with ASD. All students showed an increased ability to correctly answer explicit comprehension questions about a text after using graphic organizers to determine “who, what, what doing, where” from the texts. Students were also able to generalize these skills into their regular instruction as shown by the maintenance phase scores.

The metacognitive skills to understand the structure of the text has an important role in students' comprehension. In a large-scale randomized controlled trial of fourth grade students by Wijekumar, Meyer, and Lei (2012), the researchers studied the effects of a web-based intelligent tutoring system (ITSS) on students' comprehension. The dependent variable of the study was the web based ITSS program, with the classroom teachers, location, and students being the independent variables. The ITSS program delivered explicit structure strategy, focusing on common organizational features on expository texts. The goal of the ITSS was for students to increase comprehension by being able to apply structure strategy when reading multiple texts at varying difficulty levels. The researchers hypothesized that students using the ITSS system for one class period per week for an academic school year will outperform their classmates on standardized and researcher designed measures of reading comprehension.

The researchers observed 131 classrooms assigned to either the experimental or control conditions. The pool of participants included fourth grade students from 60 rural and 71 suburban classrooms. At post-test, the sample included 130 teachers and 2,643 students.

Classrooms within a school were assigned to either condition, ensuring that both conditions would be using the same language arts curriculum. The experimental condition used the ITSS for 35-45 minutes each week as a partial substitute for the regular language arts curriculum. Pre-tests were administered at the beginning of the 2009-2010 school year using the Gray Silent Reading Test (GSRT) (Wiederholt & Blalock 2000) and a researcher designed measure of comprehension. These were administered six to seven months after having used the ITSS system in the classroom as post-tests as well. The research designed measure tested students' understanding of expository texts with problem and solution competency and total text recall scores.

Students were asked to recall information and details about a given passage and asked to write a two sentence main idea.

The ITSS was designed around three basic tenants: Signaling words that focus the reader's attention to the text structure; using text structure to organize ideas from the passage to create a main idea; and creating a well-organized mental representation and recall of the text. The online program used modeling and performance tasks to help students achieve learning goals and use structure strategy when reading passages.

At post-test, students in the experimental control scored an average of 1.07 points higher on the GRST than the students in the control group. Students in the experimental control also performed significantly better on the researcher measures. It was consistent across disaggregated groups such as gender and school location. Specifically, the ITSS appeared to make a larger difference on male students than female students. ITSS made a slightly larger difference in main idea quality for students who had initially scored at higher reading levels.

The researchers assert that there exists a need to expand the research on web-based ITSS. The students using ITSS and receiving explicit instruction on structure strategy performed significantly better on post-tests than the students in the control group. The research implies that that structure strategy has an important role in language arts instruction and curriculum.

Finding the main idea of an informational text is fundamental to understanding, but also can be difficult for students who have reading difficulties (Caldwell & Leslie, 2013). Caldwell & Leslie suggest focusing on “topic” rather than having a student underline the main idea sentence from the text. This is another way for students to work on comprehending the text and assist them in finding supporting details. Web graphic organizers are a traditionally used form of graphic organizer to enhance comprehension of texts as well as vocabulary. In the following study, the researchers use a web organizer to enhance comprehension of text structure and metacognitive skills.

The study conducted by Ropič and Aberšek (2012) aimed to establish the effect of using web graphic organizers and explicit instruction on expository text structure on the comprehension of science texts. The researchers hypothesized that the use of web graphic organizers would help students visually organize information and allow it to relate to their prior knowledge and facilitate transfer into long-term memory. The

use of the graphic organizers would strengthen students' metacognition by making the text structure visible. The authors compared two groups of students; one (experimental) group receiving explicit instruction on the use of graphic organizers and text structure, and a second (control) group who receive instruction as they have in previous years (without specific skills taught).

The sample consisted of 144 third grade students between the ages of eight and nine years old, attending compensatory school in Slovenia. There were 84 students in the experimental group and 60 students in the control group. For five months, the experimental group was taught using an integrated reading and science class that focused on the ability to read/understand and write the text structure as well as the science content about animals. The instructors were focused on subject description and breaking down the whole text into subtexts. Instructors used graphic organizers as a tool for visual presentation of text structure description as well as a tool to connect student's prior knowledge with new information gathered from the text. As students read, the instructor focused on key ideas and subtopics. Students worked in small groups or pairs to draw their own graphic organizers. Students were encouraged to do this individually as well. The control group did not participate in an integrated class, and graphic organizers were not systematically used in instruction. Children were not encouraged to create or used graphic organizers individually.

Data was collected at the beginning and the end to the five month study. Students completed the same form of web organizer for both the pre- and post-test on the same topic and textbook text. For the post-assessment students had to work individually. All students completed a web graphic organizer about their prior knowledge of cats, the topic of the textbook. After they read the textbook twice and added additional information to their web or corrected prior data.

The researcher found that the students who had participated in the experimental group recorded more information from the text than the control group, and that the information was derived from all seven sub-themes. The control group included information from five out of the seven sub-themes. The researchers found that 30% of the students from the experimental group developed the competence in using graphic record to present their knowledge. The author suggests that using the knowledge of text structure can improve comprehension and understanding of text. By recognizing text structures and signal words, students were better

able to make sense of the text and see logical relationships. The researchers also emphasize the importance of the graphic organizers on the students' ability to integrate new knowledge into their preexisting mental schema.

### **Conclusion**

This chapter presented a review of the literature on graphic organizers and their influence on comprehension of texts, explicit instruction of text structure, explicit instruction on metacognitive strategies for reading, and how to combine the those strategies. Metacognitive reading strategies are important to the academic progress of students and academic success (Ahmadi et. al., 2013). There is a strong relationship between students' reading difficulties and a lack of self-efficacy and knowledge of strategies.

Reading comprehension is constructed from a combination of students' prior knowledge and experience. As students read a passage, they apply the new information to their prior knowledge and build connections between the new and the old information. The importance of these skills was shown in the research by Ropič and Aberšek (2012). To build students' skills in reading comprehension, they need to take ownership of their comprehension and become aware of the processes they use when reading. As with many of the models and research cited in the above studies, teachers move from teacher-led instruction to self-directed learning and self-monitoring their own comprehension. The study by Van Keer (2004) researched the importance of student-led and peer instruction.

Secondly, a relevant number of reading models place an importance on the use of visualization and graphic representations of information to aid in comprehension as shown in the Kim, Vaughn, Wankel and Wei (2004) and Ozmen (2011) studies. It is helpful for students to be able to visualize text structures. Being able to visualize the structure and diagram out a passage helps make the structure and information concrete as shown by Van Keer (2004). Students who have reading difficulties may not be able to visualize the text structure in their minds, but creating a graphic organizer aids in the comprehension of texts. Diagrams can also be used to summarize main ideas and details to support summarization.

Numerous studies have supported the use of graphic organizers to support metacognitive skills (Ropič and Aberšek, 2012; Bethune and Wood, 2013; Nelson and Manset-Williamson, 2013; Jitendra, Hoppes, and Xin, 2000). The current study will apply some of the strategies implemented by these studies toward enhancing

the reading comprehension of explicit texts.

In conclusion, the review of literature indicates that explicit instructions in specific reading strategies are beneficial to student comprehension. The strategies include creating mental pictures as students are reading, using background knowledge to build connections, asking questions before during and after reading, making inferences, determining important ideas or themes, synthesizing information, and using “fix up” strategies like rereading for comprehension, reading aloud, or using a dictionary for unknown words, when something doesn't make sense. The relationship between metacognitive skills like the ones previously mentioned are instrumental for students as they progress along grade levels and from learning-to-read to reading-to-learn.

## Chapter III

### **PROCEDURES OF THE STUDY**

This study documented how of the use of graphic organizers focusing on metacognitive reading skills would affect the reading comprehension of intermediate-level elementary students. A representative group of readers in the 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup> grades were invited to participate at the Cardinal Stritch University Literacy Centers in Milwaukee, WI. A collective case study design employed purposeful, stratified sampling to collect quantitative data from informal pre/post-testing as well as qualitative data describing student learning profiles, the intervention, and student response. Qualitative data sources included researcher-created data collection sheets, lesson plan notes, student work samples, and observations of student program responses.

The purpose of the study was to investigate the effectiveness of explicitly-taught metacognitive reading skills on struggling intermediate elementary students' comprehension. The researcher sought to determine if the participants' reading comprehension skills would improve through explicit instruction using metacognitive checklists and questioning, as well as graphic organizers, focusing on summarization and identification of main idea and key details in non-fiction texts to guide instruction. The hypothesis being that with the use of explicitly taught reading skills and visual aids, student's reading comprehension scores will improve from pre-testing to post-testing. In a synthesis of prior research, Aehwa, Vaughn, Wanzek and Wei (2001) found that in multiple studies, the use of graphic organizers was shown to increase students with learning disabilities ability to accurately answer explicit comprehension questions about a given text. A study by Jitendra, Hoppes, and Xin, *Enhancing Main Idea Comprehension for Students with Learning Problems: The Role of a Summarization Strategy and Self-monitoring Instruction* (2000) also looked at students with disabilities and how to increase their reading comprehension. The study shows that explicit instruction on main idea comprehension and self-monitoring can be beneficial to students with learning disabilities when asked explicit comprehension questions. A study by Boulware-Gooden, Carreker, Thornhill, and Joshi (2007) looked at the effectiveness

of the direct instruction of multiple metacognitive strategies and its effect on comprehension of expository texts for third grade students. The intervention group from this study showed a 60% (SR) and 100% (AW) difference in gains in vocabulary and 21% (AW) and 62% (SR) difference in gains in reading comprehension.

This study will work specifically with student ability to self-monitor through graphic organizers. Based on the research, students who are taught to self-monitor will have increased comprehension (Jitendra, Hoppes, & Xin, 2000). Research suggests that students with deficits in reading are able to make gains when taught how to use certain graphic organizers (Ae-Hwa, Vaughn, Wanzek & Wei, 2004).

Topics covered in this chapter include: (a) selection and description of participants, (b) data collection strategies, and (c) case study method.

### **Selection and Description of Participants**

The focus of this case study was the area of reading comprehension in a one-on-one setting. Based on the needs of many students attending Milwaukee Public Schools and near by public and charter and voucher schools, Cardinal Stritch University has created comprehensive literacy centers to attend to the needs of the urban population. Many of the students across the metropolitan area's school districts, such as Milwaukee Public Schools, have deficiencies in reading comprehension and are often reading below grade level (Richards, & Hetzner). The research of this case study was directly related to interventions that would be beneficial for any student receiving direct reading instruction. The two students involved in the case study were provided by the Cardinal Stritch Literacy Center as participants in a summer reading program for area youth.

The Cardinal Stritch Literacy Center (CSLC) provided literacy support and instruction for elementary students in Milwaukee and the surrounding suburbs. The CSLC offers comprehensive literacy assessment and tutoring services for selected students in grades K-12 during the school year as well as the summer. This case study looks at the growth of one student entering the fourth grade student and one

student entering the sixth grade student during the summer of 2014. Neither student had an individualized education plan (IEP) at the time of the study though both students were enrolled by parents to support their reading growth due to concern over reading skills.

AW was an incoming fourth grader at F. J. Gaenslen School in the Milwaukee Public School District. She was a nine year old African American girl who lived with both parents. She attended two years of early childhood preschool before entering kindergarten at the age of five. She had never been retained from grade level. AW's mother expressed concern that her daughter was struggling with reading, although she loved school. Her attendance in school during the third grade had been regular.

AW's third grade teacher noted that she has difficulty comprehending directions, which had been observed during reading sessions. She also noted that AW had difficulty with independent reading and text analysis. She struggled with finding evidenced-based questions and answers from a given text. Her teacher described her as a hard worker who works well in small groups. During a CSLC administered Motivation to Reading Profile-R (Malloy, Marinak, Gambrell & Mazzoni, 2013) AW had expressed interest in reading about science, animals and art. AW described herself as a "medium" and "kind of good" reader. She mentioned that the hardest part about reading is trying to figure out words that she does not know. This coincides with her teachers concerns with AW's ability to decode and sound out words, and difficulty with rhyming and hearing syllables in spoken words. On the Qualitative Reading Inventory-5 (Leslie & Caldwell, 2011) pre-assessment administered by CSLC, AW read a text at reading level 2.7 at 94% accuracy, retelling 24/47 ideas and answering both implicit and explicit comprehension questions with 100% accuracy. When tested at level 3.8, her reading accuracy dropped to 89% and comprehension dropped to 50%. She recalled 17/57 ideas.

The second student participant in this study was SR. SR completed the fifth grade at Grace Lutheran School in Menomonee Falls, Wisconsin and was entering the sixth grade at the same school. SR was an 11 year old student of mixed-ethnicity. She took medication for ADHD daily. SR entered kindergarten at the age of 5 and had not been retained. She was evaluated for special education but did not qualify. Her mother enrolled her in the CSLC summer program on a recommendation from her teachers to receive reading comprehension help

during the summer. Mother reported that SR had “always struggled to keep up” and had attended summer schools for two years prior for additional assistance in reading and math.

SR's fifth grade teacher reported that she struggled with new vocabulary and comprehension of non-fiction materials. She also said that SR needed help in finding main ideas of content area texts and formulating coherent thoughts and ideas on to paper. Her teacher placed her instructional reading level at 4.2. Her teacher did not express concern about SR's decoding ability. On the Qualitative Reading Inventory-5 (Leslie & Caldwell, 2011) pre-assessment administered by CSLC, SR read a text at Reading level 5.7 with 96% accuracy, recalling 31/47 ideas and answering comprehension questions, both implicit and explicit, with 100% accuracy. When tested at reading level 6.6, her reading comprehension dropped to 94% and her comprehension to 62%. She only recalled 25/120 ideas.

Although her mother reported that SR “doesn’t like” school, during a CSLC administered Motivation to Reading Profile-R (Malloy, Marinak, Gambrell & Mazzoni, 2013) SR described reading as important. She was able to clearly articulate her reading preferences, listing that she preferred to read non-fiction texts, particularly text about slavery, civil rights and Native Americans.

Both student participants also worked with two other graduate students at the Cardinal Stritch Literacy Center and received instruction in writing and literacy in science.

### **Data Collection Methods**

Several assessments were given as a pre-assessment and a post-assessment to mark student growth; The Motivation to Reading Profile-Revised (Malloy, Marinak, Gambrell & Mazzoni, 2013) , the Qualitative Reading Inventory, both word lists and passage comprehension (Leslie & Caldwell, 2011). The researcher also administered several anecdotal assessments, recording the number of questions asked, connections made from text to life, and verbal comprehension checks monitoring “the 5 W's” or who, what, when, where, why. The student participants also completed weekly text coding activities and comprehension questioning to monitor ability to determine main ideas and key details.

The Motivation to Reading Profile-R (Malloy, Marinak, Gambrell & Mazzoni, 2013) assesses children's self-concepts as readers and the value they see in reading. The Motivation to Reading Profile-R Conversational Interview (Malloy, Marinak, Gambrell & Mazzoni, 2013) asked questions such as "what could teachers do to make reading more enjoyable?" and "what's hard about reading?" This data was collected to determine if student perception and self-efficacy in reading would change as a result of the intervention.

The Qualitative Reading Inventory (QRI-5, Leslie & Caldwell, 2011) assesses reading ability for students reading from emergent through high school levels. The Qualitative Reading Inventory-5 (Leslie & Caldwell, 2011) includes word lists and expository and narrative reading passages to give instructors an accurate picture of a student as a reader. The QRI-5 is administered one-on-one and given until a student reaches the frustration level with a text. Passages range from narrative to expository and contain fictional and informational texts. The QRI-5 tests for familiarity of the topic before the reading, explicit and implicit reading comprehension, words per minute (WPM), correct words per minute (CWPM), number of total miscues (total accuracy), number of meaning-change miscues (total acceptability), and number of ideas recalled from the text. This case study only looked at the comprehension of non-fiction texts, so the students were assessed with only non-fiction texts, both narrative and expository, but selected with student interest and background knowledge in mind.

Researcher-created data monitoring consisted of check lists recording the times that the student, unprompted, made a real-life connection to the text, or asked an extending question about the subject that the student was reading about. This was to monitor the metacognitive connections being made. Additionally, the researcher asked comprehension questions about the texts as the student read, often page by page, to probe for understanding. Correct and incorrect answers were counted and recorded.

### **Case Study Method**

The study took place in the summer of 2014 at Cardinal Stritch University City Center Campus in Milwaukee, Wisconsin. The study was part of a summer program offered to students entering the third

through sixth grades in the city from both public and private schools. Students participated in multiple educational programs: a science and literacy program, a writing program, and a one-on-one literacy intervention in which this study occurred. Each session lasted 55 minutes and took place four days per week for four weeks.

Each day in the study, students participated in one-on-one reading instruction. Subjects were given a card to prompt comprehension self-check, and regularly asked to review the card, generally after each page in the text. The card included the “five w” questions: who was the text about, what did they do, when did they live, where do/did they live, and why did the author chose to write about them/ why are they important? Students were instructed to take “private reasoning time” to reflect on these questions after reading a given text or section of text.

Students began each week reading a newspaper-style article relating to a larger text that they would be reading during the week. Subjects were asked to read independently and highlight the important details from the text. Then the researcher would review the answers and have students justify why those details were chosen. Students were asked to read non-fiction passages and identify the key ideas and details within the text daily.

Students were given a non-fiction book or books to read during the week chosen from a selection picked by the researcher. The books were selected based on the reading level and student interest expressed in the survey given during the first day of instruction.

*Day One & Day Two:* The first two sessions were used for administering pre-assessment tests and learning about the participants’ interests. The pre-assessment tests included the Qualitative Reading Inventory-5 (QRI-5) (Leslie & Caldwell, 2011) word lists and passage comprehension and the Motivation to Reading Profile-R (Malloy, Marinak, Gambrell & Mazzoni, 2013).

*Day Three:* The metacognitive graphic organizer was explained to the two students on the third day of the four-week intervention. The graphic organizer includes the 5 W's (Who, What, When, Where, Why). AW started reading *Why Don't Tigers Eat Bananas?* by Barbara Taylor, a longer book than would

be completed in a single day. SR read *Visiting Langston* by Willie Perdomo, a picture book about Langston Hughes. The books the students chose from were curated for each student based on their personal interests identified in the Motivation to Reading Profile-R (Malloy, Marinak, Gambrell & Mazzoni, 2013) and on their approximate reading level as determined by the QRI-5 (Leslie & Caldwell, 2011). Students were asked to read aloud. Metacognitive strategies were researcher modeled, such as think-alouds, and students completed a graphic organizer to identify the main idea and key details of each section using a concept web. During the session each student also had the option of making a prediction about the subject and encouraged to make connections to their prior knowledge. The process was teacher-led and student-collaborated.

*Day Four-Fourteen:*

After the third session of modeling the strategies, the intervention developed into scaffolded instruction using the Connection Web graphic organizer. The students would read aloud a section of a larger text, followed by verbal comprehension questions from the researcher and student recording of any key details from the text on the graphic organizer. After reading a section of the text (paragraph, page, chapter) the researcher prompted the student to refer to the metacognitive checklist to determine if they had comprehended what they had just read. When finished with each text, the student was asked to create a summative project based to the text. The researcher varied the summative projects to avoid monotony, and to reflect what would be asked of a student in a classroom. Summative assessment projects for each student will be described further below.

With the first two chapter books, both student participants were given reminders at key points in the book – the end of long paragraphs, section or chapter ends – to check their metacognition. For the first and second week of the intervention, the researcher would have the students orally answer the “5 w’s” on the “Self Check” card as well as answer the questions “did you know all of the words” and “did everything make sense?” During the first and second week, the students were reminded to fill in the graphic organizer and received some guidance on how to complete each section. Students were

encouraged to be more independent during the last two weeks and fill in their graphic organizers on their own. Both student subjects were comfortable completing the graphic organizers independently, and with increasing accuracy. The number of times they were verbally reminded to use the self-check card decreased. During the fourth week they were only reminded to use it by the researcher at the beginning of each session.

AW read the following books and completed the following summative assignments related to the books:

*Why Don't Tigers Eat Bananas?* By Barbra Taylor. Student and researcher created a KWL (know, want-to-know, learned) chart prior to during and after reading. Student filled out a connection web graphic organizer while reading the text, identifying main ideas and important details. In summation, the student wrote a brief report to explain to someone "why tigers are cool animals".

*Incredible Sharks* by Seymour Simon. Student and researcher created a KWL chart prior to, during and after reading. Student filled out a connection web graphic organizer while reading the text, identifying main ideas and important details. In summation, the student created a report and informational poster about sharks as if she were an alien from outer space studying Earth's creatures.

*Dolphins* by Sharon Bokoske and Margaret Davidson. Student and researcher created a KWL chart prior to during and after reading. Student filled out a connection web graphic organizer while reading the text, identifying main ideas and important details. In summation, the student used her web organizer to create flash cards. She gave an oral presentation to another researcher with the topic of "why should large fishing companies stop killing dolphins."

*Welcome to the World of Squirrels* by Diane Swanson. Student and researcher created a KWL chart prior to during and after reading. Student filled out a connection web graphic organizer while reading the text, identifying main ideas and important details. In summation, the student created an informational trifold brochure about squirrels with information from both the book and from prior knowledge, including an anecdotal story about squirrels.

SR read the following books and completed the following summative assignments related to the books:

*Harriet Tubman, the Path to Freedom* by Diane DeFord. Student and researcher created a KWL chart prior to during and after reading. Student filled out a connection web graphic organizer while reading the text, identifying main ideas and important details. Student also created “vocabulary boxes” from unknown words from the book, defining the word, writing a sentence with it, and illustrating the word. In summation, the student wrote the summary story of Harriet Tubman's life in her own words.

*Eleanor Roosevelt, A Modern First Lady* by Dvora Klein. Student filled out a connection web graphic organizer while reading the text, identifying main ideas and important details. Student also created “vocabulary boxes” from unknown words from the book, defining the word, writing a sentence with it, and illustrating the word. In summation, the student wrote a letter to a civil rights organization to convince them that Eleanor Roosevelt deserves an award, explaining who she was and how she made the word better for disadvantaged people.

*Princess Diana, The People's Princess* by Alan Trussell-Cullen. Student filled out a connection web graphic organizer while reading the text, identifying main ideas and important details. Student also created “vocabulary boxes” from unknown words from the book, defining the word, writing a sentence with it, and illustrating the word. In summation, the student created a poster about Princess Diana's life. SR presented the poster it to a group of other researchers and told them about Princess Diana. This was followed by the researchers asking mostly inferential questions to SR, for example “what do you think she would be doing if she were alive today.”

*Beyonce* by Kathleen Tracy. Student filled out a connection web graphic organizer while reading the text, identifying main ideas and important details. Student also created “vocabulary boxes” from unknown words from the book, defining the word, writing a sentence with it, and illustrating the word. In summation, the student chose to write a summary of Beyonce's life in an essay format. She was given the choice of a trifold brochure, poster, song, or oral presentation in addition to an essay.

From the book *Great Black Heroes: Five Famous Writers* by Lynda Jones, SR read the sections on Gwendolyn Brooks and Virginia Hamilton. These were short chapters, so SR read them, and was then asked to briefly re-read them to identify key points in the subject's lives. Then SR created timelines of the subject's lives.

Additionally, within the intervention time block, student participants received text coding instruction once (AW) or twice (SR) a week. SR's teacher had identified text coding and finding evidence within the text as skills in which she needed further instruction. This is an increasingly important skill for students in middle school, so SR received more direct instruction on text coding than AW. Given a short article with comprehension questions written below, students were instructed to read the passage once through to get the general idea. During the first two weeks the student participants were asked after the initial read to describe to the researcher "the gist" of the article. The students were asked to read the article a second time, highlighting the important ideas. After the second close read of the text, the researcher asked the following questions: "who/what was the article about, what did they/it do, when did this happen, where did it happen, why is it important?" The student verbally responded to the questions and responses were recorded on a data collection sheet.

*Day Fifteen-Sixteen:* During the last two sessions, a post-assessment using the Qualitative Reading Inventory-5 (QRI-5, Leslie & Caldwell, 2011) was performed to measure overall growth. The same word lists and reading passages from the Qualitative Reading Inventory-5 (QRI-5, Leslie & Caldwell, 2011) were used on the pre-assessment tests and the post-assessment tests. The student also was asked the questions from the The Motivation to Reading Profile-Revised (Malloy, Marinak, Gambrell & Mazzoni, 2013) to determine if any change in self-efficacy or self-perception had taken place.

### **Summary**

The purpose of the study was to investigate the effect of explicitly taught metacognitive reading skills on struggling intermediate elementary student reading comprehension. The study used graphic organizers and visual aids along with instruction to develop student's ability to determine key elements

of text such as topic, key details and supporting details, in expository texts. The sample included an African American female student from an urban public school who had just completed the third grade, and one mixed-ethnicity female student from a suburban private school who had just completed the fifth grade. The student participants were administered the Qualitative Reading Inventory-5 (2011) which served as a pre-assessment and post-assessment of reading comprehension, including implicit and explicit comprehension questions as well as recording the number of ideas recalled from a given text. A graphic organizer used to record main topics and key ideas, as well as a checklist of metacognitive skills, was explicitly taught through the use of modeling, scaffolding, and independent performance.

At the conclusion of the research study, the hypothesis was that with explicitly taught reading skills and visual aids, student's reading comprehension scores will significantly increase from pretesting to post-testing. The results of this action research will be discussed in chapter four.

## Chapter IV

### RESULTS OF STUDY

Through qualitative and quantitative means, this study explored the question, “What are the effects of graphic organizers focusing on metacognitive reading skills on the reading comprehension of intermediate elementary students?” The hypothesis was, that with explicitly taught reading skills and visual aids, student's reading comprehension scores will increase from pretesting to post-testing. Accordingly, the study traced the progress of two case study subjects, AW and SR, throughout their participation in the five week one-on-one reading intervention program, which addressed comprehension as measured by the Qualitative Reading Inventory-5 (QRI5) (Leslie & Caldwell, 2011), and conscious use of self-regulated metacognitive strategies during the 16 day summer program. Metacognitive skills to increase comprehension were taught through explicit instruction using metacognitive checklists and questioning as well as graphic organizers, focusing on summarization and identification of main idea and key details in non-fiction texts to guide instruction. Each student showed increased use of metacognitive “fix-up” strategies, as well as building connections between text-life, text-world, and text-text. The intervention group from this study showed a 60% (SR) and 100% (AW) difference in gains in vocabulary and 21% (AW) and 62% (SR) difference in gains in reading comprehension. Both students showed growth and increased comprehension at the end of the five-week study, which will be discussed in greater detail below.

#### **Vocabulary**

Students were pre-assessed and post-assessed on sight word vocabulary using the QRI5. The test contains lists of grade level words, progressively getting harder as the lists progress towards middle/high school vocabulary. AW, having just completed the third grade, was assessed using the third grade list. SR, during pre-assessment, read the fifth grade list with 80% accuracy, sixth grade list at 85% accuracy, was assessed at the “upper middle school” level.

Vocabulary was taught as part of the intervention through the use of graphic organizers, identifying unknown words and determining their meaning through a variety of methods: in-book glossaries, reading the word with-in context, dictionary, and through internet search of the word. Vocabulary was an important part of the “Self Check” card, asking the student the questions “did you know all of the words” and “did everything make sense?” These questions were asked verbally as well as being part of the card.

Student subjects were introduced to “vocabulary boxes” during the first week of the intervention where they were asked to define the word, write a sentence with it, and illustrate unknown content vocabulary words. Prior to reading, both students were asked to preview the books and identify any words that they saw that were either written in bold, indicating that they were important vocabulary, or that stood out as difficult or unknown. SR was a more independent reader and would keep track of unknown words on her concept web while reading, but after the first two weeks did not complete graphic organizers specific to content vocabulary. AW created “vocabulary boxes” from unknown words from each book during pre-reading and while reading for comprehension.

The following tables show the pre and post assessment scores from the QRI5 in regards to grade level vocabulary.

| <b>AW Word Identification</b> | <b>Initial Assessment</b> | <b>Post Assessment</b> |
|-------------------------------|---------------------------|------------------------|
|                               | Date:07/07/2014           | Date: 07/30/14         |
| Grade                         | <b>Third</b>              | <b>Third</b>           |
| Level/% automatic             | <b>50%</b>                | <b>90%</b>             |
| Level/% total                 | <b>50%</b>                | <b>100%</b>            |

Table 1: AW Vocabulary Data

| <b>SR Word Identification</b> | <b>Initial Assessment</b>  | <b>Post Assessment</b>     |
|-------------------------------|----------------------------|----------------------------|
|                               | Date: 07/07/2014           | Date:7/29/2014             |
| Grade                         | <b>Fifth</b>               | <b>Fifth</b>               |
| Level/% automatic             | 65.00%                     | 80.00%                     |
| Level/% total                 | 80.00%                     | 95.00%                     |
| Grade                         | <b>Sixth</b>               | <b>Sixth</b>               |
| Level/% automatic             | 70.00%                     | 80.00%                     |
| Level/% total                 | 85.00%                     | 90.00%                     |
| Grade                         | <b>Upper Middle School</b> | <b>Upper Middle School</b> |
| Level/% automatic             | 30%                        | 60.00%                     |
| Level/% total                 | 50%                        | 80%                        |

Table 2: SR Vocabulary Data

As shown in the tables above, AW had a 100% increase in percentage of words read from the third grade list. SR had an increase of 60% of percentage of words read, respectfully. Although the words were not explicitly taught, both students showed significant growth in grade level vocabulary.

### **QRI Passage Reading Fluency and Idea Recall**

The QRI5 Passage Assessment measures the accuracy and words per minute read, as well as idea recall and comprehension. Prior to reading, a series of questions about the topic of the passage is asked to determine whether the concepts are familiar or unfamiliar to the reader. For both students, the concepts were familiar prior to the first reading of each passage. The following tables reflect the gains made by each student in the areas of

accuracy and idea recall, as well as the predictable increase of familiarity with the concepts in the second reading.

| <b>AW Oral Reading</b>              | <b>“Early Railroads”</b> | <b>“Early Railroads”</b>  |
|-------------------------------------|--------------------------|---------------------------|
| Readability Level                   | <b>3.8</b>               | <b>3.8</b>                |
| Passage Type (Narrative/Expository) | <b>Expository</b>        | <b>Expository</b>         |
| Concepts Familiar/Unfamiliar %      | <b>Familiar- 80%</b>     | <b>Familiar- 100%</b>     |
| Level/% Total Accuracy              | <b>Frustration/89%</b>   | <b>Instructional- 96%</b> |
| Retelling % Number of Ideas         | <b>30%</b>               | <b>61.4%</b>              |
| Rate WPM/CWPM                       | <b>54/32</b>             | <b>43/ 41</b>             |

Table 3: AW Reading Fluency Data

| <b>SR Oral Reading</b>                 | <b>“The Early Life of Lois Lowry”</b> | <b>“The Early Life of Lois Lowry”</b> |
|--|---------------------------------------|---------------------------------------|
| Readability Level                      | <b>6.6</b>                            | <b>6.6</b>                            |
| Passage Type<br>(Narrative/Expository) | <b>Narrative</b>                      | <b>Narrative</b>                      |
| Concepts Familiar/Unfamiliar %         | <b>Familiar/ 66%</b>                  | <b>Familiar/ 100%</b>                 |
| Level/% Total Accuracy                 | <b>80%</b>                            | <b>98.8%</b>                          |
| Retelling % Number of Ideas            | <b>21%</b>                            | <b>53%</b>                            |
| Rate WPM/CWPM                          | <b>87/82</b>                          | <b>116.2/ 115</b>                     |

Table 4: SR Reading Fluency Data

Both subjects, after the intervention and in the second reading of the passage, were able to recall more ideas for the text. AW increased by 100% and SR increased by 250% in number of ideas recalled. The increase may be attributed to the intervention or that the students were reading the text for the second time.

Both subjects also increased the rate of correct words per minute (CWPM). AW increased by 9 correct words per minute, and SR increased 33 correct words.

## Comprehension

The QRI5 measures the reader's comprehension by asking a series of questions to be administered after reading. The following tables reflect the results of the comprehension

### AW

| <b>QRI-5 Retelling and Questions</b> | <b>Pre-test</b>   | <b>Post-test</b>  |
|--------------------------------------|---|---|
|                                      | Date: 7/8/2014  | Date:7/28/2014  |
| <b>Grade</b>                         | <b>Two</b>  | <b>Four</b>   |
| <b>Passage</b>                       | <b>“Seasons”</b>  | <b>“Early Railroads”</b>                                |
| Narrative/Expository                 | Expository  | Expository  |
| Familiar/Unfamiliar                  | Familiar  | Familiar  |
| Reading Level                        | RL= 2.4 FP= M   | RL= 3.8 FP= Q   |
|                                      | Questions<br>100 % w/o lookbacks<br>100% with lookbacks | Questions<br>75 % w/o lookbacks<br>100 % with lookbacks |
|                                      | # explicit 4  | # explicit4   |

|                                       |   |   |
|---------------------------------------|---|---|
|                                       | # implicit 4  | # implicit 4  |
| Ideas Recalled %                      | 47.00%  | 64.00%  |
| Independent/Instructional/Frustration | Independent   | Independent   |
| <b>Grade</b>                          | <b>Three</b>  | <b>Four</b>   |
| <b>Passage</b>                        | <b>“Cats: Lions and Tigers in your House”</b>           | <b>“The Busy Beaver”</b>                                |
| Narrative/Expository                  | Expository  | Expository  |
| Familiar/Unfamiliar                   | Familiar  | Unfamiliar  |
| Reading Level                         | RL= 2.7 FP= N   | RL= 3.2 FP= R   |
|                                       | Questions<br>100% w/o lookbacks<br>100 % with lookbacks | Questions<br>100% w/o lookbacks<br>100 % with lookbacks |
|                                       | # explicit 4  | # explicit 4  |
|                                       | # implicit 4  | # implicit 4  |
| Ideas Recalled %                      | 51.00%  | 57.00%  |
| Independent/Instructional/Frustration | Independent   | Independent   |
| <b>Grade</b>                          | <b>Four</b>   | <b>Four</b>   |
| <b>Passage</b>                        | <b>“Early Railroads”</b>                                | <b>“Johnny Appleseed”</b>                               |
| Narrative/Expository                  | Expository  | Narrative   |
| Familiar/Unfamiliar                   | Familiar  | Unfamiliar  |

|                                       |  |  |
|---------------------------------------|--|--|
| Reading Level                         | RL= 3.8 FP= Q  | RL= 4.3  |
|                                       | Questions<br>40% w/o lookbacks<br>50% with lookbacks | Questions<br>87.5% w/o lookbacks<br>87.5% with lookbacks |
|                                       | # explicit 3   | # explicit 4   |
|                                       | # implicit 2   | # implicit 3   |
| Ideas Recalled %                      | 30.00%   | 81.00%   |
| Independent/Instructional/Frustration | Frustration  | Instructional  |

Table 5: AW Comprehension Data

AW increased her instructional reading level from approximately a 3.0 to a reading level of 4.3 as measured by the pre and post assessments. During pre-assessment, the final passage that AW was asked to read was at reading level 3.8. She recalled 30% of the details from the text and read at a rate of 32 CWPM. She correctly answered 3/4 of the explicit comprehension questions (75%) and 2/4 of the implicit questions (50%) with an overall comprehension score of 62%.

During post-assessment, she read the same text and was able to recall 64% of the details and read at a rate of 41 CWPM. Her comprehension increased to 3/4 for both implicit and explicit for an overall comprehension score of 75%. The final passage she was asked to read during post assessment was at reading level 4.3. She recalled 81% of the details from the text and read at a rate of 36 CWPM. She answered 100% (4/4) of the explicit comprehension questions correctly and 75% (3/4) of the implicit question correctly with a total comprehension score of 88%.

**SR**

|                                      |                 |                  |
|--------------------------------------|-----------------|------------------|
| <b>QRI-5 Retelling and Questions</b> | <b>Pre-Test</b> | <b>Post-Test</b> |
|--------------------------------------|-----------------|------------------|

|                                       |                                  |                                       |
|---------------------------------------|----------------------------------|---------------------------------------|
|                                       | Date: 7/8/2014                   | Date: 7/30/2014                       |
| <b>Grade</b>                          | <b>Five</b>                      | <b>Six</b>                            |
| <b>Passage</b>                        | <b>“Martin Luther King, Jr.”</b> | <b>“Abraham Lincoln”</b>              |
| Reading Level                         | RL= 5.2                          | RL= 5.7                               |
| Narrative/Expository                  | Narrative                        | Narrative                             |
| Familiar/Unfamiliar                   | Familiar                         | Familiar                              |
| Ideas Recalled %                      | 62.00%                           | 53%                                   |
|                                       | Questions<br>100% w/o lookbacks  | Questions<br>100% w/o lookbacks       |
|                                       | # explicit 4                     | # explicit 4                          |
|                                       | # implicit 4                     | # implicit 4                          |
| Independent/Instructional/Frustration | Independent                      | Independent                           |
|                                       |                                  |                                       |
| <b>Grade</b>                          | <b>Six</b>                       | <b>Six</b>                            |
| <b>Passage</b>                        | <b>“Abraham Lincoln”</b>         | <b>“The Early Life of Lois Lowry”</b> |
| Reading Level                         | RL= 5.7                          | RL= 6.6                               |
| Narrative/Expository                  | Narrative                        | Narrative                             |
| Familiar/Unfamiliar                   | Familiar                         | Familiar                              |
| Ideas Recalled %                      | 65.00%                           | 28.00%                                |

|                                       |  |   |
|---------------------------------------|--|---|
|                                       | Questions<br>100% w/o lookbacks                        | Questions<br>87 % w/o lookbacks<br>100 % with lookbacks |
|                                       | # explicit 4   | # explicit 4  |
|                                       | # implicit 4   | # implicit 4  |
| Independent/Instructional/Frustration | Independent  | Independent   |
|                                       |  |   |
| <b>Grade</b>                          | <b>Six</b>   | <b>Six</b>  |
| <b>Passage</b>                        | <b>“The Early Life of Lois Lowry”</b>                  | <b>“The Lifeline of the Nile”</b>                       |
| Reading Level                         | RL= 6.6  | RL= 6.9   |
| Narrative/Expository                  | Narrative  | Expository  |
| Familiar/Unfamiliar                   | Familiar   | Unfamiliar  |
| Ideas Recalled %                      | 18.00%   | 32.00%  |
|                                       | Questions<br>50 % w/o lookbacks<br>62 % with lookbacks | Questions<br>62 % w/o lookbacks<br>75% with lookbacks   |
|                                       | # explicit 3   | # explicit 3  |
|                                       | # implicit 2   | # implicit 3  |
| Independent/Instructional/Frustration | Frustration  | Instructional   |

Table 6: SR Comprehension Data

SR increased her reading level from an approximate 6.0 to at 6.9 between pre and post assessments. During pre-assessment, the last passage she read was at reading level 6.6. She recalled 18% of the details from the text and read at a rate of 82 CWPM. She answered 3/4 of the explicit comprehension questions and 2/4 of the implicit questions with an overall comprehension of 62%.

During post assessment, she re-read the same passage, recalling 28% of the details and reading at a rate of 95 CWPM. She answered 100% of the comprehension questions correctly. The final passage she read was at reading level 6.9. She recalled 32% of the details and read at a rate of 87 CWPM. She answered 3/4 of the implicit and explicit questions (6/8 total) for a comprehension score of 75%.

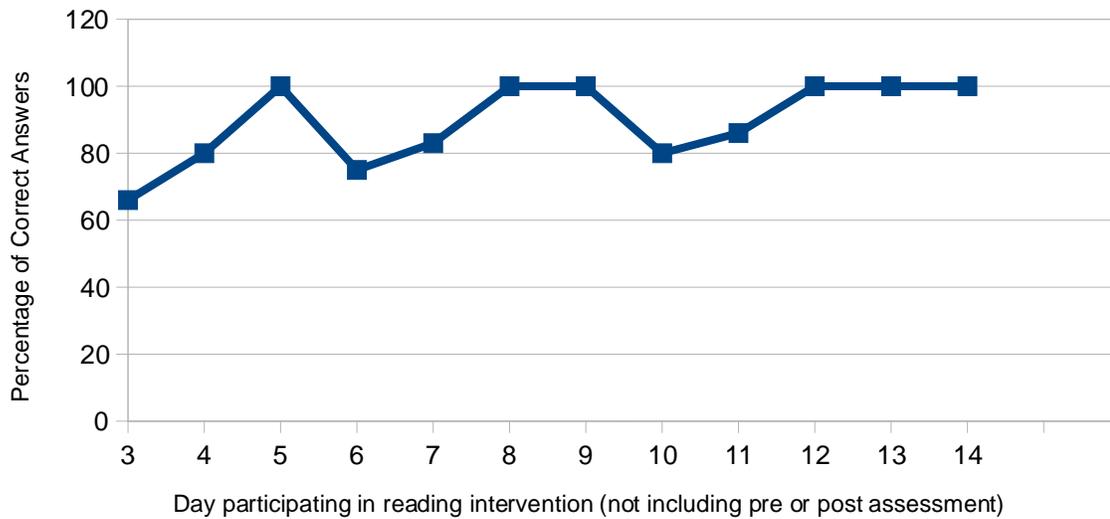
### **Formative Assessments**

During the intervention, the researcher kept data on the students on researcher-created tally charts. Data was collected on comprehension based on questions asked while reading and on evidence of metacognition. Both data collection results are discussed below.

### **During Intervention Comprehension Questioning**

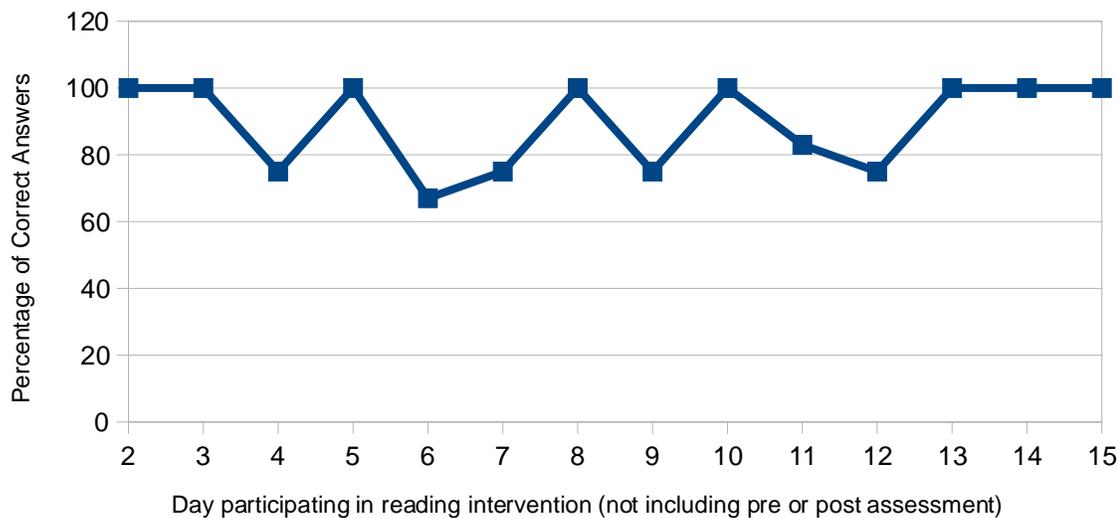
In addition to pre-assessment and post-assessment, subjects were also asked comprehension questions while reading their interest and reading level selected texts. The researcher would ask the subjects quick questions about the passage the subject had just read and recorded whether the student answered the question correctly. The amount of questions asked varied by how much reading the student did per day and the text being read. The following graphs show the percentage of questions answered correctly by the students during the intervention.

### AW's During-Reading Comprehension Scores



Graph 1: Comprehension scores of AW

### SR's During-Reading Comprehension Scores



Graph 2: Comprehension scores of SR

During the last three days of the intervention, both students answered comprehension questions asked by the researcher with 100 percent accuracy. The percentage of correct answers was varied by the number of

questions asked, more questions asked resulted in a higher percentage of correct answers even if the student incorrectly answered a question.

### Evidence of Metacognitive Processing

During the intervention, students were instructed to use metacognitive checks and process to help them increase their comprehension. The researcher tracked their use of metacognition by recording the questions asked about the text, the subjects' connections made to self, connections to the world or prior knowledge, and connections made to other texts, and the subjects' self-corrected miscues while reading.

Below are the recordings of evidence of metacognition for each student.

| AW  |                                   |                |                 |                 |
|---|-----------------------------------|----------------|-----------------|-----------------|
| Week 1                                      |                                   |                |                 |                 |
|   | * indicates a new book introduced |                |                 |                 |
|   | * 07/07/14                        | 07/08/14       | 07/09/14        | 07/10/14        |
| Questions asked about the text (unprompted) | NA                                | NA             | 2               |                 |
| Connections to self/experiences             | Pre-assessment                    | Pre-assessment | 4               | 1               |
| Connections to world                        |                                   |                |                 |                 |
| Connections to other texts                  |                                   |                |                 |                 |
| Student caught miscues while reading aloud  |                                   |                | 6               | 4               |
| Week 2                                      |                                   |                |                 |                 |
|   | 07/14/14                          | * 07/15/14     | 07/16/14        | 07/17/14        |
| Questions asked about the text (unprompted) | 2                                 | 5              | 1               | 1               |
| Connections to self/experiences             |                                   | 6              | 1               | 2               |
| Connections to world                        |                                   | 1              |                 |                 |
| Connections to other texts                  |                                   |                |                 | 2               |
| Student caught miscues while reading aloud  | 2                                 | 6              | 2               | 6               |
| Week 3                                      |                                   |                |                 |                 |
|   | * 07/21/14                        | 07/22/14       | 07/23/14        | * 07/24/14      |
| Questions asked about the text (unprompted) | 2                                 | 2              | 3               | 2               |
| Connections to self/experiences             | 5                                 |                |                 | 7               |
| Connections to world                        |                                   | 1              |                 |                 |
| Connections to other texts                  | 2                                 |                |                 | 1               |
| Student caught miscues while reading aloud  | 2                                 | 1              | 2               | 6               |
| Week 4                                      |                                   |                |                 |                 |
|   | 07/28/14                          | 07/29/14       | 07/30/14        | 07/31/14        |
| Questions asked about the text (unprompted) | 1                                 | 2              | NA              | NA              |
| Connections to self/experiences             |                                   |                | Post-assessment | Post-assessment |
| Connections to world                        | 1                                 | 1              |                 |                 |
| Connections to other texts                  |                                   | 1              |                 |                 |
| Student caught miscues while reading aloud  | 5                                 | 2              |                 |                 |

Table 7: AW Metacognition Evidence Recording

| SR  |                                      |            |            |                 |
|---|--------------------------------------|------------|------------|-----------------|
| Week 1                                      |                                      |            |            |                 |
|   | * indicate a new book was introduced |            |            |                 |
|   | 07/07/14                             | 07/08/14   | * 07/09/14 | 07/10/14        |
| Questions asked about the text (unprompted) | NA                                   |            | 3          | 1               |
| Connections to self/experiences             | Pre-assessment                       | 3          | 5          | 2               |
| Connections to world                        |                                      |            | 1          | 3               |
| Connections to other texts                  |                                      |            | 1          |                 |
| Student caught miscues while reading aloud  |                                      |            | 4          | 5               |
| Week 2                                      |                                      |            |            |                 |
|   | Date                                 |            |            |                 |
|   | 07/14/14                             | * 07/15/14 | 07/16/14   | 07/17/14        |
| Questions asked about the text (unprompted) | 1                                    | 5          | 2          | 3               |
| Connections to self/experiences             | 3                                    |            |            | 2               |
| Connections to world                        | 1                                    | 1          | 2          | 1               |
| Connections to other texts                  |                                      |            | 1          |                 |
| Student caught miscues while reading aloud  | 3                                    | 3          | 5          | 3               |
| Week 3                                      |                                      |            |            |                 |
|   | Date                                 |            |            |                 |
|   | * 07/21/14                           | 07/22/14   | 07/23/14   | * 07/24/14      |
| Questions asked about the text (unprompted) | 5                                    | 2          | 1          | 1               |
| Connections to self/experiences             | 2                                    |            |            | 4               |
| Connections to world                        |                                      | 2          |            | 2               |
| Connections to other texts                  | 7                                    | 2          | 3          | 8               |
| Student caught miscues while reading aloud  |                                      |            |            |                 |
| Week 4                                      |                                      |            |            |                 |
|   | Date                                 |            |            |                 |
|   | 07/28/14                             | * 07/29/14 | 07/30/14   | 07/31/14        |
| Questions asked about the text (unprompted) | 1                                    | 2          |            | NA              |
| Connections to self/experiences             | 3                                    | 2          | 1          | Post-assessment |
| Connections to world                        |                                      |            | 1          |                 |
| Connections to other texts                  |                                      | 1          | 1          |                 |
| Student caught miscues while reading aloud  | 8                                    | 4          |            |                 |

Table 8: SR Metacognition Evidence Recordings

For both subjects, there was an increased miscue recognition at the end of the intervention. Subjects were reminded during the intervention to “listen to themselves as they read and make sure it sounds right.” Subjects also increased connection made in the final two weeks in all three areas (text to self, text to world, and text to text). As subjects read during the first two weeks they were asked to make connections explicitly by the researcher; questions were asked of the subjects like “what does this remind you of?” or “can you make any connections to something else you have read?” Subjects were also prompted to ask questions about the text in the first two weeks. In the third, the researcher prompted the students only at the beginning of the intervention, reminding them “that good readers ask questions and make connections.” During the last week they were not prompted.

The students also had “self-check” cards that they were prompted to use at the end of sections of texts. The amount of times they were verbally reminded to use the self check card decreased. During the fourth week they were only reminded to use it by the researcher at the beginning of each session.

### **Anecdotal Observations and Researcher Notes**

Prior to reading their selected books, the subjects were asked to preview the books for unknown words and for vocabulary words. During the checks for metacognition, students were asked “did you know all of the words” and “did everything make sense?” This allowed them to check for new vocabulary words. Students were encouraged to either use context clues from the text to determine meaning or to look up the words either in a dictionary or using an online search. SR also completed “vocabulary boxes” while reading to help her record new vocabulary words. Anecdotal records show that SR began to record unknown words without prompting during the second week.

Both subjects also did weekly (AW) or biweekly (SR) text coding activities to help increase close reading skills and increase attention to important details within the text. This also was designed to help increase explicit comprehension of texts by finding evidence in the text. During the first week, this was explicitly taught and students needed assistance to find and highlight evidence. Anecdotal records reported that by the fourth week, both subjects were able to accurately complete the task without researcher assistance.

For every book read during the study, subjects used a graphic organizer to identify the main idea and key details of the text. The “Connection Web” graphic organizer was filled in as students read a section or chapter of their selected books, and was completed and reviewed at the end of the book. Anecdotal records and notes recorded that subjects were comfortable completing the graphic organizers independently, and with increasing accuracy during the last two weeks of the intervention. The students then used their graphic organizers to complete a summative project for each book that reflects an assignment that may be asked of them during the school year. Each book had a summative project specifically designed to show understanding of the

text, both explicit and implicit comprehension. Work samples were collected for each assessment. Each student also verbally presented about one book's subject, allowing for multiple forms of presentation and assessment.

### **Summary of Research Results**

In summary, data on the reading growth of the subjects was collected in five main areas. Pre-assessments and post-assessments were collected in the areas of vocabulary as measured by the QRI5 word lists, reading fluency as measured by the QRI5 passages, and comprehension as measured by the QRI5 passages. Formative data was collected by researcher-created recordings of comprehension questions asked while reading, and recordings of evidence of metacognition. The guiding question of the study, “What are the effects of graphic organizers focusing on metacognitive reading skills on the reading comprehension of intermediate elementary students?” was recoded both formatively and in summation. The graphic organizers were used as a tool to increase comprehension and increase the student's metacognitive strategies while reading. Subjects also practiced “text coding” to find evidence from a given passage to support explicit comprehension questions.

Anecdotal records and researcher notes report both subjects increased independence in filling out the connection web graphic organizer. They also required fewer prompts to use the self check cards and to record unknown vocabulary words.

Both subjects showed significant increases from their pre-assessments to post-assessments in the areas of vocabulary, idea recollection, and comprehension. Both subjects increased their instructional reading levels. Comprehension at both subject's initial reading levels was increased.

Chapter five will discuss the conclusions made by the researcher about the data collected and it's connections to the prior research discussed in chapter two.

## CHAPTER V Conclusions

This final chapter restates the research problem and reviews the major methods used in the study. The major sections of this chapter summarize the results, compare outcomes from this study with prior research discussed in the chapter on metacognition and graphic organizers, and discuss their implications for future research, practitioners, and effective instruction of intermediate elementary reading. The purpose of this study was to investigate the effect of explicitly taught metacognitive reading skills on struggling intermediate elementary students' comprehension. The researcher wanted to determine if the participants' reading comprehension skills would improve through explicit instruction using metacognitive checklists and questioning as well as graphic organizers. The researcher focused on summarization and identification of main idea and key details in non-fiction texts to guide instruction. The hypothesis being that with explicitly taught reading skills and visual aids, student participants' reading comprehension scores will increase from pre-testing to post-testing. The research showed significant increases in the students' instructional reading level as well as an increase in the fluency and accuracy at which they read. Both student participants' vocabulary increased as measured by the QRI-5 vocabulary test.

In planning the intervention for the students, the researcher used the Wisconsin Department of Public Instruction's (DPI) *Common Core State Standards for English Language Arts* (2011) to help plan for what the participants are asked to do and achieve within the regular school year. The researcher chose to focus on the fifth grade standards because it was the year in between the two participants, and because of the commonalities and fluidity between the grade levels. The students were assessed on RI.5.2: "Determine two or more main ideas of a text and explain how they are supported by key details; summarize the text" for much of the intervention. With comprehension of non-fiction texts as the major focus of the study, the graphic organizers the researcher used and the questions that were verbally asked focused around the identification of main ideas and key details. Other standards were addressed and will be discussed below in further detail as to which areas of the assessment they relate.

## Pre-reading and Connections

Based on the research by Temple, Ogle, Crawford, & Freppon, (2011) in the book *All children read: Teaching for literacy in today's diverse classroom* (3rd ed.), the researcher chose to monitor the students' connections they made to their lives, the world, and to other texts. As people read, they make inferences and connect what they are reading to their background knowledge or cognitive schemes. This process helps a person understand the meaning of a passage and allows for comprehension (Temple et al, 2011). As students read, they visualize what the text is describing and they use their schema and knowledge of story or text structure to be able to make predictions, inferences, and are able to generalize information; all of these skills are important to the process of comprehension. Often referred to as a constructivist approach, the students' skills they possess in text structure and background knowledge, allow them to construct meaning from text and deepen understanding as they read. Wisconsin's State reading Standards for informational texts requires that students should be able to "Integrate information from several texts on the same topic in order to write or speak about the subject knowledgeably" by the end of fifth grade RI.5.9 (Wisconsin Department of Public Instruction. 2011).

The subjects in this study were prompted and instructed to make connections aloud while reading in the three areas of connections to self/experiences, connections to world, and connections to other texts. AW made an average of 2.5 connections per day in the first week, 2.75 connections per day the second week, 4 connections per day the third week and 1.5 connections per day the final week. SR made an average of 3.5 connections per day the first week, 2.75 connections per day the second week, 2.5 connections per day the third week, and 2.25 connections during the final week. The students were prompted to verbally make connections the most during the first and second weeks of the interventions. The declines in the final week may be due to the researcher's lack of not prompting to say their connections during the final week. It is impossible to know if the students made connections silently to themselves while reading when not prompted. Many of the studies from chapter two discussed pre-

reading and background knowledge, such as the research by Prado and Plourde (2009), Caldwell & Leslie (2013), and Santoro, Chard, Fien, Park, and Ottersted (2013), to name a few.

## **Vocabulary**

Vocabulary was an important area of the study in which the participants made significant growth, yet was not explicitly taught to the same extent as metacognitive and comprehension strategies. The Wisconsin Common Core ELA standard addressed in this study is Language Standard 5.4 “Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 5 reading and content, choosing flexibly from a range of strategies” (DPI, 2011). AW and SR were introduced specific vocabulary instruction using a graphic organizer called “vocabulary boxes” for the first week. AW continued to use them at the introduction of new books, while SR kept track of new words as part of her main idea and key detail work. Both students were instructed on how to use context clues to determine meaning of unknown words while reading, as well as other tools such as glossaries, dictionaries, and online research. Vocabulary was also an important part of the “Self Check” card, asking the student the questions “did you know all of the words?” and “did everything make sense?” These questions were asked verbally as well as being part of the card. A study by Boulware-Gooden, Carreker, Thornhill, and Joshi (2007) also looked at vocabulary as a part of instruction paired with metacognitive instruction. The current study and the Boulware-Gooden et al study both used vocabulary study as an introduction to a text; words were identified after an initial prior knowledge check. Using the criterion-referenced vocabulary pre- and post-test and the reading comprehension pre- and post-test, the researchers in the Boulware-Gooden study analyzed the results after 5 weeks. They found that the intervention group improved significantly in both vocabulary and comprehension when comparing the post-test scores to those of the comparison group. The intervention group showed a 40% difference in gains in vocabulary. In the current study, both subjects showed improvement on the QRI-5 vocabulary assessment: AW had a 100% increase in percentage of words read from the third grade list and SR had an increase of 60% of the total words read from the upper middle school list, respectfully. Vocabulary study as part of pre-reading

practice is a promising method and has been shown to increase not just content specific vocabulary, but also grade level word recognition.

### **Fluency and Idea Recall**

Fluency is an important component to reading skills and fluency lends itself to comprehension. The QRI-5 passages tests for fluency, or correct words per minute read. Both subjects increased the rate of correct words per minute (CWPM). AW increased by 9 correct words per minute, and SR increased 33 correct words. This could be connected to the vocabulary acquisition made during the intervention, or due to an increased confidence. It is also important to note that this data comes from a second reading of a given text. The subjects read the same passage for the pre-assessment and post-assessment, and the increase in correct words per minute could be explained by familiarity with the text. When comparing their pre-assessment scores with a post-assessment score on an unknown, slightly higher grade level passage, both students showed progress, just not as dramatic as with the familiar passage. AW read an unknown passage at reading level 3.8 with a rate of 32 CWPM. During post-assessment, she read an unknown passage at reading level 4.4 with a rate of 43 CWPM. SR, during pre-assessment read an unknown passage at reading level 6.6 with a rate of 82 CWPM. During post-assessment, SR read an unknown passage at reading level 6.9 at a rate of 87 CWPM. Both subjects made gains, both in reading level and at the rate at which they read.

Similar considerations are made when looking at the results for idea recollection. The QRI-5 looks for the number of explicit ideas that the student recalls from the text, and a percentage of the ideas is calculated from the total number of ideas. On the same passage given for pre-assessment and post-assessment, AW increased by 100% and SR increased by 250% in number of ideas recalled. This increase may be attributed to the intervention, or that the students were reading the text for the second time. When looking at the percentage of ideas recalled with an unknown text, we can see a less dramatic increase. During pre-assessment, AW read a passage at reading level 3.8 and was able to recall 30% of the ideas from the text. During post-assessment, she read an unknown passage at reading level 4.4 and was

able to recall 53% of the ideas. During pre-assessment, SR read an unknown passage at reading level 6.6 and was able to recall 21% of the ideas from the passage. During post-assessment, she read an unknown passage at reading level 6.9 and recalled 32% of the ideas. The students both showed an increased ability to recall details and retell the passages. This could be attributed to the intervention and the focused work on detailing what texts said and identifying the main ideas and key details as we read. The students' comprehension could have increased due to the emphasis put on metacognition and self-monitoring reading strategies that were taught.

### **Comprehension**

Both of the student participants showed growth from the intervention in the area of comprehension. During pre-assessment, AW read a level 3.8 text. She correctly answered 3/4 of the explicit comprehension questions (75%) and 2/4 of the implicit questions (50%) with an overall comprehension score of 62%. This showed that even though she was able to decode at a late third grade level, or a grade-level passage, she was unable to comprehend the text and draw meaningful inferences from it.

After the intervention and during post-assessment, she read the same text and her comprehension increased to 3/4 of the implicit questions for an overall comprehension score of 75% comprehension. She did not increase her explicit score. The text was about early railroads and contained some content vocabulary that was unfamiliar to AW. The subject was fairly challenging, and, in the opinion of the researcher, was more difficult due to the background knowledge needed compared to some of the higher level passages.

The final passage she was asked to read during post assessment was at reading level 4.3. She answered 100% (4/4) of the explicit comprehension questions correctly and 75% (3/4) of the implicit question correctly with a total comprehension score of 88%. The subject of the passage was Johnny Appleseed, a character that AW was familiar with and had background knowledge about. The researcher feels that the

prior knowledge was important to the comprehension of the passage and was a factor in AW's successful comprehension.

SR had similar growth. During pre-assessment, the last passage she read was at reading level 6.6. She answered 3/4 of the explicit comprehension questions and 2/4 of the implicit questions with an overall comprehension of 62%. The subject of the passage was author Lois Lowry. SR began reading the passage believing that she was totally unfamiliar with the author, but partway through the passage realized that she had read one of Lowry's books. After reading the passage, SR was enthusiastic to talk about *Number the Stars* and had a personal connection to the passage. Unfortunately, this connection was not discovered prior to reading and the student read most of the passage unaware that she was familiar with the author's work.

During post assessment, she re-read the same passage, recalling 28% of the details and reading at a rate of 95 CWPM. She answered 100% of the comprehension questions correctly. In the opinion of the researcher, the personal connection to the passage made the reading more engaging for SR and helped improve her comprehension of the passage.

The final passage she read was at reading level 6.9, titled "The Lifeline of the Nile". She recalled 32% of the details from the text. She answered 3/4 of of the implicit and explicit questions (6/8 total) for a comprehension score of 75%. As an educator, the researcher feels that this would be a good instructional level for SR, who, when engaged, will rise to challenging texts. SR was interested in the subject of the passage and had some prior knowledge prior to reading. She was able to share what she knew about ancient Egypt prior to reading the passage and was more engaged.

For both subjects, the implicit questions were more difficult to answer as the complexity of the texts increased. Implicit questioning is a higher level cognitive task, as illustrated in Bloom's taxonomy as discussed in *Taxonomy of Educational Objectives* by Benjamin Bloom with collaborators Max Englehart, Edward Furst, Walter Hill, and David Krathwohl (1956). For a student to have independent comprehension of a text, he or she must be able to answer higher-level cognitive questions.

In addition to the more formal pre-assessment and post-assessment passages and questions, the researcher also asked questions about the texts that the subjects read during the intervention. The questions varied between explicit and implicit and were asked and answered verbally. The amount of questions asked varied by how much reading the student did per day and the text being read. The in-text comprehension scores varied between 100 percent correct to 66 percent for both subjects. The percentage of correct questions was strongly influenced by the amount of questions asked. Some days, depending on the reading load, a subject may only be asked two questions, other days they were asked five or six. Answering one question incorrectly will have a greater influence on percentage of correct answers on a day where only two questions are asked as compared to six questions.

To improve this measure of comprehension and to have more accurate data recording comprehension, the researcher should have asked the same amount of questions per day, with the same amount of implicit and explicit questions. The questions asked in this study occurred at points that were natural during the reading, as a teacher would question a small reading group during regular classroom instruction. The researcher did not record all the questions asked, and did not track what level of question it was, whether implicit or explicit.

### **Other considerations influencing the study**

In addition to the intervention discussed in this study, students participated in additional educational programs; a science and literacy program, and a writing program. Each session was 55 minutes long and took place four days per week for four weeks. Both subjects participated in 165 minutes of targeted instruction in small groups or in an individual setting such as the one in this study. While the intervention in this study was the only one that directly targeted reading comprehension and metacognition through the use of graphic organizers, the other interventions definitely impacted the subject and would affect the results of this study. It is impossible to say that the gains made by both subjects were achieved solely as a result of the one-on-one intervention. It is impossible to isolate the

effects of this intervention from those of the writing or the science and literacy programs in which the subjects participated.

## **Recommendations**

Both subjects benefitted from the intervention in this study and many of the methods can be easily integrated into classroom instruction.

As shown by the comprehension results, both students benefitted from increased personal connection to and prior knowledge of the subject which they are reading about. Building the personal connections as well as connection to other texts and prior knowledge will help students comprehend a given text. For example, SR is enthusiastic to read about topics that she is passionate about: slavery, civil rights, and history. Those are the topics she readily identifies, but the researcher found that if she had a connection to the subject, she applied her enthusiasm to any text.

Both subjects, but particularly AW, would benefit from continued metacognitive checks. AW had a tendency to continue reading even if what she had just read aloud didn't make sense. She benefits from reminders to reflect on what she has just read to ensure comprehension and accuracy.

SR would benefit from focusing on implicit and higher level questions. She has strong decoding ability. Her explicit comprehension is stronger than her implicit comprehension. She would benefit from reflecting on and applying information from a text in other contexts. The researcher recommends working on building connections between texts both fiction and non-fiction. This would relate directly to Wisconsin reading standard for informational text 3: "Explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text based on specific information in the text" (Wisconsin Department of Public Instruction, 2011).

## **Conclusion**

The use of graphic organizers as a self monitoring tool for metacognition was very beneficial for both students and is recommended as a tool to increase comprehension of all students. The graphic organizers are a tool in meeting the reading of informational text standard 1: "Quote accurately from a

text when explaining what the text says explicitly and when drawing inferences from the text” (Wisconsin Department of Public Instruction, 2011). All students would benefit from increased awareness of their own cognition, and teaching explicit metacognition monitoring techniques to students would increase their comprehension.

The study, though flawed, had some strengths that would be difficult to replicate in a regular classroom setting. The study took place during the summer; students were only at the Cardinal Stritch Literacy Center for around three hours a day, as compared to a full day of school year instruction. The subjects met with the researcher one-on-one for 55 minutes, four days per week. It would be difficult in a school setting to have that amount of time to meet one-in-one with a student. This long intervention block and individual setting allowed the researcher to tailor each meeting with the subject to their specific needs and skill deficits. The interventions were highly individualized and flexible for the subjects' benefit towards meeting their needs.

For future research, the data would have been more accurate if the intervention was the only intervention/targeted instruction that the student was receiving. The inability to isolate the response to the specific intervention from the other two make the data in relation to this study, inconclusive, albeit promising.

Explicit instruction in metacognition for older elementary students can be beneficial, as shown in the subjects' growth in comprehension, retell, and vocabulary. Both subjects made significant gains in the aforementioned areas, which are traditionally monitored throughout the school year by assessments like running records, DIBELS (Good & Kaminski, 2002), and other benchmarking assessments. Idea recollection is frequently measured in classroom benchmarks; an area of comprehension in which both students increased. AW increased from recalling 30% of the ideas from a previously unknown text, to 53% of the ideas at a higher reading level during post-assessment. SR increased for 21% of ideas recalled during pre-assessment to 32% of ideas at a higher reading level. The students both showed an increased

ability to recall details and retell the previously unknown passages. This is promising for classroom teachers who often use retell as a measure of comprehension during the regular school year.

Both subjects increased their instructional reading levels during the intervention by reading more fluently and accurately, and by answering both explicit and implicit comprehension questions with 75% or better accuracy at a higher-level. In the opinion of the researcher, the students also greatly benefitted from instruction on making connections to the text before and during reading. The pre-reading strategies like vocabulary previews, and determining prior knowledge on the subject increased engagement with the text and increased comprehension. This is a technique that could be used in a large group or classroom across different content areas to help students be more engaged with their reading.

In the opinion of the researcher, all students could benefit from instruction that teaches students to self-monitor and reflect on their own understanding. The use of graphic organizers helps students access this process in an additional mode, which many students may conceptually understand more than verbal or more linear, such as paragraph summaries, would allow. The opinion of the researcher is that the use of graphic organizers and explicit instruction in metacognition can, and should, be integrated in the classroom, for all students, across content areas.

## References

- Ae-Hwa, K., Vaughn, S., Wanzek, J., & Wei, S. (2004). Graphic organizers and their effects on the reading comprehension of students with LD: A synthesis of research. *Journal of Learning Disabilities*, 37.2(March/April), 105-118.
- Ahmadi, M. R., Ismail, H. N., & Abdullah, M. K. K. (2013). The importance of metacognitive reading strategy awareness in reading comprehension. *English Language Teaching*, 6(10), 235-244.  
<http://dx.doi.org/10.5539/elt.v6n10p235>
- Barrett-Meyers, J., Moran, M. J., & Tegano, D. (2010). Supporting struggling readers using interactive read-alouds and graphic organizers. *Voices of Practitioners*, 13, 1-12.
- Bethune, K. S., & Wood, C. L. (2013). Effects of Wh-Question Graphic Organizers on Reading Comprehension Skills of Students with Autism Spectrum Disorders. *Education and Training in Autism and Developmental Disabilities*, 48(2), 236-244.
- Bloom, B. S.; Engelhart, M. D.; Furst, E. J.; Hill, W. H.; Krathwohl, D. R. (1956). *Taxonomy of educational objectives: The classification of educational goals*. Handbook I: Cognitive domain. New York: David McKay Company.
- Boulware-Gooden, R., Carreker, S., Thornhill, A., & Joshi, R. M. (2007). Instruction of metacognitive strategies enhances reading comprehension and vocabulary achievement of third-grade students. *The Reading Teacher*, 61.1(Sept), 70-73-75-77.
- Caldwell, J. S., & Leslie, L. (2013). *Intervention strategies to follow informal reading inventory assessment: So what do I do now?* (3rd ed.). Upper Saddle River, NJ: Pearson Education Inc.
- Cohen, E. J., & Cheyney, W. J. (1999). *Focus on phonics: Assessment and instruction*. Chicago, IL: Wright.
- Dymock, S., & Nicholson, T. (2010). "High 5!" strategies to enhance comprehension of expository text. *The Reading Teacher*, 64(3), 166-178.  
<http://dx.doi.org/10.1598/RT.64.3.2>

Good, R. H., & Kaminski, R. A. (2002). *Dynamic Indicators of Basic Early* (6th ed.). Eugene, OR: Institute for the Development of Educational Achievement.

Heward, W.L. (1978, May). The Delayed Multiple Baseline Design. Paper presented at the Fourth Annual Convention of the Association for Behavioral Analysis, Chicago.

Jitendra, A. K., Hoppes, M. K., & Xin, Y. P. (2000). Enhancing main idea comprehension for students with learning problems: The role of a summarization strategy and self-monitoring instruction. *The Journal of Special Education, 34.3*(Fall), 127-139.

Kaminski, R. A., & Good, R. H. (1996). Toward a technology for assessing basic early literacy skills. *School Psychology Review, 25*, 215–227.

Laurent, J., Gatanzaro, S. J., Joiner, T. E., Rudolph, K. D., Potter, K. I., Lambert, S., Osborne, L., & Gathright, T. (1999). A measure of positive and negative affect for children: Scale development and preliminary validation. *Psychological Assessment, 11*, 326-33

Leslie, L. & Caldwell, J. (2011). *Qualitative reading inventory- 5*. New York: Pearson Education, Inc.

Malloy, J., Marinak, B.A., Gambrell, L. B., & Mazzoni, S.A. (2013). Assessing motivation to read: The motivation to read profile-revised. *The Reading Teacher, 67* (4) 273-283 DOI.10.1002/TRTR.1215

MacGinitie, W., MacGinitie, R., Maria, K., & Dreyer, L. (2000). *Gates-MacGinitie reading tests*. Itasca, IL: Riverside.

Nelson, J. M., & Manset-Williamson, G. (2006). The impact of explicit, self-regulatory reading comprehension strategy instruction on the reading-specific self-efficacy, attributions, and affect of students with reading disabilities. *Learning Disability Quarterly, 29*, 213-230.

Newcomer, P. L., & Hammill, D. D. (1997). *Test of language development: Primary* (3rd ed.). Austin, TX: Pro-Ed.

Ozmen, R. G. (2011). Comparison of two different presentations of graphic organizers in recalling information in expository texts with intellectually disabled students. *Educational Sciences: Theory & Practice, 11*(2)(Spring), 785-793.

- Pang, Y. (2013). Graphic organizers and other visual strategies to improve young ELLs' reading comprehension. *The NERA Journal*, 48(2), 52-58.
- Prado, L., MEd, & Plourde, L. A., Ph.D. (2011). Increasing reading comprehension through the explicit teaching of reading strategies: is there a difference among the genders? *Reading Improvement*, 48(1), 32-43.
- Richards, E., & Hetzner, A. (2010, May 20). New reading results put MPS near bottom among urban districts. *Milwaukee Journal Sentinel*, Education.
- Ropic, M., & Abersek, M. K. (2012). Web graphic organizers as an advanced strategy for teaching science textbook reading comprehension. *Problems of Education in the 21st Century*, 41, 87-99.
- Santoro, L. E., Baker, S. K., Chard, D. J., Fien, H., Park, Y., & Otterstedt, J. (2013). An evaluation of an explicit read aloud intervention taught in whole-classroom formats in first grade. *The Elementary School Journal*, 113(3), 331-358.
- Santa, C. M., & Hoiem, T. (1999). An assessment of Early Steps: A program for early intervention. *Reading Research Quarterly*, 34(1), 54-77.
- Schunk, D. H., & Rice, J. M. (1987). Enhancing comprehension skill and self-efficacy with strategy value information. *Journal of Reading Behavior*, 19, 285-302
- Strong, C. J. (1998). *The Strong Narrative Assessment Procedure (SNAP)*. Eau Claire, WI: Thinking Publications.
- Temple, C., Ogle, D., Crawford, A., & Freppon, P. (2011). *All children read: Teaching for literacy in today's diverse classroom* (3rd ed.). Boston, MA: Pearson Education Inc.
- Wijekumar, K., Meyer, B., & Lei, P. (2012). Large-scale randomized controlled trial with 4th graders using intelligent tutoring of the structure strategy to improve nonfiction reading comprehension. *Educational Technology Research Dev*, 60(987), 987-1013. <http://dx.doi.org/10.1007/511423-012-92634>  
<http://dx.doi.org/10.1007/511423-012-9263-4>
- Wisconsin Department of Public instruction, (2011). *Common Core State Standards for English Language Arts*. Madison, WI.

Wisconsin Department of Public Instruction, (2014). *District Report Card 2013-14 Summary*.  
Madison, WI. Retrieved from <https://apps2.dpi.wi.gov/reportcards/>

Wisconsin Department of Public Instruction (2015). Wisconsin Information Network for Successful  
Schools. Retrieved from <http://dpi.state.wi.us/sig/index.html>

Woodcock, R. W., McGrew, K. S., & Mather, N. (2001). *WoodcockJohnson III Tests of Achievement*.  
Itasca, IL: Riverside Publishing

Attachment A: Parent Letter

July 7<sup>th</sup>, 2014

Dear Parent/Guardians,

My name is Jody Folkedahl. I am a student in Department of Urban Special Education at Cardinal Stritch University. I am conducting a study on the effects of explicit instruction in making predictions and inferences on student's reading comprehension.

**Procedures:** Over the course of four weeks, expository literature will be used as an instructional text in class. A metacognitive reading strategies checklist will be used with the students to explore expository texts. During the project, students will receive expository readings meant to provoke thought and critical conversation. Students will have reading and metacognitive questioning modeled and have opportunities for independent practice. Students will complete a variety graphic organizers to assist them in identifying structural aspects of the text and assist them in their questioning. The researcher will maintain student attendance records and summary notes regarding each session.

**Confidentiality:** All information and data will remain confidential (i.e., I will not reveal your child's responses or results).

**Risks:** I do not anticipate this study will cause any type of risk, psychological or otherwise.

**Benefits:** I believe that as a result of participation in this study, your student's reading comprehension will improve.

**Participation is Voluntary:** If at any time you wish to withdraw your child from this study, please feel free to contact me. Your child's results will be destroyed upon your request and your child will not be penalized in any way.

**Use of Your Information:** My goal is to present the results of this study in a paper required for completion of my graduate program. Only aggregate (combined) data from all participants will be used, and in no case will any names be associated with this study.

**Contact Information:** If you are interested in results of this study (which should be completed by July 31, 2014), or if you have any other questions, concerns, or comments on this project, please contact:

Jody V. Folkedahl  
(541) 621-4849  
jvfolkedahl@wolfmail.stritch.edu

If you have any complaints about this study , please call or write:

D. Rose Coppins, Ed.D.  
Cardinal Stritch University  
1037 W. McKinley Avenue  
Milwaukee, WI 53203  
414-719-6015  
drcoppins@stritch.edu

Although your name may be asked, all complaints are kept in confidence.  
Thank you for your cooperation.

This research project has been approved by the Cardinal Stritch University Institutional Review Board for the Protection of Human Research Participants on \_\_\_\_\_, for a period of 12 months.

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Attachment A: Parent Letter

I have received an explanation of the study and permit my child to participate in this study. I understand that participation is voluntary.

\_\_\_\_\_ I agree to permit my child/dependent and I to participate in the study.

\_\_\_\_\_ I do not permit my child/dependent and I to participate in the study.

\_\_\_\_\_  
Name of Minor Child/Dependent

\_\_\_\_\_ Date \_\_\_\_\_

\_\_\_\_\_  
Signature of Parent or Legally Authorized Representative

Attachment B: School Information

Cardinal Stritch Literacy Centers

I. School Information

1. Release Permit for PARENT or GUARDIAN to Sign and Take/Send to School

To: \_\_\_\_\_  
(Teacher, principal or counselor)

\_\_\_\_\_  
(School and address)

Please release any information (including M-Team or psychological reports) concerning

\_\_\_\_\_ which you may have to:  
(Full name of student) Cardinal Stritch University  
Literacy Centers, Box 104  
6801 N. Yates Road  
Milwaukee WI 53217-3985  
\_\_\_\_\_  
(Parent/guardian signature)

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***The following is to be completed by school personnel or other testing organization:***

Student's Name \_\_\_\_\_ Grade \_\_\_\_\_

**Woodcock Reading Mastery Tests Revised (if available):**

Where administered \_\_\_\_\_

When administered \_\_\_\_\_

**Word Identification:**

Raw score \_\_\_\_\_ Standard Score \_\_\_\_\_ Grade Equivalent \_\_\_\_\_ %ile Rank \_\_\_\_\_

**Word Attack:**

Raw score \_\_\_\_\_ Standard Score \_\_\_\_\_ Grade Equivalent \_\_\_\_\_ %ile Rank \_\_\_\_\_

**Passage Comprehension:**

Raw score \_\_\_\_\_ Standard Score \_\_\_\_\_ Grade Equivalent \_\_\_\_\_ %ile Rank \_\_\_\_\_

**Informal Reading Inventory: (identify)**

\_\_\_\_\_  
Where administered \_\_\_\_\_

When administered \_\_\_\_\_

Word Identification: Indicate levels –  
Independent \_\_\_\_\_ Instructional \_\_\_\_\_ Frustrational \_\_\_\_\_  
\_\_\_\_\_

Comprehension: Indicate Levels –  
Independent \_\_\_\_\_ Instructional \_\_\_\_\_ Frustrational \_\_\_\_\_  
\_\_\_\_\_

School emphasis on current reading instruction (more than one may apply):

- |  |  |   |
|--|--|---|
| <input type="checkbox"/> Decoding Emphasis | <input type="checkbox"/> Language Experience | <input type="checkbox"/> Basal                  |
| <input type="checkbox"/> Balanced Literacy | <input type="checkbox"/> Guided Reading      | <input type="checkbox"/> Other (please explain) |

Current reading instruction:

Text publisher \_\_\_\_\_

Check the following strategies you have used:

- |   |   |   |
|---|---|---|
| <input type="checkbox"/> Explicit phonics | <input type="checkbox"/> Visual mapping | <input type="checkbox"/> Questioning strategies |
| <input type="checkbox"/> Story mapping    | <input type="checkbox"/> Predicting     | <input type="checkbox"/> Decoding by analogy    |
| <input type="checkbox"/> Think alouds     | <input type="checkbox"/> Summarizing    | <input type="checkbox"/> Other _____            |

Check the problems this student has with reading and writing:

- |   |  |
|---|--|
| <input type="checkbox"/> Rhyming, hearing syllables in spoken words | <input type="checkbox"/> Reading comprehension |
| <input type="checkbox"/> Segmenting and blending sounds             | <input type="checkbox"/> Study skills          |
| <input type="checkbox"/> Sounding out words/knowledge of phonics    | <input type="checkbox"/> Reading for pleasure  |
| <input type="checkbox"/> Sight-word vocabulary                      | <input type="checkbox"/> Writing/spelling      |
| <input type="checkbox"/> Reading expression, rate, or accuracy      | <input type="checkbox"/> Other _____           |

Has his/her overall school attendance been regular? \_\_\_\_\_

Rate this student: **AA - above average, A - average, BA - below average** on the following:

- |  |                                |
|--|--------------------------------|
| _____ Ability to comprehend instructions | _____ Positive self-concept    |
| _____ Ability to follow directions       | _____ Peer relationships       |
| _____ Ability to concentrate             | _____ Teacher relationships    |
| _____ Completes assignments              | _____ Cooperation with peers   |
| _____ Time management ability            | _____ Attitude toward learning |

Describe the cooperation between the school and home:

\_\_\_\_\_

Additional Comments: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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\_\_\_\_\_  
(Signature of person completing this form)

\_\_\_\_\_  
(Date)

Email \_\_\_\_\_ and/or phone \_\_\_\_\_ if willing to have Stritch Urban Literacy Center staff contact you about this student.

Attachment C: Home and Family Background

Cardinal Stritch Literacy Centers

II. Home and Family Background Information

1.

Child's Name \_\_\_\_\_ Date of Birth \_\_\_\_\_ Age \_\_\_\_\_

Is there additional pertinent family information that would help us serve your child? \_\_\_\_\_

Why is your child coming to the Literacy Center at this time? \_\_\_\_\_

List any major medical problems, past or present: \_\_\_\_\_

Is your child presently taking prescription medication? \_\_\_\_\_

For what? \_\_\_\_\_

How would you rate your child's early development in these areas?

|                 |                                |                                 |  |                                    |
|-----------------|--------------------------------|---------------------------------|--|------------------------------------|
| Crawling        | <input type="checkbox"/> early | <input type="checkbox"/> normal | <input type="checkbox"/> somewhat late | <input type="checkbox"/> very late |
| Walking         | <input type="checkbox"/> early | <input type="checkbox"/> normal | <input type="checkbox"/> somewhat late | <input type="checkbox"/> very late |
| Using Words     | <input type="checkbox"/> early | <input type="checkbox"/> normal | <input type="checkbox"/> somewhat late | <input type="checkbox"/> very late |
| Combining Words | <input type="checkbox"/> early | <input type="checkbox"/> normal | <input type="checkbox"/> somewhat late | <input type="checkbox"/> very late |

Has your child had any problems in any of the following areas?

|   |  |   |
|---|--|---|
| <input type="checkbox"/> Vision             | <input type="checkbox"/> Memory                          | <input type="checkbox"/> Early childhood education                  |
| <input type="checkbox"/> Hearing            | <input type="checkbox"/> Hyperactivity                   | <input type="checkbox"/> Attention or concentration problems        |
| <input type="checkbox"/> Speech             | <input type="checkbox"/> Allergies                       | <input type="checkbox"/> Physical handicaps                         |
| <input type="checkbox"/> Sickle Cell Anemia | <input type="checkbox"/> Lead blood levels above average | <input type="checkbox"/> Referral to a psychologist or psychiatrist |

Please explain: \_\_\_\_\_

1.

2. **Present School Information and Educational History**

School \_\_\_\_\_ Phone (\_\_\_\_) \_\_\_\_\_

School address \_\_\_\_\_

Current teacher's name \_\_\_\_\_ Current grade placement \_\_\_\_\_

Current classroom placement (check all that apply)

|   |  |  |
|---|--|--|
| <input type="checkbox"/> Regular              | <input type="checkbox"/> Learning Disabilities | <input type="checkbox"/> Emotionally Disturbed |
| <input type="checkbox"/> Cognitively Disabled | <input type="checkbox"/> Other _____           |  |

Do we have permission to communicate and exchange print information with school personnel and other institutions serving your child's learning needs? \_\_\_\_\_

Did your child attend preschool before kindergarten? \_\_\_\_\_ How many years? \_\_\_\_\_

At what age did your child enter kindergarten? \_\_\_\_\_ First grade? \_\_\_\_\_

Describe your child's school progress: \_\_\_\_\_

Was your child ever retained? \_\_\_\_\_ Accelerated? \_\_\_\_\_ When? \_\_\_\_\_

If so, why? \_\_\_\_\_

With what results? \_\_\_\_\_

Has your child attended summer school? \_\_\_\_\_ When? \_\_\_\_\_

If so, why? \_\_\_\_\_

How does your child feel about school? \_\_\_\_\_

What kinds of reading materials are available in your home? \_\_\_\_\_

What material does your child use on his/her own initiative? What are his/her interests?

What problems does your child have with reading?

- |   |   |   |
|---|---|---|
| <input type="checkbox"/> Sight-word vocabulary      | <input type="checkbox"/> Sounding out words/phonics | <input type="checkbox"/> Accuracy             |
| <input type="checkbox"/> Rhyming, hearing syllables | <input type="checkbox"/> Reading comprehension      | <input type="checkbox"/> Expression/rate      |
| <input type="checkbox"/> Study skills               | <input type="checkbox"/> Writing                    | <input type="checkbox"/> Reading for pleasure |
| <input type="checkbox"/> Other _____                |   |   |

Does your child have difficulty in any of these other areas?

- |   |  |                                       |
|---|--|---------------------------------------|
| <input type="checkbox"/> Spelling           | <input type="checkbox"/> Completing assignment on time | <input type="checkbox"/> Perseverance |
| <input type="checkbox"/> Penmanship         | <input type="checkbox"/> Organization                  | <input type="checkbox"/> Motivation   |
| <input type="checkbox"/> Written expression | <input type="checkbox"/> Other _____                   |                                       |

Has your child had any special testing or multidisciplinary team evaluations at school? \_\_\_\_\_

Has anyone in your family had any of the following problems in school?

- |                             |                               |
|-----------------------------|-------------------------------|
| Word Recognition _____      | Spelling _____                |
| Reading Comprehension _____ | Speech/Language _____         |
| Written Expression _____    | Attention/Concentration _____ |
| Signature _____             | Date _____                    |

It would be extremely helpful to have your child's school send us any reports of previous testing, or to inform us of upcoming testing. Please return to the center or mail to:

Cardinal Stritch University

Literacy Centers, Box 104

6801 N. Yates Road, Milwaukee, WI 53217-3985