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Using Direct Instruction to Teach Self-Monitoring Strategies for Accuracy

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A culminating project submitted to the Department of Education and Human Development of
The College at Brockport, State University of New York in partial fulfillment of the
requirements for the degree of Master of Science in Education

Abstract

Readers utilize three main cueing systems to comprehend text. If the graphophonic, semantic, and syntactic cueing systems are not working together, reading is not accurate and comprehension is sacrificed. An intervention was implemented with a second grade struggling reader to help him self-monitor his reading by using the following three questions: Does it look right? Does it sound right? Does it make sense? The results show an overall improvement in accuracy, comprehension, fluency and reading level.

Section I: Introduction

This project was an investigation into how direct instruction of specific self-monitoring strategies influences a student's ability to read text. All readers use multiple cueing systems and context to determine meaning during the reading process. This research was conducted under the premise that teaching self-monitoring strategies using these systems will improve student reading achievement.

Problem Statement and Significance

Reading development occurs on a continuum, where stages are not clearly defined. Different aspects of learning to read intertwine and influence a reader's ability to decode and comprehend text. Readers use their syntactic, semantic, and graphophonic cueing systems to understand text. Syntax refers to sentence structure, so when this cueing system is used, the text makes sense grammatically. The semantic cueing system is responsible for the words making sense in context of the sentence or story. Lastly, the graphophonic cueing systems relates to letters and the sounds they make when reading. Applying all three systems, words look correct, sound correct, and make sense in context (DeVries, 2008). If readers do not utilize all of these systems, they are not as able to comprehend text effectively.

Teaching students to self-monitor and determine if the word they say looks right, sounds right, and makes sense will help them become stronger readers. Direct instruction is a way to provide support to a wide range of learners at their specific learning level. The strategy effectively helps students apply newly developed comprehension strategies by being taught explicitly, then moving to independence (Coyne, Zipoli, Chard, Faggella-Luby, Santoro & Baker, 2009). For this research, I worked after school with a student to help him use his three

language cueing systems to improve his reading abilities. Using modeling and other instructional strategies promoting metacognition, I explicitly taught him how to self-monitor for accuracy when reading.

Purpose for the study

The purpose of this study was to investigate how explicitly instructing a student to use context as a self-monitoring strategy will improve his reading achievement by asking “does it look right, sound right, and make sense?” The study was designed to address the following questions:

- How does the reading ability of a student change when he is taught explicitly to self-monitor while reading by asking the questions: Does it look right? Does it sound right? Does it make sense?
- How does accuracy affect other aspects of reading ability?

Background to the Study and Personal Rationale

Comprehending text is an essential part of the reading process and in order to effectively do so, the correct words need to be read. If a learner does not read with enough accuracy, it is incredibly difficult to understand the text fully. Miscues occur when the word read aloud is not on the page. High quality miscues occur when the error does not change the meaning of the text and makes sense in the structure of the sentence. Although high quality miscues do not alter comprehension, learning to read the words correctly is important, especially for beginning readers. There is a lot of information on self-monitoring for comprehension purposes, but my

intention is to teach self-monitoring for accuracy. The ultimate goal for reading is to understand, but in order to do so, the reader must be able to read the words as they are. By putting a focus on improving accuracy, other areas of reading could improve.

Study approach

The research was conducted following the Social Development and Cognitive Apprenticeship theories. The Social Development Theory includes the concept of the Zone of Proximal Development, which is the range of support a student needs for optimal learning. It operates under the premise that ideal learning conditions are based on what students can do with help from a more competent individual or peer collaboration, which will later lead to independence. In terms of education, a teacher would instruct a student based on their specific abilities. Using this approach gives students enough support while catering to individual needs, helping their development (Chaiklin, 2003). For this study, the student was taught at his instructional level, according to the Fountas and Pinnell Benchmark Assessment. By working at a student's individual level, greater learning can occur.

Another concept driving the research is the theory of Cognitive Apprenticeship. This theory operates under the idea that people learn from each other by observing, imitating, and modeling. For this approach, the teacher models for the student, then coaches them through the steps as they try it. The teacher provides appropriate scaffolding, then has the students articulate their thinking so they have an understanding of the process. This leads students to be able to reflect on what they are doing and give them the opportunity to problem solving using their new skill (Collins, Brown & Newman, 1987).

The investigation utilizes embedded mixed-methods research, including single-subject and case study research designs. The approach allows for the study of single individuals before, during, and after a carefully monitored intervention is implemented to determine the effects. This type of research is characterized by using an intervention with individuals in an attempt to change a problematic behavior. The researcher determines a baseline of the subject and then manipulates the conditions for change. The behavior is documented and graphed to conclude if the intervention made a difference in the subject's behavior. In this case, an assessment was done to determine the base line of the student's habits, level and abilities, then the intervention was applied accordingly and monitored to determine behavior changes. The case study elements allowed for an interpretation of student behavior to determine how that influenced his learning. By understanding his emotional reaction to the intervention, more information was learned about him. Multiple forms of data were used to get a holistic understanding of the student (Clark & Creswell, 2014).

Miscue analysis involves interpreting the way a student reads to find the causes of their errors. Using Running Records, the researcher documents the miscues and determines the cueing systems used or neglected that caused the reader to make the error or self-correct. The analysis can be used to see trends in the reader's habits, as well as help provide appropriate intervention (Clay, 2008). The errors are coded based on the system being utilized that created the error, then the total or individual errors reveal information about the reading process.

Section II: Literature Review

Before the research could begin, a review of the available literature was essential to understand best practice and the importance of the work. It was also important to find any limitations or trends in what already existed. The focus included the cueing systems, accuracy and comprehension, direct instruction using metacognitive strategies, and miscue analysis.

Cueing Systems

The graphophonic, syntactic, and semantic cueing systems are essential to comprehend text. There are individual contributions of the three systems, as well as them all working together. In terms of phonological and morphological awareness, as well as orthographic processing, Deacon (2012) found unique influences from each on the reading habits of younger students. By having students complete a variety of specific tasks, including reading familiar and not real words, she found students were more likely to utilize phonological awareness when reading unfamiliar words. When they came to a word they did not know, they were using what they knew about letters and sounds to determine what the word could mean. The study focused on first and third grade students and Deacon found they were both significantly influenced by phonological awareness when they read. Morphological awareness made a smaller, but significant contribution to their approach to reading both types of words. Therefore, children used their visual system more than their syntactic, but they are both significant. The researcher points out that clearly the variables overlap for reading to occur, but suggest that some aspects are more significant than others as a readers begin (Deacon, 2012).

In a study done by Ferguson, Currie, Paul and Topping (2011), a year-long intervention program called “Think about it” was incorporated into instruction for one-to-two years for three

groups of students. The three phases of the program incorporated into instruction included phonemic awareness and phonics, developing the semantic cueing system, and teaching metacognitive strategies. Through the intervention, students improved their word reading, comprehension, and spelling. They showed continued growth in the follow-ups that occurred one and two years after. By bringing together the phonetic and psycholinguistic components of reading, the program linked the cueing systems necessary for reading.

Accuracy and Comprehension

There are multiple studies on the reciprocal nature of fluency and comprehension. In one study, the researchers used a structural equation model to measure second graders' reading using decoding, sight-word fluency, context reading and prosody (Lai, George, Schwanenflugel and Kuhn, 2014). Their study was based on research done by Kuhn, Schwanenflugel, and Meisinger, who based their claims on the concept that decoding involves understanding the relationship between letters and sounds, an essential aspects of fluency and accuracy. Being able to read sight-words helps fluid reading, as some sight-words do not follow traditional spelling patterns. They also thought context reading skills, also known as connected text reading, was important. This is the act of reading a series of text and works with an appropriate rate and accuracy to develop fluency. They also considered the significance prosody, which refers to reading with expression, including pitch, pausing, and emphasizing words (2010). The authors had found that when a text is read with proper accuracy and speed, prosody occurs naturally. Working together, these three facets help comprehension develop. Their results aligned with the traditional model that fluency is a predictor of comprehension and did not find an exact trend otherwise (Lai, George, Schwanenflugel and Kuhn, 2014).

The research of Klauda and Guthrie (2008) also proposed a relationship between fluency and comprehension besides the common finding that fluency is a strong predictor of comprehension. A main component of fluency is accuracy, especially at a fast speed. Their research aligned with the theory of automaticity, which implies when readers are able to read quickly and correctly, their brain can spend more effort comprehending text. When less time is spent decoding words, greater understanding occurs (LaBerge & Samuels, 1974). In their study, 278 fifth-graders were assessed by word recognition speed, syntactic processing, phrasing, passage-level processing, inferences and comprehension. At a later time in the year they were assessed again for syntactic processing and reading comprehension. They found that when rate and speed were paired with prosody, they were able to predict reading comprehension ability when word recognition speed was controlled. Students who scored high on their expressiveness scored similarly on their comprehension. Therefore, when students read more fluently, they were more likely to be able to comprehend the text, but the exact role of the reciprocal nature was not found.

For some students, especially those with learning disabilities, strategy instruction is more effective than modifying instruction. Studies about self-monitoring focused on comprehension showed that other areas of reading will improved as well (Kim, Linan-Thompson & Misquitta, 2012).

One study attempted to explore the impact of processing on reading and comprehension using eye movements. In this case, both eye movements and miscues were analyzed to determine the impact on the way a reader constructs meaning of the text. Thirty-eight students read the first chapter of a book and then retold everything they could remember. Their miscues were analyzed and coded into how they influenced the way the story was understood. They matched this

analysis up to the retellings of students to note trends. An expected finding was that students with fewer miscues that changed meaning, self-corrected often, and read with great fluency were able to do a thorough retelling of the story. Interestingly, when students made a miscue that did not change the meaning of the story, it was more likely to be recalled. The researchers believed this is because they are actively making meaning and using cueing systems to make the miscue, therefore they have constructed new meaning and processed the text already (Kucer, 2009).

Direct Instruction for Self-Monitoring

In the program researched by Erickson (2008), students were explicitly taught metacognitive and engagement strategies. The teachers working with lower performing students incorporated authentic materials and active learning reading strategies, with discussion, self-questioning strategies, independent reading choices, and individual conferencing within a workshop format. The researcher found all students made gains throughout the year. She cited teaching at students' reading levels and using authentic text reflecting individual interests motivated students to read. When the teacher modeled strategies and made it student-centered, the students improved.

Eker (2014) compared a group of students who were explicitly taught metacognitive strategies for comprehension in two different groups. Using a pre-test post-test control group design, his analysis found a significant improvement between the experimental group's results over the control group and the strategies were successful in improving reading comprehension. To make the intervention work, he suggests having students set goals at the end of each text, self-evaluate, be aware of their own learning, and have teachers check their performance.

Huff and Nietfeld (2009) conducted a study instructing four groups of fifth graders in different ways. There was a control group, a group with no intervention, a group engaged in process-oriented comprehension monitoring and another trained in both comprehension monitoring and response-oriented monitoring accuracy. The comprehension-monitoring training involved providing direct instruction to student on self-monitoring strategies for comprehension, such as summarizing, asking questions, and making connections. The monitoring accuracy training received by the last group included the instructors doing a think-aloud and the inclusion of a discussion after each session, following specific questions about confidence. The students completed a Gates-MacGinitie Reading Comprehension test and assessed their confidence of each answer. The researchers then measured the performance and confidence judgements, as well as the average confidence and average performance. The researchers found that all groups, including the two intervention groups, read with more accuracy and the intervention groups were more confident in their responses. However, they found the group receiving the monitoring accuracy training became over confident in their replies. Overall they found explicitly teaching students to self-monitor was beneficial.

Direct or explicit instruction can be especially helpful to struggling readers. This instructional approach has the teacher giving information through specific interactions while guiding students appropriately. For this type of instruction, effective strategies include modeling, guided practice, and direct explanations. Due to its reflective nature, teachers are given the opportunity to continuously cater to individual needs in critical areas (Rupley, Blair & Nichols, 2009).

In a study conducted in Jordan, the researchers tried to determine if self-monitoring when reading English was related to a student's desire to learn. Conducted under the premise that self-

monitoring is a natural step towards becoming an independent learner and taking responsibility of yourself as a student, surveys were used to determine a correlation. The researchers added a detailed analysis of the validity of their measurements to show the strength of the study. In the end, they determined self-monitoring positively affected students' reading performance and improved their awareness of strategy application. They concluded when students saw they were performing well in reading, they appreciated their own work and ability. Besides the limitation of this study taking place in Jordan, which has a different educational and linguistic climate, they strongly recommended teaching self-monitoring strategies for reading to help students succeed (Jubran, Samawi & Aalshoubaki, 2014).

In another study, the language teacher's use was examined in eight Reading Recovery teacher-student pairs. The researchers noted that there was a positive correlation between language used to scaffold specific strategies and student behavior using the strategies independently. When teachers provided high support for new reading behaviors, the students were successful when their specific processing needs were being met. Students were less successful when the teacher did not cater to their individual learning needs. The authors noted the limitations of having only eight pairs and that there was a lack of random selection. Reading Recovery teachers focus on several concepts in their lessons, including self-monitoring (Lee & Schmitt, 2014).

Utilizing Miscue Analysis

Miscue analysis is a way to help teachers understand the strategies and cueing systems students use to read. Unfortunately, a single assessment is not able to tell everything there is to

know about a child and their reading habits. One study used miscue analysis paired with tracking a second grade student's eye movement, called eye-movement and miscue analysis (EMMA), to gain a deeper understanding of a child's reading. The researcher's analyze several of the subject's miscues to see how her eye movements told more than just listening would. The detailed examples showed that she is actively trying to make meaning, but from just listening to her read, it appears she has a reading problem. By tracking her eye movements, the researchers saw when she was looking at different parts of the text to determine what makes sense, explaining why she had long pauses when she read. An important implication from the authors is that scripted, skill-based programs are not sufficient to teach students who are reading for meaning (Brown, Kim, & O'Brien Ramirez, 2012).

Teachers can use miscues to inform their own instruction, but struggling readers can also benefit from analyzing their errors. Retrospective Miscue Analysis (RMA) is an instructional strategy that helps readers understand the mistakes they make, which helps them become better readers. For this approach, a student's errors are recorded and then revisited to determine why they made a specific error. Doing this allows students to analyze their mistakes and have a better understanding of what they do as a reader. One study found when using Retrospective Miscue Analysis over a two and a half month period increased the student's confidence, accuracy, and number of self-corrections. Not only was the student more aware of his errors, but he was able to explain on his own why he made them and what he would do next time. Improving his metacognitive abilities helped him grow as a reader in multiple ways (Vaccaro, 2012).

Dean (2010) found in her use of Retrospective Miscue Analysis that talking about reading using miscue analysis was essential for her guided reading strategy. Students were aware of how readers create meaning and then became more aware of their own strategies. She had a

variety of skill levels in her groups and found the struggling readers gained confidence as they saw their peers did not read with perfect accuracy. When the students realized that more skilled readers made mistakes as well, they understood that perfect accuracy was not essential to be a good reader. She noted that students would often say they sounded words out as their main strategy, but after analyzing their data, she found this to not be true. She believes this means students are unaware of other strategies they are using or do not value those strategies to comprehend the text.

Another study involved using Retrospective Miscue Analysis with a family. RMA addresses the value of high-quality miscues, which do not change the meaning of the sentence. RMA focuses more on reading comprehension than reading for total accuracy. The researcher analyzed the miscues with the family and both members shifted their view on what was necessary for effective reading. The daughter cited her mother as a good reader, so after analyzing the mistakes of her mother, they both saw that complete accuracy was not necessary, but comprehension was the goal. There needs to be a balance for accuracy and comprehension. The author notes the importance of teachers, parents and students working together to all understand what it means to be a good reader. The researcher found benefits of having student and their family being part of the process so her mother could help improve her reading in an effective way (Kabuto, 2009).

The research shows there is a connection between accuracy and comprehension, which shows that teaching accuracy will benefit a student. Fluency is a predictor of comprehension ability, but the research does not show that comprehension is a predictor of fluent reading. Focusing on accuracy but emphasizing comprehension as the goal of reading, students will improve their reading abilities in multiple ways because the two components work together. It is

also documented that direct instruction is an effective way to teach students specific skills, especially struggling readers. The individualized instruction helps students reach goals within their level of development. Lastly, miscue analysis is a sufficient way to get an idea of student reading habits and instruct them.

Section III: Study Design

Methodology and Design

The research involved using multiple forms of data collection and analysis to gather information about self-monitoring for accuracy using a single student. The research involved interviewing and initially assessing a student, applying an intervention throughout the weeks, and analyzing his reading and conversations. The processes revolved around the three focus questions while consistently monitoring progress. The study aimed to answer two research questions:

- How does the reading ability of a particular student change when he is taught explicitly to self-monitor while reading by asking the questions: Does it look right? Does it sound right? Does it make sense?
- How does accuracy affect other aspects of reading ability?

Discourse and miscue analysis were used to make meaning of the data collected so that conclusions could be made. The research was set up so the intervention changed based on the student's work the session before. Multiple supplemental activities were used to help the student better understand the metacognitive reading process.

Positionality of the Researcher

I received my initial certification in Grades 1-6 from SUNY Oswego, graduating with a concentration in social studies and a minor in mathematics. My student teaching placements had a population of families with lower socioeconomic status than the school where I completed my research. I am working on my master's degree from SUNY Brockport in Literacy Education

Birth – Grade 12. I have had experience working in the specific school where I am completing my research, allowing me to have relationships with teachers and students, but not working with the student in the research before this point. Over the years I have taken advantage of the opportunities to work as a substitute teaching assistant and teacher in a kindergarten to fifth grade setting, giving me background into many aspects of teaching. I believe literacy is essential to student success, but every child learns differently. Students do not always receive instruction catered to their individual needs in a standard classroom due to many factors. Students become proficient readers and writers due to multiple aspects of literacy working together.

Participant and Setting

There was one participant in this study; a second grade male student. The goal was to find a student in second grade who struggled in reading and could benefit from being explicitly taught to self-monitor. For the purpose of the research, the student was also selected based on his attendance of the local YMCA after school program. This was to cause the least interference to his daily life and not add any inconvenience for him or his family. Using the opportunistic sampling method, I was able to find a student who fit the exact description because of the specifications based on teacher recommendations (Clark and Creswell, 2014). This study took place in a suburban school district at a kindergarten through second grade primary school. The student and researcher worked together after school while he attended the YMCA program, where he was taken during that time to work.

Steven

The participant, Steven, does not have any siblings and goes to the YMCA program before and after school due to the occupations of his parents. He is a seven-year-old boy coming from an upper-middle class family. Steven enjoys Minecraft, science and running outside. He is a kind, fun-loving child who likes joking around. He has been known as being disruptive in class due to his social nature and wanting to have fun. Overall he does well in science and math, but struggles with ELA. He and two other students from his class received academic support for thirty minutes three out of six cycle days to address specific skill deficits while the research took place.

Procedures

This study was conducted from January to February 2015 two days a week after school with sessions lasting thirty to forty minutes. My first step was to interview Stephen using predetermined questions found in Appendix A to guide our conversation. Through the interviews questions, I found out what he liked reading about, what he knew about good readers, and some of the strategies he uses when reading. Another goal was to determine what kind of books he would find interesting.

Before I could find books for us to read together, I assessed him using the Fountas and Pinnell benchmark assessment. This is the assessment system used by the district, so he was aware of the process. As he read a specific book, I would record his errors and self-corrections, as well as analyze his answers to comprehension questions revolving around the text. The

information was used to determine his instructional his reading level, which helped me find engaging, appropriate books.

I started the sessions by reminding Steven good readers ask themselves “Does it look right? Does it sound right? Does it make sense?” as they read. I then modeled self-monitoring with the text by doing a think aloud based on using the graphophonic, syntactic, and semantic cueing systems, showing how to work through specific situations and self-correct when necessary following the questions

After a brief discussion, Steven read part of the book as I recorded what he said for later analysis. I would address certain errors, depending on his reading habits and would ask him one of the focus questions. He would reread the text and if he was unable to fix his error, I would assist him by providing strategies to find what word he read incorrectly. After each day, I would analyze the results to plan for our next session. As we continued, I used several different supplemental activities to assist his understanding of what it means to self-monitor. Throughout our sessions, we would stop and summarize, ask reciprocal questions, use a variation of a cloze text, and use a self-monitoring point system. Throughout the process, Steven was reminded to self-monitor and I continued to ask questions to gauge his comprehension.

Criteria for Trustworthiness

To maintain the dignity of my results, certain measures were in place to ensure the research was valid. Multiple ways to assess the strategy were in place to verify the results. The prolonged engagement and persistent tutoring sessions with the child made sure that legitimate connections could be made from the experiences. Using the multiple methods of data collecting

provided an additional way to ensure the results were accurate. The student was debriefed on the process to make sure we had a mutual understanding of what would occur and what was expected. Teachers and students use different language when referring to concepts in an academic setting, therefore, it was essential for there to be referential adequacy and consistency. In addition, the miscues were checked by a peer to determine if the analysis was accurate.

Data Collection and Analysis

The mixed-study research was analyzed using discourse and miscue analysis. Discourse is both a social and linguistic concept, and analysis in a literacy setting is important because of the learning that takes place during conversation (Duke & Mullette, 2011). The discourse between a teacher and a student can be analyzed to see a student's learning (Florio-Ruane & Morrell, 2011). In our setting, the discussions about reading revealed more than just hearing him read. Opening a dialogue and working together provided the opportunity for additional processing and learning. Steven would discuss his thought process as he attempted to fix a miscue. Analyzing his responses to my questions revealed more patterns and information.

Various forms of data collection were used to complete this study. The interview questions were created so that I could become more familiar with Steven. The goal of the interview was to gain insight on Steven's reading habits, attitude towards reading, and get an idea of how to make the experience more meaningful for him. I also asked informal questions throughout the process. The interview revealed Steven's attitude toward reading while getting the chance to know him better. He said he somewhat enjoyed reading, but especially enjoyed reading more difficult books with his mother, such as the Diary of a Wimpy Kid series. He also

discussed reading strategies he was taught to use when he sees a word he does not know or if something does not make sense. However, he did not always know exactly how to use them or what they really meant.

As Steven read, I recorded exactly what he said compared to the text. Using the Marie Clay style of running records, I analyzed the errors and self-corrections Steven made to learn more about his reading habits throughout the process. I was able to keep a detailed record of what he read, types of errors he made, and noted any trends. As I worked with Steven, I also took note of his behaviors during the process. I noted his actions and attitude towards the work and the strategy we were using. The field notes provided additional information when it came to analyzing his reading over the weeks. This helped explain different trends by comparing reading habits to his behavior.

When assessing him at a Fountas and Pinnell Level I, Steven's combined accuracy rate and comprehension showed that was his independent reading level. The next time I assessed him, I used a Level J book to determine if that would be instructional, as expected from our first reading. Steven had much more difficulty, but as he read his attitude changed from actively trying to indifference about reading correctly. For one sentence in particular, he read and at the end said "yeah, I know that wasn't right, but I don't care." His attitude was both apathetic and positive, making it troubling that he was either not taking the task seriously or he was giving up when he perceived the text to be too difficult. He made significantly more errors, but since the Level I was for independent reading, it was concluded his reading level was J for instruction. During our sessions we read four books, *Mr. Putter and Tabby Walk the Dog*, *Henry and Mudge: The First Book*, *Henry and Mudge: Puddle Trouble*, and *Mr. Putter and Tabby Fly the Plane*.

As I modeled how to self-monitor, Steven usually caught my error and told me the correct word as I helped him understand the process of why I made that mistake. When he read and made an error, I would stop him at the end of the sentence and repeat back what he said, asking one of the questions. Sometimes he would fix his error, other times he was still unsure of how to correct the mistake. In some cases, he required additional probing, such as asking him if he can use clues from the text or picture to fix the error. Occasionally, the word was new to him and he needed to be told the pronunciation to continue reading. Overall, when asked if the sentence looked right, sounded right or made sense, Steven would self-correct what he said.

Figure 1.1 displays the types of errors Steven made. Steven's errors were categorized into the categories of visual ("does it look right?"), syntax ("does it sound right?"), meaning ("does it make sense?"), or a combination, based on Marie Clay's style of miscue analysis. A reader can use all three cueing systems when making an error or just one. The number of errors he made by day are documented in Figure 1.1. The graph does not show when he used a combination of cueing systems and therefore does not distinguish between high and low quality miscues.

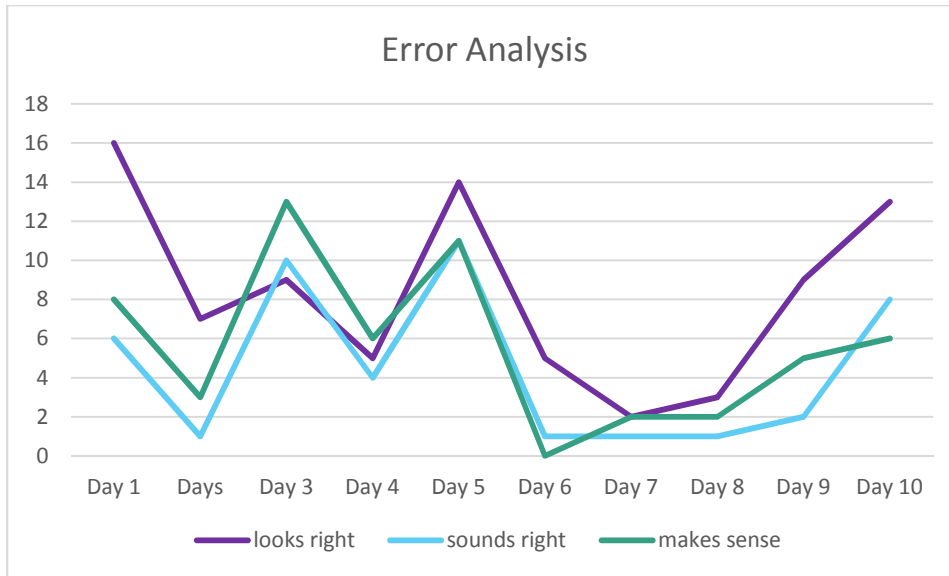


Figure 1.1

Figure 2.1 shows the calculations used to determine the accuracy ratio, error ratio, and self-correction ratio. These numbers were compared and graphed to show trends in Steven’s reading. The error ratio shows how many words Steven read incorrectly compared to how many words he read correctly.

Error Ratio: $\frac{\text{Total Words Read}}{\text{Total Errors}}$	Accuracy Rate: $\frac{(\text{Total Words Read} - \text{Errors}) \times 100}{\text{Total Words Read}}$
Self-Correction Ratio $\frac{(\text{Number of Self-Corrections} + \text{Number of Errors})}{\text{Self-Corrections}}$	

Figure 2.1

Figure 2.2 shows Steven’s accuracy rate throughout the intervention process. Although the original assessment showed he was almost at a reading Level J, the data implies the books caused him frustration or there were factors limiting his ability. As the intervention continued,

he read more accurately, even as the texts became more difficult, as shown in the graph. The sixth day was the first day he read well above the bottom limit of the instructional accuracy rate.

From that point on, his accuracy stayed above the frustration level of text.

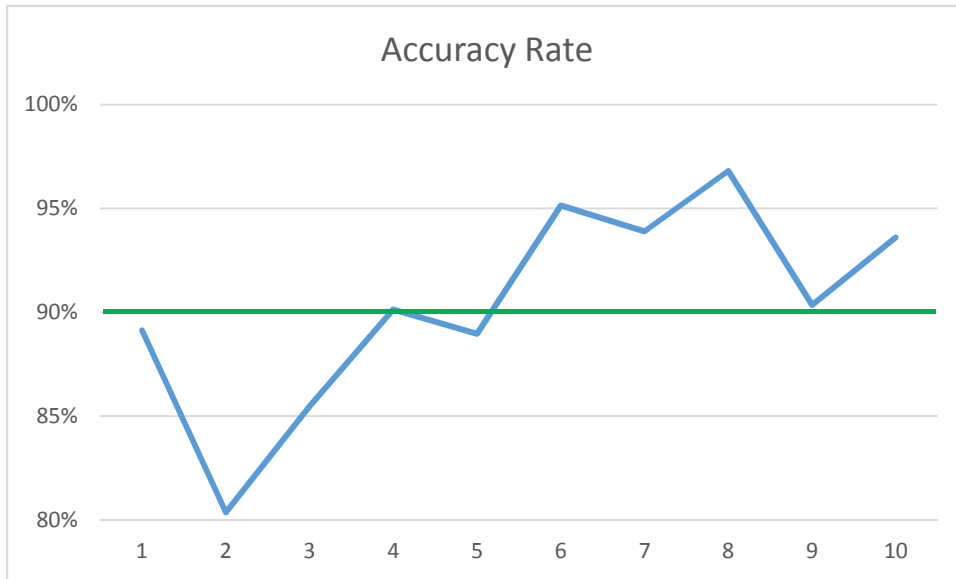


Figure 2.2

Figure 2.3 shows Steven's self-correction and error ratio. In the graph shown, the ratios have been converted to decimals (1:10 turned into 1/10 or 0.10). A green line is placed in the graph to show the 1:10 ratio. Data points for the error ratio below that line show he is reading with enough accuracy to be at the instructional level. Above that line shows that he is probably losing meaning from the number of errors he is making (Clay, 2008). The data shows that after the fifth day of the intervention, Steven's accuracy is sufficient to comprehend the text. The red line shows that he is self-correcting once for every four errors (or 0.25). If he is above that line, he is self-correcting appropriately.

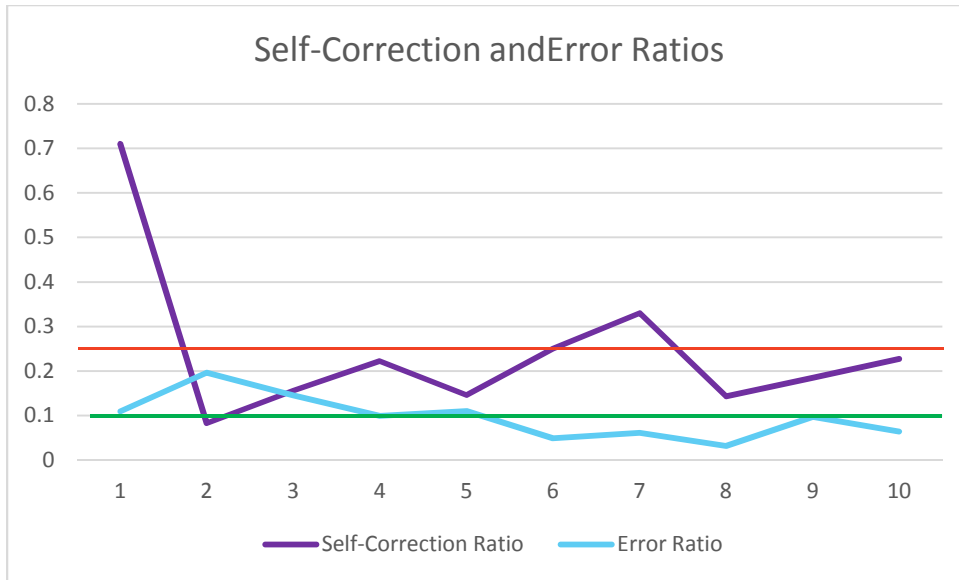


Figure 2.3

Additional strategies were implemented to demonstrate self-monitoring to Steven. One of the first strategies used was stop and summarize. The overall goal was to help Steven improve his reading with accuracy in mind, but also reminding him that readers make meaning of the text. The task went well with Steven, where he could get the main idea of certain passages, but only remember a few details of others. If we stopped at the end of a single page, he would be able to put the events into his own words. However, when it came to larger sections, he was unable to recall the reading as well.

Another strategy utilized was reciprocal questioning after reading a section of the story. Steven and I took turns reading pages and asked each other a question based on what we read. When we did the activity, Steven had a hard time coming up with an idea without looking back at the page. Often he would ask questions about the picture instead of what he read about. For the days we did this activity, it did not appear to aid his understanding or accuracy. The goal of

this activity was to keep Steven focused on accuracy while reminding him to make meaning of the text.

For the last few sessions, I covered a word in the text and had Steven try to fill in the missing word. For example, one sentence read “The five kittens were _____ in the box in their yard.” Steven came up with a list of words that could go in the blank that described what the kittens were doing. To do this, he thought of what word would make sense in the story and what would make sense grammatically. Later in the process he also paid attention to word length. The list of words he said included playing, sleeping, cuddling, lying and sitting. When he came up with a significant list, I revealed the first letter, which was ‘s.’ From there, he used his visual cueing system to determine the word “sleeping” best fit the sentence, which was the correct word. This was done a few times throughout the book and was an activity Steven greatly enjoyed. Steven commented that this helped him understand his thinking and was a beneficial activity.

The last additional strategy involved keeping track of Steven’s miscues and self-corrections in a place where he could see. When Steven made a miscue, he had the opportunity to go back and fix it in the reading. I would instruct him to reread the section and pay special attention to the words in the text. If Steven fixed his error, he earned a point. If the miscue was made again, I would acknowledge what it was and a point would go in the other column. Steven said he liked this because it made our reading activities into a game.

Section IV: Findings

The findings of the study revealed information about Steven's reading patterns and how they improved, what areas still need improvement, and what effects his attitude had on his reading. It was found that certain errors were made more frequently than others and there were gains in other areas of reading for Steven. After the results of the intervention were evaluated using discourse and miscue analysis, trends were noted to answer the research questions.

How does the reading ability of a student change when he is taught explicitly to self-monitor while reading by asking the questions: Does it look right? Does it sound right? Does it make sense?

Using the specific self-monitoring questions, accuracy was improved. These questions aim to cross-check if the reading is correct. When used effectively, the words read matched what was on the page and reading improved. There was a significant increase in his accuracy from the beginning to the end of the intervention. Although each of the books Steven read was considered a Fountas and Pinnell Level J, they became progressively more difficult (Scholastic, 2015). Steven was able to read progressively difficult text with increased accuracy during the intervention.

In turn, there was an improvement in his use of his specific cueing systems. Figure 3.1 shows Steven's errors with trend lines inserted to understand the direction of his reading. It can be seen that by the end he was making less errors overall in every category. The biggest change is seen in the trend of syntax errors Steven made throughout the process.

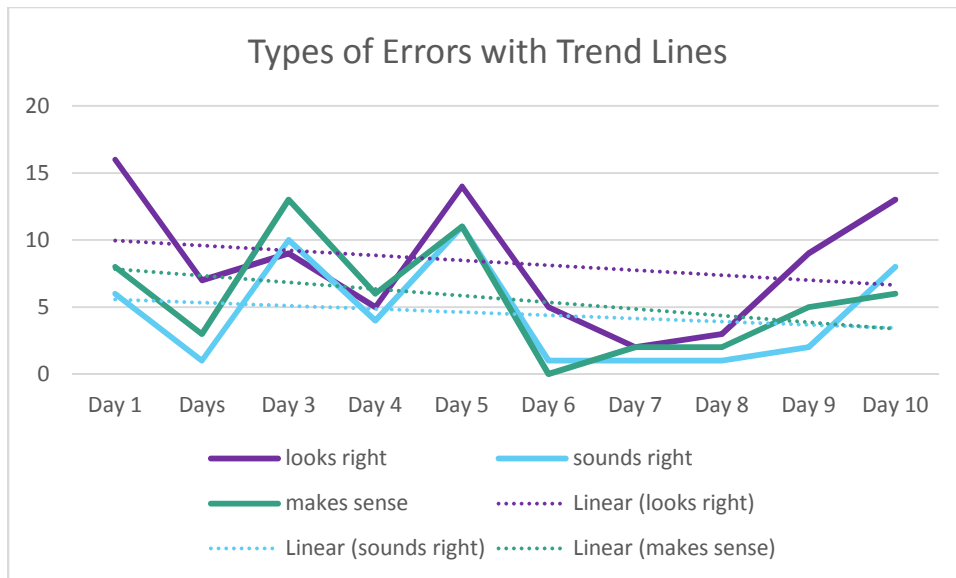


Figure 3.1

There was an overall decrease in visual errors Steven made, even though that was the type he made most frequently. When Steven made a visual error, he said a word with some of the same letters as the word he was reading. In general, Steven's most common error was saying a word that looked similar, while ignoring his other cueing systems. Therefore, the word did not necessarily make sense in the story or make sense. For example, the text said "He tugged Mr. Putter and Tabby through *yards* and creeks and houses," while Steven read "He tugged Mr. Putter and Tabby through *years* and creeks and houses." In this case, the word used did not make sense in the story and was not grammatically correct.

There were also times where Steven started sounding out a word and then settled on a word that did not fit, just had similar sounds. An example of this would be attempting to sound out the word "through." The sentence was "They weren't sure they could live *through* four more days..." When Steven read it, he said 'there', then 'thering', and moved on. In this example, he

created a new word, which did not sound like a word he had heard before, and continued reading. Although it could have been used as a place holder, he never went back to change it.

Phonological, morphological and orthographic awareness are all utilized when reading words. Children utilize their phonological awareness more when they come to unfamiliar words, as Steven found in this text. Deacon also documented this and concluded it was due to the need to analyze the letter sequence within the unknown word (2011). This was apparent with Steven, who would attempt to sound out many unknown words at the beginning of the intervention. Although Steven consistently made most of his errors by utilizing this system solely, he made less by the end of the intervention.

One of the least common errors Steven made were ones that only made sense structurally. This error was mostly accompanied by a different type of error, such as visual or meaning. In other words, usually the syntax helped Steven make the error, but was rarely his sole reason for making it. An example would be “The first day Mr. Putter and Tabby took him for *a* walk, he tugged,” which Steven read as “The first day Mr. Putter and Tabby took him for *his* walk, he tugged.” Grammatically, the sentence was accurate. The meaning of the sentence was also not changed, especially since it was already established that he was a male dog. This was one of the first miscues Steven made when he started. He used his syntax and semantic cueing systems, but not his visual.

Another example was when the text read “Henry knew it *wasn't* his snow glory,” which Steven read as “Henry knew it *was* his snow glory.” The two words look similar, as many of Steven’s visual errors were based on him only acknowledging the first sounds in a word, which explains one reason for him to make the error. The other is that grammatically, the sentence still

makes sense. However, the error Steven made does not make sense in the context of the story. This corresponds with the word looking right, sounding right, but not making sense.

When Steven made syntax errors on their own, it usually involved adding or omitting a word so that the sentence made sense to him. This usually came in the form of saying the word “and” when a new sentence started and disregarding the period. He would ignore the punctuation at the end of the sentence, say “and,” then continue on. An example would be adding the word “and” between the two sentences “He grew out of his dog cage [and] he grew out of seven collars.” In these books, the sentence structure on a page can be similar so a few times Steven did this and it made sense grammatically in the story. Steven’s syntax errors relied heavily on his other two cueing systems.

There was also an improvement in Steven’s use of the syntax cueing system. Steven applied this system more frequently than his graphophonic system, which could aid comprehension. Just like grammatical errors, Steven rarely used only this system. For example, the text read “Henry *searched* for a dog,” while Steven read “Henry *asked* for a dog.” This made sense in the context of the story and fit grammatically into the sentence, since they are both past tense verbs. An error using the visual and semantic cueing system would be “He *loved* the dirty socks,” which Steven read as “He *love* the dirty socks.” The word looks the same except for the ending and means the same thing but it does not fit grammatically, as the verb tenses are different. Steven was making meaning, but not utilizing his syntactic cueing system, which causes a loss in comprehension.

Later in the process, he made syntax errors the least. This aligns with other research, such as Léger and Cameron, who found that lower level readers use their syntactic cueing system to recognize words, while more advanced readers build meaning (2013). Their findings support

Steven's consistent overreliance on his visual system, while shifting into using meaning and syntax together as his reading improved. When we started, Steven made a significant amount of visual errors because he was just trying to figure out the word by the letters, not by meaning. Therefore, when he started to use his other cueing systems, he read to understand. In addition, he applied his semantic cueing system more frequently by the end of the intervention. Younger children tend to be less accurate when identifying words semantically versus graphophonically, but this improves when they become more advanced (Polse & Reilly, 2015).

A high quality miscue is an error that looks right, sounds right, and makes sense, but is still incorrect. When a reader uses all of their cueing systems but still make an error, it does not take away from the meaning of the story (Goodman & Marek, 1996). During the intervention, there were a few times when Steven made this type of error, which did affect comprehension, the end goal of reading. An example would be "*Here's* the deal, Zeke," which Steven read as "*Here is* the deal, Zeke." By changing the contraction "here's" back into "here is," Steven retained the significance of the original word because they mean the same thing. All three cueing systems were used when Steven made that error. Another example would be "The birds flew past as he stood *beside* a stream," while Steven read "the birds flew past as he stood *behind* a stream." Both words are prepositions, they have similar letters, and they do not change the meaning of the sentence. If Steven was thinking of a word looking right, sounding right, and making sense, he could still produce an error, but it would not take away from the meaning and is better than other errors. At the beginning of the study, Steven rarely made errors that utilized all three systems. Towards the end, his errors became of higher quality and he could still understand the text, leading to an overall improvement in reading ability. This is consistent with other research,

showing that making meaning is usually the result of multiple cueing systems (Klauda & Guthrie, 2008).

There was an improvement in his ability to identify the types of errors he made. When the study started, Steven could recite the focus questions and gave a vague description of what they mean, but by the end of the study he was able to identify different types of errors. When asked about an error he made, he was able to compare what he said to the word on the page and explain why he said it. A student being able to identify the strategy used and examine their thinking is a strategy that benefits young readers if they are explicitly taught to understand the process (Eilers & Pinkley, 2006).

With this type of intervention, the hope would be Steven would read with more accuracy, make more self-corrections, or a mixture of both. With one exception, Steven was making more self-corrections by the end of the intervention than the beginning. Consistent with Steven's reading habits, his self-corrections were made mostly when he read a word that looked similar, utilizing the visual cueing system. In other words, Steven would say a word that looked similar, then realize it did not sound right or did not make sense within the story. Throughout his reading, his self-corrections were mostly when the sentence or word did not make sense grammatically. Additionally, he would self-correct when the word in the sentence did not make sense, but he was not as likely to self-correct those types of errors. There was very little change in the percent of self-corrections Steven made throughout the intervention. When a reader self-corrects, they are acknowledging that they said something that was not written on the page. They are utilizing their cueing systems in an attempt to fix the error. Although Steven would self-correct, he was not consistently making enough to conclude any improvements in self-correcting abilities.

How does accuracy affect other aspects of a student's reading ability?

Using self-monitoring strategies, Steven's overall reading level improved. Steven began at an Instructional Level J according to the Fountas and Pinnell benchmark assessment. After ending the intervention and being assessed again, he was at a Level L, but very close to Level M based on the combination of accuracy and comprehension. According to the benchmark, to meet expectations, by March second graders should be at a Level L. At this point, Steven is on track to exceed expectations for his grade level (Fountas & Pinnell, 2011). Since the assessment measures accuracy and comprehension to determine level, it can be concluded that his comprehension improved.

Both of the original Fountas and Pinnell assessments revealed that Steven had difficulty with comprehension. At the beginning of the intervention, I would check his understanding after two pages, each of which had a picture and totaled between forty to eighty words, and he could tell me what happened. When the passages of text were longer, he had a difficult time recalling what happened. As we worked, the additional metacognitive strategies allowed the development of his comprehension abilities. Towards the end of the intervention he was able to give the main idea of a text and recall more information. He scored higher on his final Fountas and Pinnell assessment in the comprehension section at the end of the intervention. His comprehension improved, but still needs to be developed. Multiple studies have shown that reading with perfect accuracy is not essential for comprehension, so when the reader makes high quality miscues, they could still possibly comprehend the text (Kabuto, 2009; Theurer 2011). This appears to be the case with Steven's reading.

In his first two assessments, Steven's fluency was also low. His reading was very mechanical and slow. As we progressed, his reading speed increased and he altered his voice more frequently according to punctuation. There has been a documented connection between accuracy, comprehension and fluency, which explains why there were improvements in all three areas. Usually it is seen that fluency is a predictor for a student's ability to comprehend, but in this case there is a connection between accuracy leading to fluency and comprehension (Klauda & Guthrie, 2008; Lai, George, Schwanenflugel, & Kuhn, 2014).

Specific Reading Behaviors Positively Influenced a Student's Reading Ability

When Steven came to a sentence where he felt something particularly did not make sense, he would pause and say "that doesn't make any sense." The difference between the beginning of the sessions to the end was in who made the error. At the beginning of the intervention, when we worked together and something seemed really wrong in what he read, Steven blamed the author. When he read, it seemed as though he thought the author wrote something incorrectly instead of him reading incorrectly. Towards the end of our sessions, Steven paused at the end of something perplexing but shifted his thinking as to who made the error. He would still say "that doesn't make any sense," but he focused on what he could do to fix his error. At the end of the intervention, he was utilizing his self-monitoring strategies and actively trying to make sense of the text. This shows an improvement in abilities from the beginning to the end.

Steven showed evidence of using multiple reading strategies to determine the meaning of words, such as skipping ahead, looking at the picture, and stretching out the sounds in words.

When Steven was using additional clues, such as using the rest of the text or the picture, he was more successful in reading the word than when he just sounded it out. The supplemental activities and strategies helped Steven utilize his cueing systems in a different way from the usual intervention of the researcher stopping and guiding him to self-correct. The books Steven read contained words that may have been unfamiliar, did not follow the standard rules for spelling, or were not letter patterns he had learned yet. For example, the first time he read the word *through*, he struggled getting the end sounds. He started with th- and ended up saying thirgen, which is not a real word. The strategies he brought from the classroom, combined with the intervention, allowed Steven to be more successful as a reader. After he revealed the strategies he knew, I was able to embed them into the intervention to help his reading. Being able to understand his thinking process helped Steven to become a more effective reader. After seeing him able to identify a strategy and then use it effectively, it was concluded that he would be able to do it when reading independently.

Summary

Over the course of the research, Steven's self-monitoring developed, improving his overall accuracy rate. Although his error rate improved, the errors he made were mostly visual, as they were in the beginning of our sessions. Steven is more likely now than before to make high quality miscues, where he utilizes all three cueing systems and still maintains the meaning of the sentence and story. When Steven made errors based on meaning, he is now usually utilizing at least one other cueing system, focusing on the sounds in the word or the structure of the sentence. Steven self-corrects mostly because he made an error only utilizing his visual cueing system and he realized it did not make sense or did not sound right. Steven's accuracy,

number of words read, and effort depended on different factors of his day, including his mood in the afternoon. Using the three questions of does it look right, sound right, and make sense, Steven altered his reading habits.

Section V – Conclusion

Summary of Results

This study was conducted to answer the questions “how does the reading ability of a particular student change when he is taught explicitly to self-monitor while reading by asking the questions: does it look right? Does it sound right? Does it make sense?” and “how does accuracy affect other aspects of a student’s reading ability?” At the end of the study, it was determined that the student’s reading ability improved in multiple areas. His reading level increased, his fluency developed, and his comprehension improved. This study shows that perfect accuracy is not essential for comprehension, but when a student does not read with enough accuracy, comprehension is limited. When accuracy is developed, comprehension follows.

Relating the Results to Other Literature

The results of the research are fairly consistent with studies of the same topic. As other studies suggest, readers use the multiple cueing systems together and although a certain level of accuracy is needed for comprehension, perfect accuracy is not necessary (Theurer, 2011; Beatty & Care, 2009; Hamid & Abosi, 2011). Theurer (2011) concluded proficient readers have miscues, but they know enough of the text to move on and do not need to self-correct all errors, or they are high quality miscues that do not interfere with comprehension. This could explain the trends in Steven’s self-correction rates. Many of Steven’s errors related to his graphophonic system. Beatty and Care’s study (2009) found that below average readers make significantly more visual miscues compared with the other cueing systems. Above average and average readers are more likely to utilize that system, but are also focused on making meaning. Similarly,

Hamid and Abosi also found that less proficient readers make more visual errors, but the number of errors does not necessarily correlate to their level of comprehension. They did not find that students reading with more accuracy comprehended more than those with less accuracy (2011).

Applying self-monitoring strategies helped Steven become more aware of the errors he made. When he understood what did and did not make sense and was able to read the text, he applied more effort. This supports the research of Jubran, Samawi, and Aalshoubaki (2014), who also found positive changes in students after using self-monitoring strategies. In addition, they found that when students performed well, they appreciated their ability and work. This is similar to Steven's behavior. As the intervention came to a close, Steven's attitude was more positive when we read together compared to the beginning. When Steven was unfocused or ignored the strategies, he did not want to read, but when he was doing well, he did not want to leave.

Implications for Practice

The knowledge from this research is practical for educators and parents. Accuracy and comprehension are important elements of reading, but are most beneficial when used together. Focusing on just one aspect is not enough to become a proficient reader. A certain level of accuracy needs to be achieved for a reader to comprehend text. If a reader makes too many errors with too few self-corrections, they will not be able to fully comprehend what they are reading. Alternatively, if a student is learning to only read for accuracy, they are missing the point of reading and might think that reading is all about reading the words correctly. Students need to know that to read is not only to be able to identify the words on the page, but to think and understand. This information is also useful for parents if they are reading with their children and

worried about their accuracy. Parents should be aware the accuracy of their child's reading is important, but reading every word correctly the first time is not essential for understanding. Adult readers do not always read accurately, as shown to Steven as I read with him. This helps students understand that even proficient readers make mistakes. The important concept is words need to be corrected when they affect comprehension.

The study shows positive changes in the student's reading from the beginning to the end of the intervention. This is important because using this specific self-monitoring strategy led to gains in student achievement in multiple areas of reading. For this specific student, the next step would be a greater focus on comprehension and continued help to improve accuracy.

Limitations of the study

In addition to the intervention, Steven also received services at school three out of six cycle days, as well as general classroom instruction. Therefore, it could have been a combination of the three instructors Steven had that led to his reading improvements. Looking at normal growth rates in reading, it can be determined that the intervention helped. However, the extent it influenced his changes is unclear. Other limitations of the study include conveniently sampling one student within a certain population at a specific setting. If a different student from another location was selected, such as an area of different socioeconomic status, the results might change. Similarly, if it was a student with a different family structure or did not attend the after school program, the results would not be the same.

There is a direct relationship between the number of words read and Steven's mood and focus for that day. Some days he was very focused on the text while others he became distracted

easily for a variety of reasons. It was difficult as the researcher to get his attention back when he was in this type of mood. Afternoons where he was more interested in being silly and goofing around, the quality of Steven's effort decreased significantly. As Prochnow, Tunmer and Chapman found in their study, there are connections between inattentive behaviors and reading problems (2013). If Steven had been focused the entire time during our sessions, he could have made more progress in his work. Instead, I spent extra time trying to get his attention back to the book. This could explain why he still has difficulty comprehending longer text. If I did not take the effort to find books Steven would enjoy, I would have lost his attention much sooner and more frequently, showing the importance of having engaging material. His unfocused behavior could have been due to the timing of the day and the fact that he was used to doing activities through the YMCA program at that time instead of receiving additional reading instruction. If it was not due to the timing, then the behavior could continue to affect his reading development.

Future research needs

In my search for literature on the topics, there was a lot of information about miscue analysis, comprehension, and fluency. With the phrases I used for searching, I did not see a lot of information about accuracy on its own and did not find much using my focus questions of does it look right, does it sound right, and does it make sense. My recommendation for Steven is to continue focusing on accuracy, but he needs assistance with his comprehension. From my findings, there is little information in current literature about accuracy and comprehension working together. It would be advantageous for a researcher to use those questions with a specific focus, such as comprehension changes, to understand the process and gain additional insight.

Due to the reciprocal nature of reading and writing, it would be beneficial for researchers to investigate connections between reading accuracy and the implications for writing. This would be an important area of study to combine what is known about reading comprehension and writing development.

Overall significance of the study

The research conducted shows that this specific self-monitoring strategy was effective in increasing the reading abilities of a struggling reader. The use of explicit instruction gave him a clear understanding of how to apply the strategies he was shown to become a more successful reader. By internalizing the focus questions, the student was able to improve his comprehension, accuracy, and fluency. There is not a lot of recent research about using these three questions, so this study was able to provide significant information. The study showed the positive effects of explicit instruction and teaching strategies to self-monitor for accuracy.

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Appendix A

Student Questions

Do you like to read?

What do you like to read about?

What do you read about in school?

What is something good readers do?

Who do you know that is a good reader? What makes them a good reader?

What do you do when you see a word you do not know?

What do you do if you are reading and it doesn't make sense?