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**THE EFFECTS ON STUDENT UNDERSTANDING WHEN QUESTIONING
TECHNIQUES ARE USED DURING THE READING OF INFORMATIONAL
TEXT**

by

Ashleyann Ragusa Iannelli

A Thesis

Submitted to the
Department of Language, Literacy, and Sociocultural Education
College of Education
In partial fulfillment of the requirement
For the degree of
Master of Arts in Reading Education
At
Rowan University
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Thesis Chair: Stephanie Abraham, Ph.D.

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Dedications

I would like to dedicate this manuscript to my parents whose support was very influential throughout this process. Mom, thanks for listening to me and talking me through the tough times. Dad, thanks for instilling in me my strong work ethic and my drive to be successful.

Al, I love you – need I say more? Okay, my rock.

To Duke- World's Best Study Partner (with paws)

To Zoey- The OG!

Abstract

Ashleyann Ragusa Iannelli

THE EFFECTS ON STUDENT UNDERSTANDING WHEN QUESTIONING
TECHNIQUES ARE USED DURING THE READING OF INFORMATIONAL TEXT
2015-2016

Stephanie Abraham, Ph. D.
Master of Arts in Reading Education

If students are taught strategies to use when they come across informational texts, then they will be able to apply this information when they come across complex texts. Students not only need to be aware of the strategies, but they need to have the metacognitive ability of when to use the best strategy for the task at hand. In order to determine how student comprehension improves once strategy instruction has been given, I chose to do a survey that focused on questions referring to the children's metacognitive awareness. I gave that survey in the beginning and then at the end of the study. Along with that, I wrote notes during my small group lessons. The last type of data I collected was student work samples. The data concluded that most of the students were able to determine how this strategy was effective and were able to ask questions of varying difficult with support. A significant amount of the group's comprehension increased as well. One thing that the data all share is the fact that it would be difficult to say that at this point in time the children are independently successful with this strategy. However, it can be concluded that instruction of this strategy did help to deepen their understanding of what they read because they were able create various questions that kept them engaged with the text.

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Chapter I

Scope of the Study

For as long as I can remember I have always enjoyed reading. I remember entering kindergarten knowing that I would be learning to read soon. Once I was a reader, the idea of going to a library or bookstore to find books to read was enthralling to me. Needless to say, when I became a reader, there was nothing I came across that I did not enjoy reading. I believe that the passion for reading that I have is what made me successful the more I journeyed through my educational career. I remember having to read material that I did not particularly enjoy, but it was my overall love for reading that got me through the content. Knowing that this “boring” piece was just one part of what reading meant, it was enough for me to soldier through it until I was able to read something I preferred again. As I grew older, it surprised me to come across people who did not enjoy reading. I could never imagine living a life without being able to read for pleasure.

This love affair that I had with reading was one of the main reasons why I chose to become a teacher. I believed that if I could share my feelings about reading with others, they too would enjoy reading just as much as I did. Therefore, when deciding what I wanted to get my master’s degree in, reading was at the top of my list. I felt that the reason why I enjoyed reading so much was because of the tools that I was given from teachers who shared them with me. At that point in time, I did not feel like I had enough tools to share with my students and I wanted to be able to share my excitement and passion for reading with them. While I had reservations in the beginning about what I

should further my knowledge on, once I began my graduate courses in reading, I knew I had made the right decision.

One of the very first classes we had to take was content area literacy. At first, I had no idea what the term meant, so it had little relevance to me. Once the course began and I learned that it was about teaching children how to read content area text, I realized that it was a crucial part of my teaching career I had not been focusing on. This course taught me that the content areas should not just be about learning information; they should also have a major focus on skills and strategies that make one successful in reading this type of text. I remember thinking at that point in time that perhaps this lack of skill was what made people hate reading. As a lover of reading I was always able to read any kind of text without much difficulty. However, I believed I was an exception that had just learned to use the strategies due to my voracious reading. Thinking back to undergraduate school, it amazed me when my roommates would not open the text or use it to prepare for tests- to me it was the best study guide there was. Now, in graduate school I realized that there was something to be said for learning how to read texts one was not interested in; and the success (or lack thereof) of it within my fourth grade science and social studies classrooms showed me what the future of these children could look like if I did not do something about it.

By this point in my teaching career, I accepted a teaching position closer to my house and instead of teaching all subjects as a regular education teacher, I was now teaching just math, science, and social studies to students with special needs in an

inclusion classroom. My dreams of changing the way most children viewed reading had been halted- or so I thought.

In August of this year, my co-teacher and I began to discuss our plans for how this year would run. For the most part we kept things similar, although there were changes I wanted to make and I began to suggest them. I will never forget one of the conversations we had about science and social studies. He expressed frustration at the low test scores of the students. At that point in time he was mostly lecturing about the content, while I created notes they filled out for homework. Then, about a week before the test, we sent home a study guide that the students could use to help prepare for the test. Despite this, the students' scores were still failing. As he brought this up, it reminded me of the content area literacy course I had taken a year prior and my own experience with it. Now in my second year with the district, I had the confidence I needed to speak up about what I thought was good teaching. I suggested that we use more strategies and focus on a student centered atmosphere. The students needed more of a say in their learning and I thought strategy instruction would help provide this to them. I had explained the basis behind content area literacy and that it was the idea of teaching children how to read the text in order to learn the content. He accepted this idea and the basis for this thesis was born. My goal was to improve student understanding of informational text through explicit strategy instruction.

Purpose Statement

As I continued my career in education, it seemed like motivation to read for enjoyment was down, and children's ability to glean understanding from informational

texts was lacking. While I recognized that this was an issue, I struggled on how to correct it on my own. It was not until I learned more about teaching reading and using strategies to help children understand the material they were reading that I understood how I could help my students. I realized that not every teacher was as fortunate as I was to have been exposed to this, and that education makes changes that are not always in the best interests of the children. With that being said, teachers need to share their ideas and research with one another in order for the most important goal to occur- successful future leaders.

While there are many things teachers disagree on- from teaching style, to classroom management techniques, and parent involvement, one cannot disagree with the fact that we want our students to be prepared for their future. This will only occur if our students have the correct tools to use in order to do so. These tools can only be used independently if the children have been exposed to them and taught how and when to use them. As a higher elementary grade, it is monumental that teachers begin to introduce explicit reading strategies in the content areas so as children get older they are able to use them on their own.

After the content area literacy course, I was never able to fully implement it within my classroom to see its effects. While I knew there is proof it was effective, I was interested to see the results on my own. Therefore, this research study would be the effects on student understanding once explicit strategy instruction was used. My purpose with this study was two-fold. First, my purpose was to expose to others within my field that there needs to be more of a focus on reading within the content areas- it cannot just be about learning the content. Teachers needed to understand that we need to be less of a

“giver of knowledge” and more of a “facilitator of knowledge”. Secondly, my purpose for this study was to see if students really did better when they had the tools they needed to be successful. I truly believe there is no point in teaching if the end goal is never student independence of the skill. Research within the content areas proved that a majority of teachers expect children to know how to read informational texts by the time they reach middle and high school. However, based on the data collected, children’s exposure to informational text in the early years was very limited and often unrelated to what they will eventually experience (Armbruster, Anderson, et al., 1991). Therefore, their ability to “learn from the text” was not there.

Why is content area literacy so important? Currently, the instruction most used in content area classrooms is lecture with students being asked to answer questions from the text. Children are not given a chance to explore and learn about topics on their own and the resources they use are limited. This not only makes their understanding of content so narrow, but it does not help them to become independent in their learning. Content area literacy does not advocate for a one-size-fits-all approach (textbooks). Its basis is that by using “real-life materials” from a variety of sources, and teaching children how to decipher the meaning of those sources, children will be able to learn about their world.

Barbara Moss stated,

By using an array of text types to link content learning with literacy, teachers will achieve goals far greater than simply helping students read their content area textbooks. They will help students learn to ‘read the world’ by providing them with literacy learning tools that will last a lifetime by developing the abilities that

will allow students not only to survive but also thrive in the technological age to come. (Moss, 2005, p. 53)

Moss' main purpose for writing that article was to inform teachers that the benefits of content area literacy are monumental.

Why do children struggle to understand informational texts? This question was posed by many in the education and educational research fields. Armbruster (1991) and colleagues set out to answer that very question. Their results concluded that children were not given a lot of time to read informational texts, they were not instructed on how to read and understand those texts, and the questioning techniques used by teachers during the lessons were ineffective. While the results of that study represented a small sample of teachers, the observations made are common amongst elementary content lessons. Their results determined, "Teachers may not explicitly teach reading skills and strategies for several reasons. They may not perceive a need to do so; they may not believe such instruction is appropriate during a content lesson; they may not know how to provide such instruction" (Armbruster et al., 1991, p.41). Therefore, moving forward, teachers need to recognize the importance of understanding informational text and everything that entails that and they need to focus on incorporating it into their classroom instruction more often.

According to Paul Neufield (2005), there are certain strategies that needed to be taught before and during the reading of a selection. Strategies like clarifying a purpose for reading, overviewing the text, activating prior knowledge, making predictions, attending to text structure, and creating summaries, will all help children better understand the information they read. He also suggested that not only should strategies be

taught explicitly through modeling, guided practice, and independent practice, but there needed to also be instruction that promoted self-regulated strategy use (Neufield, 2005). Neufield, along with many others in the field, believed that instruction of the strategy was important but so was the ability for one to be able to use it on their own as well. Therefore, strategy instruction and metacognitive awareness should be synonymous with one another in order to have the greatest effect on students.

Based on previous research, it is clear that the study I conducted will undoubtedly have a positive effect on the topic of content area literacy. Perhaps one of the more obvious benefits of this study is that it will add to the body of research on content area literacy. When researching, mention was made that there was still a lack of knowledge on content area literacy. One thing I noticed was that most of the research has been conducted before the onset of the Common Core. Now that some states are using the Common Core, new research needs to be gathered to help support those claims. The other area in which my research may contribute to is specific reading strategies themselves. When analyzing the research, it was clear that information has been gathered, but the effectiveness of the strategies seemed to be skewed due to the fact that unless students could use the strategy independently, the instruction of it had little to no effect on the success of the students. My research should add to the areas that focus on metacognition and student ability to use the strategy independently.

Statement of Research Problem and Question

As a special education teacher within an inclusion classroom, my students needed strategies that they could use on their own in order to be successful. Just like they learned

strategies for solving word problems in math, the areas of science and social studies were no different. Up until this point in time, if you were to visit a typical period of a Science class you would see the children sitting at their desks listening to my cooperative teacher as he talked for approximately half an hour on a topic. As he talked, he asked the students questions about the material- which mostly came from the textbook. At times, the children were asked to copy minimal notes from the board. For homework students were given an outline of the day's lecture which corresponded to the textbook pages and they had to fill in the missing words. Tests consisted of identifying vocabulary from the chapter as well as important concepts from the chapter. This type of teaching style may work for some students, but based on the class makeup, it was not working in ours. For example, I had five students who were classified with Attention Deficit Hyperactivity Disorder (ADHD) and had trouble with attentiveness. Therefore, listening to someone talk for more than five minutes was a struggle. Also, these were children who enjoyed being active in their learning. I truly felt like they needed to be more active in learning their own information. At this point in time, my students needed more ownership of their learning and they needed to be exposed to a variety of sources of information- I believed they should not think all science and social studies topics come from a textbook.

In our current teaching style, the students were getting filled up with knowledge rather than developing it on their own. Perhaps one of the other issues to address was that the text was never opened within the classroom, so the children did not get the exposure they needed to read it on their own. While I agreed with the fact that textbook information was biased, I also believed children needed experience in reading different

types of text structure, and textbooks did give that opportunity. Therefore, they needed exposure to the different types of material where one could find more information on topics they were learning about, and then they needed to be shown how to read those sources in order to get the information- not have it given to them. By using a variety of sources and teaching children ways to understand and read those texts, they will be better at understanding complex texts when they come across them.

The inability to be able to understand informational texts on their own will directly affect their success as future learners and in their careers. If students are taught strategies to use when they come across informational texts, then they will be able to apply this information when they come across complex texts. Students not only need to be aware of the strategies, but they need to have the metacognitive ability of when to use the best strategy for the task at hand. Therefore, the question I posed for my research study was this: What happens to student understanding of content when questioning techniques are used during the reading of informational texts?

Organization of the Paper

Chapter two provides a review of the literature that encompasses: content area literacy, metacognition and strategy instruction, questioning techniques, an explicit review of the specific strategy ReQuest, and a final conclusion that extends the belief that when taught correctly, specific strategies taught within the content areas can improve comprehension. Chapter three describes the design and context of the study, including my plan for implementation as well as vital facts about the class, school, district, and community in which the study will be conducted. Chapter four reviews and analyzes the

data and research and discusses the findings of the study. Chapter five presents the conclusions of this study and implications for teaching and learning as well as suggestions for further research regarding the use of explicit strategy instruction within the content areas.

Chapter II

Literature Review

Introduction

Research within the content areas proved that a majority of teachers expected children to know how to read informational texts by the time they reached middle and high school. However, based on the data collected, children's exposure to informational text in the early years was very limited and often unrelated to what they will eventually experience (Armbruster, Anderson, et al., 1991). Another issue related to their lack of understanding was the lack of strategy instruction being seen within the content area classroom. For example, most teachers focused more on teaching content than they did on teaching how to read the content. This research proved that not only did children need to learn content material, they needed to learn strategies that would help them to understand the material.

For children who struggle to understand the complex text structures of informational texts, the rest of their school years pass by as a struggle. Based on this knowledge, how does one promote understanding of informational texts within the content areas? The information within the review seeks to determine how children's understanding of informational text is improved when explicit strategy instruction techniques are used within the content area classroom. In order to prove this, information has been gathered on the following topics: content area literacy, metacognition and strategy instruction, and the use of questioning techniques. Additionally, an explicit review of the specific strategy ReQuest as well as a final conclusion provide a review that extends the belief that when

taught correctly, specific strategies taught within the content areas can improve comprehension.

A Case for Content Area Literacy

Why do children struggle to understand informational texts? This question was posed by many in the education and educational research fields. Armbruster (1991) and colleagues set out to answer that very question. In their study of twelve fourth-grade science and social studies lessons, they collected data to determine which factors affected the comprehension (or lack thereof) of informational text. Their results concluded that children were not given a lot of time to read informational texts, they were not instructed on how to read and understand those texts, and the questioning techniques used by teachers during the lessons were ineffective. While the results of this study represented a small sample of teachers, the observations made are common amongst elementary content lessons. For example, in the total minutes of lessons analyzed in the study, the authors found no instances of explicit instruction in how to read and learn from text (Armbruster et al., 1991). Their results determined, “Teachers may not explicitly teach reading skills and strategies for several reasons. They may not perceive a need to do so; they may not believe such instruction is appropriate during a content lesson; they may not know how to provide such instruction” (Armbruster et al., 1991, p. 35). Another alarming conclusion was the exposure to being able to read the informational text; teachers often read it or lectured about the material- never exposing children to the text. Lastly, the questions teachers used were very low-level and teacher directed. The combination of these factors resulted in poor comprehension of informational text

(Armbruster et al., 1991). The results proved that, “The instruction they receive does not foster the development of conceptual understanding and meaningful learning”

(Armbruster et al., 1991, p.35). These results concluded that even when teachers do incorporate some type of content area instruction into their lessons, its effects are still not beneficial.

With these results in mind, it is important to think about why content area literacy is so important. Moss (2005) discussed the reasons why explicit reading strategy instruction was crucial in the content areas. She believed that early exposure to informational texts motivated children as well as expanded their background knowledge; all of which would be helpful as they become college and career ready (Moss, 2005). Moss’ main purpose for writing this article was to inform teachers that the benefits of content area literacy are monumental.

By using an array of text types to link content learning with literacy, teachers will achieve goals far greater than simply helping students read their content area textbooks. They will help students learn to ‘read the world’ by providing them with literacy learning tools that will last a lifetime by developing the abilities that will allow students not only to survive but also thrive in the technological age to come. (Moss, 2005, p. 53)

Research suggests that content area literacy instruction is so important, yet, it is not done effectively; teachers need to be aware of what they can do to make their students successful. According to Paul Neufield (2005), there are certain strategies that need to be taught before and during the reading of a selection. He also proved that the method for

how one introduced the strategy was important. Strategies like clarifying a purpose for reading, overviewing the text, activating prior knowledge, making predictions, attending to text structure, and creating summaries, will all help children to better understand the information they read. He also suggested that not only should strategies be taught explicitly through modeling, guided practice, and independent practice, but there needed to be instruction that promoted self-regulated strategy use (Neufield, 2005). Based on the information presented, it is clear that content area literacy instruction continues to be important in the education of children. In order for children to be successful with this, they need early exposure and a lot of practice with the skills.

Effects of Metacognition on Retention of Strategies

The act of metacognition can be described as knowing about one's thinking. One characteristic of an effective reader is being able to recognize where difficulties understanding the text lay and then being able to implement strategies in order for comprehension to occur. The research done on metacognition proves how valuable of a tool it is. Channa, Nordin, Siming, Chandio, & Koondher (2015) published an article reviewing the research on the topic of metacognition. Their article reviewed research on metacognition from 1971 to 2015. Some specific strategies they reviewed were: Think-Aloud, Questioning, and Self-Regulating techniques. Their results determined that the body of research on metacognitive strategies shows that when taught and used independently, greater comprehension occurs. Based on the collective body of research proving that metacognitive strategies are useful, educators must be aware that simply teaching the strategy is not enough; children need to have enough practice with a strategy

to use it appropriately, independently, and as a means for better understanding. Ahmadi, Ismail, & Abdullah (2013) concluded that no matter what the children's level of comprehension is, the use of metacognitive strategies will improve it for the better.

So, as research conducted studies in the field of metacognitive reading strategy awareness, they found that metacognitive reading strategy is one of the main important factors to facilitate students' reading comprehension. It can be concluded that universities and schools need to be actively improving metacognitive strategies among all students. Research indicates that metacognitive reading strategy awareness promotes both performance and understanding of one's reading comprehension. (Ahamdi, Ismail & Abdullah, 2013 p.241)

Even with the proof that metacognitive strategy instruction yields positive results, there are still many teachers choosing not to use this type of instruction within their classroom. Therefore, many children may be missing out from the benefits this type of instruction produces. Most teachers want their children to succeed and this means knowing how to learn on their own. Teachers cannot consider themselves successful if their students are unable to carry out tasks independently and successfully. Metacognitive strategies allow children to be aware of their learning; therefore, their instruction is paramount.

In a study conducted with primary school children in the Muara Brunei District, Othman, Mahamud, & Jaidi (2014), concluded that metacognitive instruction does positively affect students. Their study used two groups, a control and experimental, and the results concluded that the children of the experimental group (where a metacognitive

strategy approach was used) produced greater results. They stated that even with a “basic” metacognitive approach comprehension is still greater than without its use at all (Othman, Mahamud, & Jaidi, 2014). Another important feature of metacognitive strategy success is the amount of interaction children do within an explicit strategy instruction lesson versus a typical lesson.

Students also appear to enjoy activities like discussions with friends and flash back of reading material contents according to individual understandings. This activity can encourage them to interact with friends and teachers based on the reading materials that instantaneously can enhance understanding on the texts. Besides, these activities give opportunity for students to learn from one another in explaining their understanding. (Othman, Mahamud, & Jaidi, 2014, p. 109)

When children are able to be active in their learning process and eventually are leaders of their own learning, it means more to them. Often they take more ownership than they would if someone were just telling them information. As stated previously, a teacher’s goal is to make sure their students can continue to learn once they leave their classroom; this means that educators need to provide their students with the tools and skills needed in order to do so.

Questioning Techniques

One metacognitive technique that is used to aide comprehension is questioning. Questioning techniques can be used to activate prior knowledge, during reading to stimulate understanding, and after reading to extend learning. For the most part, questioning is often used within the classroom during those times. But it is the person

doing the questioning that makes the difference between the amount of learning that occurs. When teachers do most of the talking and questioning, students take a “backseat” to their learning. “This initiate, respond, and evaluate process leads students to maintain a passive stance towards learning and non-engagement with text. As a result, students fail to develop strategies to solve comprehension problems and monitor their own learning with text” (Wilson & Smetana, 2011, p. 84). If students are to be more active in their learning than their role needs to be bigger. “The student who questions is independently monitoring and regulating his thinking by asking, ‘Does this make sense?’ and ‘What is my learning goal?’ to track learning” (Wilson & Smetana, 2011, p. 85). Wilson and Smetana (2011) proposed a questioning technique to be used within the classroom that would do just this. Their technique, titled Question as Thinking, was a combination of questioning and thinking aloud in order to gather understanding from the text. They believed that when questioning was combined with one’s own thought processes that occur during the learning process, teachers will be able to help children. By guiding them through their learning of the skill, it will help them become more independent in using it. They concluded their article by stating that the benefit of QAT is that no matter what level of text the children read, being able to use the strategy on their own positively affects their understanding because their metacognitive thinking skills grow regardless (Wilson & Smetana, 2011). As one can imagine, this technique cannot be implemented correctly within a classroom and still have students that are passive learners. Once a questioning technique is used within the classroom where the students are the ones doing most of the work, they must be engaged in order to fully participate. Questioning

techniques allow this to occur and over time the constant participation will help students craft better questions.

Another study by Rouse, Alber-Morgan, Cullen, and Sawyer (2014) used the questioning technique to improve the comprehension of two fifth-grade children diagnosed with learning disabilities from a suburban, public elementary school. In their study, they began instruction with questions asked within the text and then slowly faded them over time until the children were being asked to create questions on their own. What is interesting to note is that their study included a more passive stance from the children in the beginning and then gradually allowed them to become more active; therefore, serving as a model for the students. Their results concluded that like much of the previous research stated, the use of questioning techniques and prompt fading does show an increase in comprehension and an increase in independence (Rouse, Alber-Morgan, Cullen, & Sawyer, 2014). They concluded their article by stating:

Self-questioning strategies are easy to implement with various types of text and with students ranging in age and ability levels. Finally, self-questioning strategies are versatile within a variety of subject areas, in different environmental settings and instructional groupings, and can be leveled depending on the ability of the students. (Rouse, Alber-Morgan, Cullen & Sawyer, 2014, p. 124)

Based on the information in this article, one can see how the questioning technique can be modified in order to benefit all types of learners. With the use of prompt fading, children with learning disabilities were able to successfully use questioning when reading an informational text and were successful. The success in doing this lays in providing

explicit instruction and enough scaffolding so the children are successful while trying to become independent in using the strategy.

In another similar study, Berkeley, Marshak, Mastropieri, and Scruggs (2011) also collected information on the effectiveness of self-questioning techniques of children with learning disabilities as well as those who were identified as English Language Learners. Their results were similar to those already mentioned. The children within the experimental group outperformed their peers who had no questioning technique instruction. Another important thing that the authors presented within the article was the fact that the strategy was one that can be used across many different areas. They stated that while there are other strategies that proved to be successful or perhaps even more successful than questioning, they are not as easy to implement within the classroom which can then affect how well they are used by children. This could also play a role in why some teachers would be hesitant to use it within their classrooms. “Less time consuming and labor intensive strategies are likely to be more appealing to classroom teachers and therefore implemented as part of instruction” (Berkeley, Marshak, Mastropieri, & Scruggs 2011, p. 107). Their results concluded that this strategy did positively affect the students learning and it was more adaptable to other content areas. Based on the review of research, questioning techniques are a useful way to improve students’ ability to understand information on their own. When taught explicitly, and when student limitations are taken into account, students did benefit from the use of self-questioning techniques.

ReQuest

After many studies concluded that teachers were doing the most questioning within the classroom, and that the questioning they were doing was poor, this prompted many others to determine instructional strategies that would improve student comprehension. From this problem, a conclusion was made that student-directed questioning was an effective technique to improve student comprehension especially within the content areas. “Ideally, students should be the ones asking the questions. Questions allow students to interact with the text, evaluate the text, and make connections to it” (Jones & Leahy, 2006, p. 30). Research has proven that specific types of questioning help children become more successful in their learning. Some specific questioning strategies that have been highlighted throughout the years are Question-Answer Relationships, and Reciprocal Questioning (ReQuest). What is interesting about ReQuest is that during its implementation children are active in the process. Because standardized testing proves that children’s informational text comprehension is not improving, strategies like ReQuest need to be taught because their benefits are multifaceted.

The ReQuest Procedure is mostly known due to the work of Anthony Manzo. In 1969, he published work explaining what it was and how it could be used. His basis for the strategy was that previous research had concluded questioning techniques within the classroom were ineffective. According to Manzo, there are several instructional advantages to the ReQuest Procedure. He stated that the implementation of the strategy provided diagnostic information to the teacher, it gave the teacher direct reinforcement of

the student's behavior, and it helped the student gain independent comprehension skills as well as content information (Manzo, 1969). Throughout his article, Manzo explicitly describes how to "play" the ReQuest Procedure with students. He emphasized,

The teacher should be actively attempting to serve as a model of good questioning behavior. This means that the type of questions asked will be coming back to the teacher when the student questions. If questions are limited to factual recall and recognition, the comprehension will be shallow. If the questions posed are thought provoking, developing answers will allow critical thinking and full comprehension. (Manzo, 1969, p. 125)

As Manzo stated, it was important for the teacher to model effective and thought-provoking questions so that she can be a good model for students. Manzo concluded his initial report with recommended types of questions to begin with and challenges those reading his material to test his procedure and share their feedback.

What makes the ReQuest strategy such an important one is the fact that when it is implemented correctly, it has many benefits. Not only will students learn strategies to improve their comprehension, but they are also becoming autonomous in the learning; which will ultimately help them become better learners. Stevens (2012) states that while comprehension was once regarded as the "English teacher's job" it is now more common to see explicit strategy instruction within the content areas such as social studies or science. Through her experience, she found the ReQuest technique to be especially beneficial- yet underused. "Questioning is one of the most effective approaches to enhance reading and understanding of a text (Owens, 1976 as cited in Yang, 2010), and

yet it is a strategy with which many students are not familiar and need help in mastering” (Stevens, 2012, p. 65). She then continued to discuss the importance of the ReQuest technique not only for struggling readers, but for all readers. Based on her findings, Stevens stated that while ReQuest was originally developed to be used with one-on-one teaching, it has proven to be effective for those in the following areas: content classrooms with heterogeneous groups, in programs to promote personal-social adjustment in juvenile delinquents, in mainstream learning-disabled students, with second language students, and within the social studies classroom (Stevens, 2012). While Stevens concluded her article with the statement that further application needs to occur within her own classroom in order for her to see a significant increase in her students’ comprehension, she did state, “...The results of this study signal that it is an effective method worthy of facilitating the questioning process, a key component of critical thinking, and of strengthening students’ aptitude to identify and assimilate authors’ intended meanings at both the secondary and college levels” (Stevens, 2012, p. 68-69). Based on the research, the use of the questioning technique ReQuest is a positive implementation to any lesson where comprehension must occur.

Conclusion

In conclusion, research proved that when implemented correctly, explicit strategy instruction improves student understanding of informational text. Another important aspect along with explicit instruction was the understanding of metacognition and its impact on learning. Students should be aware of what it is, and how to recognize its usefulness when choosing which strategies to use. One metacognitive method that can be used within the

classroom is the technique of questioning. Students that are able to successfully question what they are reading are better at understanding what they read. A strategy that helps students develop better questioning techniques as well as keeping them engaged with the text is Reciprocal Questioning. What is important to note is that strategies are most effective when instructed and used accurately. Instructional time must be well utilized in order for students to benefit and be able to use these strategies on their own. Some common themes that continue to occur throughout the literature are: students do not just learn how to read informational text- they must be taught; all strategies must be taught well; there must be evidence to support its success; and students need to be aware of their own metacognition in order to know when to put the strategy to use.

Based on the review of the literature, current literature is lacking in regard to content area literacy. This is shocking considering the recent emphasis that has been placed on teachers to provide students with the capabilities to understand informational text. Therefore, more research should be done in the general category of content area literacy. Another area that needs more research is on the effectiveness of specific strategies. As stated previously, not enough empirical evidence exists; therefore, making these “proven” strategies seem more like an opinion than an actuality. Educators need more research in content area literacies because students need to be ready to read as they transition to their jobs. It is not enough for students to understand content; they must be aware of strategies they can implement at any point in time in their future.

The study that I plan to conduct will help the field because it will add to the research base in regard to content area literacy and specific reading strategies. A section of my study

will focus on children using and being aware of their metacognitive strategies as well. Based on research, students struggle with their questioning techniques which in turn affects their understanding of content. Through my study I hope to provide more information on what happens to children's understanding once they are able to use strategies, specifically questioning strategies, while they learn. My study will help those within the field notice the importance of strategy instruction and the significance it plays in making children independent in their learning.

Chapter III

Research Design/Methodology

Research Design & Description of Teacher Research

There are two types of research paradigms: qualitative and quantitative. When deciding which type of research design to use, one must take into consideration the differences between qualitative and quantitative research and decide which design correlates best with their study. A quantitative research study conducts inquiry to specific narrow questions and assumes an unbiased, objective manner. Its three basic purposes are to describe, compare, and to attribute causality (Brown & Madden, 2014). In the case of my study, a quantitative research design would not be applicable because it requires such an objective viewpoint; seeing as I will be the teacher as well as the researcher that will not be possible. Therefore, a qualitative research design fits my study because it allows me (as the teacher and the researcher) to collect information. Qualitative research, “Involves participation of questions, explores broad and general questions, uses inductive, non-numerical analysis, and assumes a subjective, biased stance as a participant observer” (Brown & Madden, 2014). Therefore, for the purpose of this study, the research paradigm being used is qualitative in nature. The reason why a qualitative research design best suits this research study is because of the nature of the question and the context of the study. The inquiry question of the study is to determine if comprehension improves in the content areas when strategy instruction is used. In order to do this, the types of data being collected are student surveys, student work samples, and observations. Another important thing to mention is that in some teacher research,

the researcher is also a major participant within the learning. The fact that the data is collected from a subjective, participant observer in a natural setting with the teaching materials I usually use, further extends the belief that this is an example of teacher research. When deciding what type of research paradigm to use, it is important to think about the context of the study. Teacher research is:

Natural, local knowledge. It is systematic and intentional and it is about their own classroom or school. The features of teacher research are: the research question has been carefully and clearly framed, a problem or purpose informs the research question, there is a suitable approach to data collection, there are analysis and interpretations components, and there is a conclusion accompanied by implications for the work. (Brown & Madden, 2014)

When reflecting on the research plan, it is clear that it is qualitative and has the components of teacher research. I began with a question, I have a plan on how to collect the data, and then I will need to analyze my data in order to determine the answer to my question. For this study I plan to determine the effect of strategy instruction on student comprehension. The purpose of me doing this is because in previous years student comprehension in non-fiction texts was poor. I have stated a problem and have purported a way to fix it. In order to collect data, I will be conducting student interviews, I will be collecting work samples from the students, and I will be recording observations. This collection of data proves that the knowledge I am gaining is natural and local; it comes from the setting in which my students learn. According to Shagoury and Power (2012), “Teacher research has a primary purpose of helping the teacher-researcher understand her

students and improve her practice in specific, concrete way” (p. 4). Based on this information, it is clear that my study is best suited for the area of teacher research.

Procedure of Study

If you were to walk into my current social studies and science lessons, you would see the children sitting at their desk while the teacher lectured for about thirty minutes on the topic of the day. At times, they take notes from the board. For the most part the lessons consist of lecture and some discussion. The children rarely get a chance to read material from the text and use of different instructional approaches such as small group learning is never used. Along with that, scores on the unit tests are poor; with more than half the class failing. Now that I have an actual experience where children are failing to successfully read informational text on their own, I was curious to see if strategy instruction would improve their understanding of content. Strategy instruction has been proven to be a useful technique in helping children improve their comprehension in the content areas. Perhaps what is most important about strategy instruction is that when done correctly it will lead to the children being able to use the strategies later on when they are reading freely. In my mind, the goal of education is to prepare children to be successful in their careers. As teachers, we need to give them tools that they can use in the future that will make them successful without us. What is interesting to note is that the situation I described in regard to how content is currently taught is not uncommon- a lot of content area teachers believe they need to teach content. They do not see the point in infusing content and reading. My hope is that the results of this thesis will enlighten those who think that way. While there are some children who will become successful

reading informational texts, or will learn skills without having to read them, as teachers we still need to try to prepare them and give them as many strategies as we can in order to help.

When planning how I was going to introduce the questioning strategy, I thought it may be a good idea to review different types of questioning- commonly referred to as Question Answer Relationships. I found a PowerPoint that described the four different types of questioning: Right There, Think and Search, On My Own, and Author and You. My plan was to review the different types of questioning techniques and use that as an introduction in my strategy, ReQuest. My plan for the rest of the week was to spend a day introducing and modeling the strategy and then based on student feedback (through observations and student work) I would begin to gradually release responsibility to them with the hopes of them being able to conduct the strategy within their own groups. My plan was to spend twenty minutes per day doing this. I quickly realized that like most plans, the planning stage and what actually happens are totally different.

On the first day I began my lesson asking the students if they remembered what QAR stood for. They looked at me with blank faces. I asked them if they ever heard of Question Answer Relationships and then showed them the chart with the four types of questions, thinking perhaps they knew it as something else. They told me they never heard of this. (I should note that I spoke to their teacher and she told me this is a skill they learn in fourth grade; that was the reason why I decided to review it for them.) So, my quick “review” of Question Answer Relationships took up more time than I had planned for. The rest of the day continued with examples of the different types of

questions and we read short articles where I posed questions and asked them to tell me which type of question it was. My theory in doing this was that if they could not identify different types of questioning then their own questions would be lacking.

On the second day of instruction I reviewed Question Answer Relationships and then I explained the strategy of ReQuest. At first, I explained it explicitly and they looked at me with blank faces. Then once I said something to the effect of, “You get to be the teacher and ask questions and I am the student who answers them” they become much more excited. On this day, I did model questioning for them, and then had them switch roles with me. One thing I noticed was the questions they asked me were more of prediction or wondering questions-the answers could not come from the text. My goal for the next day was to try and work on this.

I began the third day with a discussion on what we did the day before and then spoke about the kinds of questions they were giving. I tried to explain the difference between what they were asking me and what they needed to be asking me. I went back to the QAR PowerPoint and decided to focus on the “Right There” questions. My intent in doing this was so they could see that the question needed to be formed from information within the article. I continued this method of instruction on the fourth day as well.

I decided that on the fifth day of instruction I wanted to see if the children could attempt the strategy within their groups, and I would be able to observe and see where they needed more instruction. If they were good with that part of the strategy then I wanted the rest of my focus to be on asking other types of questions like Think and Search, On My Own, and Author and You. I split the students into two smaller groups

and chose to sit with one at a time and observe their interactions. The first group did need some support but generally was able to carry out ReQuest on their own. However, I did notice that their questioning technique was poor. When I sat with the second group, they struggled much more and were unable to do the strategy on their own as well as create good questions. Based on this observation, I decided that I would spend time the next week going over different types of questioning prompts. My goal in doing this was to help the students create more complex questions.

In order to create better questions, the students needed more modeling. I began the third week of instruction with the Power Point I had used at the beginning of the instruction, but this time I spent more time talking about each one. I should mention that I had the children read a small article within the *Super Science* magazine so that they had it to use as a model for these guided questions. I also found a resource that showed children what types of questions they could ask before, during, and after as well as question starters. Once I explained this, we read another short article and through guided practice we used that graphic organizer to create questions before we read the article, while we read it, and after.

I introduced the next day by asking the children to remind me what we had talked about previously. I asked them what they thought of the organizer I gave them. Then, we spent time reading shorter articles and applying the different types of questions throughout the lesson. On the third day of the third week, I chose to use a longer article to apply their skills. I also planned to significantly diminish my role at this point. For the most part, a lot of the students were able to create higher order thinking questions; they

even told me what type of question they were asking which I had not even asked them to do. I noticed that the children were much more eager to ask questions and take risks with their question asking than they had been before.

I concluded the instruction of the strategy by asking the students to write four questions they would ask. Due to time constraints, the children were never able to demonstrate an ability to do this independently within their groups. If I were to continue instructing this group of students, now that their questioning ability has improved, my next goal would be for them to do their strategy on their own. Eventually, I would also like to fade out the graphic organizer so that they were creating questions on their own.

Data Sources

In order to determine how student comprehension improves once strategy instruction has been given, it would be important to determine what the children's original use of strategy instruction is like. Therefore, I chose to do a survey that focused on questions referring to the children's metacognitive awareness. I gave that interview in the beginning and then at the end of the study. (For a list of questions included within the survey please refer to Appendix A.) Along with that, I wrote notes during my small group lessons of anything that proved that the children were becoming more independent with their use of the strategies. Notetaking can be a powerful method of analyzing data. As Shagoury & Power (2012) stated,

Taking notes is one of the main tools in a teacher-researchers' repertoire. As teachers, we have long relied on our memory for details in history in our classroom. But some of this must make its way into recorded writing, even very

brief jottings. Looking back on those written notes and elaborating on them can provide a bridge between what you are experiencing in the classroom and how you translate the experience into larger meaning. (p. 100)

The last type of data I collected was student work samples. According to Shagoury and Power (2012), “Examples of student work can be one of the richest sources of data for teacher-researchers. It is tangible evidence of what kids are able to do and of the range of ways in which kids respond to different learning tasks” (p.115). Students filled out daily reflection sheets as well as wrote down their questions throughout the lessons. Then, at the end of the instruction they filled out a final reflection.

Data Analysis

In order to determine the effectiveness of my instruction, I collected multiple sources of data to analyze on the following areas of metacognitive awareness and questioning techniques. The first piece of data I used was a survey. I gave the children a pretest and posttest asking them to identify their metacognitive awareness. To determine the usefulness of this information, I compared their scores before and after instruction of each question to determine if awareness increased. Most of the research on metacognitive awareness did state that it was useful when used and most useful when the students were able to recognize how they needed to use it. The information from the survey will help me determine if the children are closer to being more independent with metacognition.

Another source of data I collected was student work samples. Throughout my instruction, I had students write down their questions and their thinking. In order to

determine progress in this area, I plan to sort the children's daily work by child and analyze it to see where growth occurred. When looking at this information, I plan to look for growth in the children's questioning abilities as well as their independence of the strategy. By looking at the student work samples, I will be able to see how well the children are doing with the strategy and where instruction could go next. If children are unable to question correctly with the support I have given them, according to research they most likely will not be able to apply the strategy on their own. This would mean that further guided instruction needs to occur.

The last piece of information I gathered were my observations. In qualitative studies, observations can be a powerful method of collecting information. Because this study is qualitative with the researcher also acting as the teacher, my observations of what I have seen within the classroom can be useful methods of collecting data. In order to analyze this information, I plan to look through my observations and make note of anything that sticks out in regard to students' metacognitive awareness or increase in questioning ability. When learning, children may not realize their thought processes or be able to write about it. My observations may show or give input as to whether the children are learning where the other data may not.

Context

Community. Egg Harbor Township is located in Atlantic County, New Jersey. According to the 2010 Census information approximately 43,323 people lived in the town which is an increase from the 30, 726 that were reported in the 2000 Census. Egg Harbor Township is the largest town within the county (Wikipedia, 2015). The racial

makeup of the town is 69% white, 9% African American, 11% Asian, 13% Hispanic. According to the most recent census there are 15, 250 households with 36% having children under the age of 18. Of the total population, 56% are married couples, 12% are female householders with no husband present, and 26% are non-families. There are 20% of the population living alone or are elderly. The median household income is \$69,754 and the median family income is \$78,259. About 4% of families and 6% of the total population were below the poverty line (Wikipedia, 2015).

Egg Harbor Township is located close to the Atlantic City casinos; it has a nearby airport (Atlantic City International Airport) and an FAA- Air National Guard and United States Coast Guard within its area. It was recorded in the most recent census that Egg Harbor Township has been designated as a growth area by the New Jersey Pinelands Commission and has experienced heavy development (Wikipedia, 2015).

District. The Egg Harbor Township School District houses approximately 8,000 students in grades pre-K through twelfth grade. Like its overall population, its school district is also the largest within the county. Due to the overwhelming influx of people in the last fifteen years, all of the elementary buildings have been recently built and the high school received a major renovation in order to accommodate the growing student population. There are three pre-kindergarten through third grade buildings, one fourth and fifth grade building, two sixth through eighth grade buildings, and one ninth through twelfth grade building. There is also an alternative school. The district offers a wider range of academic, athletic, and extracurricular programs. In his narrative to New Jersey School report cards, the superintendent stated,

The mission of the district is to partner with the student, family, school, and community to provide a safe learning environment that addresses rigorous and relevant 21st Century standards and best practices which will develop academic scholarship, integrity, leadership, citizenship, and the unique learning style of students, while encouraging them to develop a strong work ethic and to act responsibly in their school community and every day society (NJ School Report Card, 2013, p.1).

School. The Dr. Joyanne D. Miller School, located within Egg Harbor Township School District consists of all fourth and fifth graders in the district. According to the most recent New Jersey School Report Card (2013), the Dr. Joyanne D. Miller School “lags in comparison across the state and with its peers for academic achievement (p.1).” When compared to schools across the state for college and career readiness, the Miller school scored high and in the area of very when compared to its peers for the same group. The information also states that in the area of student performance the school significantly lags when compared across the state and to its peers.

In the 2013-2014 school year there were 542 fourth graders and 569 fifth graders. Of those students, 133 were students with disabilities and 525 were considered to be economically disadvantaged. Ten students were recorded as being limited in English proficiency. Of the total population, 75% speak English as their main language with the second most spoken language being Spanish and Chinese. The racial makeup of the school consists of: 48% white, 9% African American, 14% Asian, and 21% Hispanic. The length of the school day is six hours and fifteen minutes with instructional time

accounting for five hours and eight minutes of the total time. There are 570 faculty members and fourteen administrators. The Miller School is recognized as a Title 1 school, the suspension rate is 5%, and there is no chronic absenteeism. In the last recorded report, the student met the requirements for the NJASK English Language Arts section but not Mathematics (NJ School Report Card, 2013). According to 2013 NAEP reports, when compared to the nation in the area of Language Arts, 32% are below basic, 33% are basic, 27% are proficient, and 8% are advanced. In the area of Mathematics, the 2013 NAEP report states, 17% are below basic, 41% are basic, 34% are proficient, and 8% are advanced (NJ School Report Card, 2013).

Classroom. The setting of the study is within one of the twenty-five fifth grade classrooms. In order to account for the influx of students, the school began departmentalizing in 2014. Teachers either teach ELA or Math, Science, and Social Studies with the children switching once per day to learn all of their subjects. The students share the same classmates but travel between their ELA and Math, Science, Social Studies classrooms; the rooms are next to each other. The classroom in which this study will be conducted consists of one fifth grade Math, Science, and Social Studies classroom. There is one male regular education teacher, one female special education teacher (me), and a paraprofessional whom is assigned to two students with severe behavioral difficulties. There are students with Individualized Education Plans, and 504 Plans. Students were placed into this class based on homogenous groupings; this class is described as the “low-average” group. The parent involvement within the classroom is

considered to be average. According to Back to School Night surveys, less than five families speak a different language at home.

As the special education teacher within the classroom, my role is to provide support to those students who are classified and have Individual Education Plans. I am to make sure they have the necessary accommodations and modifications they need to be successful, and I am in charge of making sure they meet their annual goals. While that is my primary role, I also play a part in assisting any of the other students who may need help. For example, during Math lessons children who are having trouble with the lesson may come see me, regardless of whether they are “one of mine” or not. For the most part, the regular education teacher does a lot of the instruction and my role is to assist and make sure children are on-task. Then, as time permits I work with small groups and individual students. During the science and social studies period my role is to make sure children are paying attention. More recently it has been to create notes based on what the teacher lectures about so the students can then fill them out for homework.

This is my second year working with this cooperative teacher and the makeup of the students is challenging. This year students were grouped homogenously, so their academic abilities range from low to average. Therefore, we have many children who need support; not just those that are classified as Learning Disabled or Attention Deficit Hyperactivity Disorder. Along with that, there are two students whose behaviors are very distracting. At times, a lot of my responsibility is helping these children to stay on track (even though they have an aide) behaviorally which often makes it difficult for me to help my other students who need academic support. Tanya and Robby are two students

within the class that try hard but struggle. They enjoy participating but struggle when having to use the text. Robby enjoys reading things about sports and any science topic. Tanya does not enjoy reading for fun, and says that she likes math, science, and social studies better than reading. She enjoys learning about social studies, but also struggles to read information at grade level. At recess they both enjoy playing soccer with a group of kids. There is another boy, Andrew, within our class whose behavior can be interruptive at times. He rarely does his homework and rushes through most classwork assignments so it is hard to gauge what his interests are or how he feels about reading. For the most part, he does participate verbally and the answers are usually very informative. I noticed that he enjoys reading informational books like *Guinness World Records* and *Minecraft*. He loves anything hands on and enjoys when we use videos or songs to help them learn things. Louisa and Angela in particular, do well academically and are great role models for their peers. They like helping me organize the classroom and work well when we put them into groups. I noticed that they enjoy reading books like *Dork Diaries* or anything about pets. They seem indifferent about which subject they prefer, but do not seem to have trouble reading material that is on grade level.

Chapter IV

Data Analysis

Introduction

Over the course of about four weeks I gathered information from my students that would help me determine if their comprehension improved with the addition of strategy instruction. I gathered information in the form of a survey, student work samples, observations, and a comprehension test. The following chapter begins with a review of the study and the context in which it occurred. It is followed by a detailed explanation of the student results as well as the themes that I noticed once I analyzed the data. It concludes with a final explanation as well as the answer to the question that I posed at the beginning of the study.

In order for someone to understand what they are reading, they need to be engaged with the text in some way. Sometimes, we are interested in what we are reading because we have chosen it or because it serves some purpose to us. However, that is not always the case. As content area teachers, we need to think of ways to get our students engaged with the text so they can learn from it. Unfortunately, the most common way some teachers go about doing this within the content areas is through lecture and questioning—often initiated and guided by the teacher and the students are passive participants. Research shows that when students are more active in their learning, a better understanding can occur. With that being said, strategy instruction within the content areas can help children in more than one way. First, it can keep them engaged throughout the text so they can create meaning. Secondly, their use allows children to use these

strategies on their own so that they can create meaning from anything they read in the future. One of the most underutilized but powerful strategies is questioning techniques. Questioning is often done within the content area classroom, but it is the person who does it that makes it the most beneficial. Most of the research claims that when children are able to create questions before, during, and after they read informational text, their understanding increases.

To see if my students' understanding of informational text improved with the instruction of a specific questioning strategy, information had to be gathered before, during, and after its instruction. Because research states the strategies are most effective when children are aware of what they are and how to use them, I decided to give my students a survey on their metacognitive awareness. I gave them the strategy before instruction to get an idea of where their thinking was and then after the study concluded. Throughout the instruction I also collected work samples from the students involved. By doing this, I can see how their learning evolved as instruction and practice with the strategy increased over time. Lastly, observations that I made while teaching were analyzed to see how the children's metacognitive awareness as well as their questioning techniques improved during the time of my instruction.

I conducted this study during the fall of this year within the Egg Harbor Township School District. The students who participated were ten fifth graders from an inclusion classroom. There were five boys and five girls. Of the children, four were classified as special education students. Based on what I learned throughout my graduate courses, explicit strategy instruction is important to utilize within the content areas. As a teacher

of science and social studies material, and with many students who struggle to learn the information because they find it difficult to understand the text, I believe actively engaging them with the text will help them understand it better. I believe this because based on my previous experiences, children remember things they have read that interest them. I know that these topics are interesting, it is the way they are presented that makes them struggle. While different strategies can be used before, during, and after in the reading process, I was most concerned with my students' level of understanding. Therefore, I wanted to choose strategies that could be used to help their comprehension. I also wanted to choose a strategy that was easy to implement and could be used across various settings. I felt that by doing this it would make the children more encouraged to use it.

Perhaps one of the biggest assumptions I had about this strategy was the amount of time it was going to take the children to learn it. In my planning phase, I was convinced that by the end of the first week the children would be able to complete this within their groups, needing little teacher input. Another assumption I had was that the children's metacognitive ability would be more pronounced; I expected them to have some knowledge of strategy use within their learning. The reason why I thought this was because this is the second year that our district is using strategy instruction within the Language Arts period; I thought they would be familiar with the idea of knowing about their learning. I did think that this strategy would be interesting to the children because it flips the roles. These children are used to listening and answering questions, they do not usually have a chance to be the one questioning. Because they seem to enjoy activities

where they are in charge or can make decisions on their own, I thought they would enjoy this type of strategy. The last assumption I had was the students' questioning ability. I thought for sure they had an understanding of the different types of questions that are asked or can be asked because I had a conversation with a fourth grade teacher who told me it had been covered. Once I began my study I quickly noticed how wrong I was about all of this.

What Does the Data “Say”?

Metacognitive awareness surveys. When analyzing at the pre and posttest data (Appendix B) the pre-test information is in the same column as the question written. I chose to write the post-test data in the column directly below- with the question box left blank. I did this so I could compare the data more easily. Information from question twenty-three was not recorded. I felt that the question was too difficult to answer and also not especially important for this study, so I omitted it. To gather information from the data, I chose to separate the five rows (never, occasionally, sometimes, usually, and always) into two groups of information. I considered the responses “never” and “occasionally” to be a low understanding and “sometimes”, “usually”, and “always” to be a higher understanding. Then, I counted the responses to each question within those two subgroups. From there I compared the subgroup responses on the pre and posttests.

A majority of the total student responses on each question showed growth from the beginning to the end of the study. (The first subgroup score was lower than the second). However, there were some questions where the first subgroup score was higher than the second subgroup. For example, the question “I underline or circle information in the text

to help me remember it” received a pre-test score of four in the first subgroup and a score of six in the second subgroup (see Figure 1.1). Then, the posttest data showed a score of six in the first subgroup and four in the second subgroup.

Question	Never	Occasionally	Sometimes	Usually	Always
12. I underline or circle information in the text to help me remember it. PRETEST RESULTS →	x	xxx	x	x	xxxx
POSTTEST RESULTS	xxx	xxx	xx		xx
14. I decide what to read closely and what to ignore.	xx	xx	xx	x	xxx
	x	xxxx	xx		xxx
16. When text becomes difficult, I pay closer attention to what I’m reading	xx		xxx	x	xxxx
		xx		xxx	xxxxx
22. I use typographical aids like bold face and italics to identify key information.		x	xx	xxx	xxxx
	xx	xx	xxx	xx	xx

Figure 1.1 MARSII Pre & Posttest Results Questions 12, 14, 16, 22

According to the data, this means the students strategy use for this skill went down. This also occurred for questions fourteen and twenty-two. Question sixteen’s results stayed the same for both the pre and posttest. (see results in Figure 1.1)

As I stated previously, this survey is very comprehensive. I was aware before I gave it that I would not be covering every question within my study, and I knew that the length of time I was spending on the strategies could affect the students’ outcome on the survey. Therefore, while the overall data showed growth in most areas except for those mentioned, I did want to specifically look at the data for those questions that were

covered by the strategy that I used. The questions that I felt were of particular importance- because they were covered within my instruction- were questions: three, four, nine, sixteen, eighteen, twenty-four, twenty-eight, and twenty-nine. (see results in Figure 2.1)

Question	Never	Occasionally	Sometimes	Usually	Always
3. I think about what I know to help me understand what I read.	x	xxxx	x	xx	Xx
		x	xxx	xxx	xxx
4. I preview the text to see what it's about before reading it.	xxxxx		xxxx	X	
			xx	xxxx	xxxx
9. I discuss what I read with others to check my understanding.	xxxxx	xxxx	x		
		xx	xx	xx	xxx
16. When text becomes difficult, I pay closer attention to what I'm reading.	xx		xxx	x	xxxx
		xx		xxx	xxxxx
18. I stop from time to time and think about what I'm reading.	xxx	xxx	xxx	x	
	x	xxxx	xxx		xx
24. I go back and forth in the text to find relationships among ideas.	xxxx	xx	x	xxx	
	xx		xxx	xx	xxx
28. I ask myself questions I like to have answered in the text.	xxx	xxxx	xx	x	
	x	xx		xxxxx	xx
29. I check to see if my guesses about the text are right or wrong.	xxxx	xxx	xxx		
		xxx	xx	xx	xxx

Figure 2.1 MARSII Pre & Posttest Results Questions 3,4,9,16,18,24,28,29

Question three's posttest results are dramatically different than the pretest result. On the pre-test results, five children reported it was a skill that was lower level. However, the posttest results showed that nine children reported using this strategy more frequently. For question four, five children reported that they "never" or "occasionally" used the skill and then on the posttest all ten reported they used it "sometimes", "usually", or "always". When discussing what they read with others (question nine), nine children reported to rarely doing this. Then, on the posttest seven had reported that they did it more frequently. When asked if they went back and forth in the text to find relationship among ideas, four admitted to doing this on the pretest and eight admitted to do it on the posttest. Perhaps the most significant questions of the study were questions twenty-eight and twenty-nine. Question twenty-eight stated, "I ask myself questions I like to have answered in the text." Student responses on the pretest were a three. Their posttest answers revealed a score of seven children. For question twenty-nine, "I check to see if my guesses about the text are right or wrong" three children reported doing this in the pretest and seven reported doing it in the post-test.

Less significant growth is seen with the remaining questions (Appendix B). For example, student responses for question sixteen remained the same on the both the pre and posttest. When asked if they stopped from time to time to think about what they were reading, four children noted doing this on the pretest, while five noted this on the posttest.

When comparing the information from the pre and posttests, it is clear that students did show growth in most areas. As I stated previously, not all of the questions were pertinent to the study; so while the responses proved growth, I would consider the data

irrelevant for now. However, the majority of questions that I did feel pertained to my study did show growth from the majority of the students. When looking at the data from those questions, I can see that it helped answer my question because the students were able to recognize the significance of questioning when reading.

Student work samples. When looking at the student work samples from the first week, there were a few things that I gathered from the information. (see Figures 3.1-6.1 below)

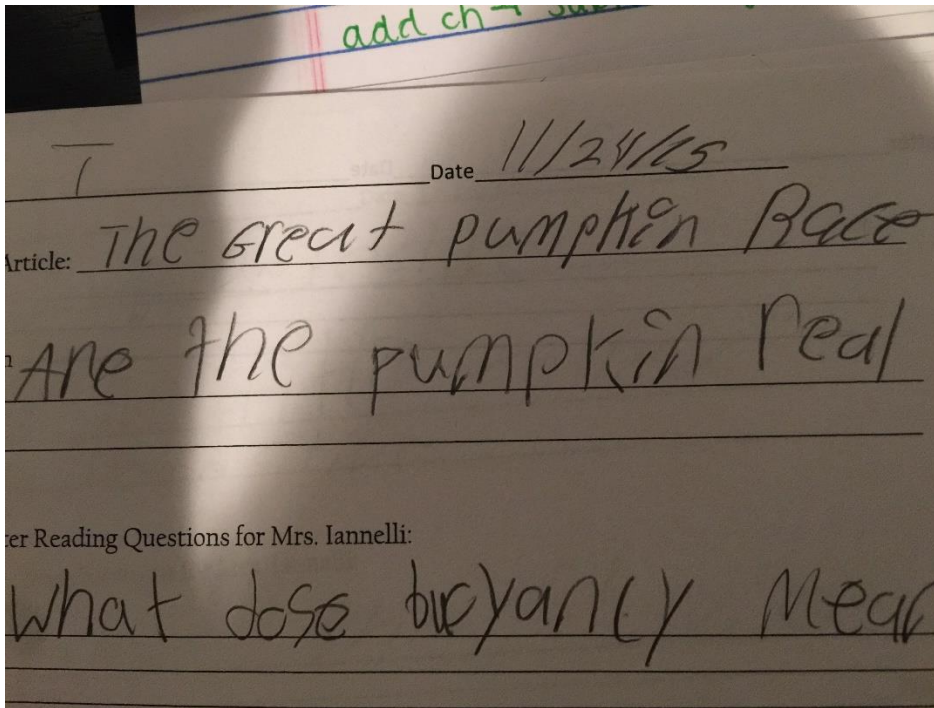


Figure 3.1 Student "T" Work Sample

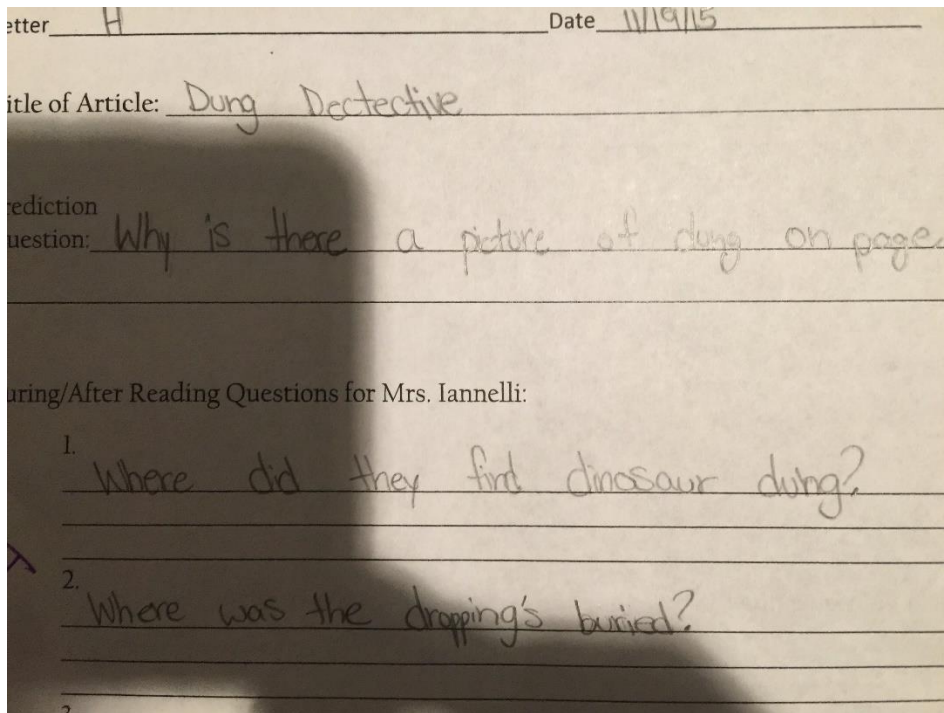


Figure 4.1 Student "H" Work Sample

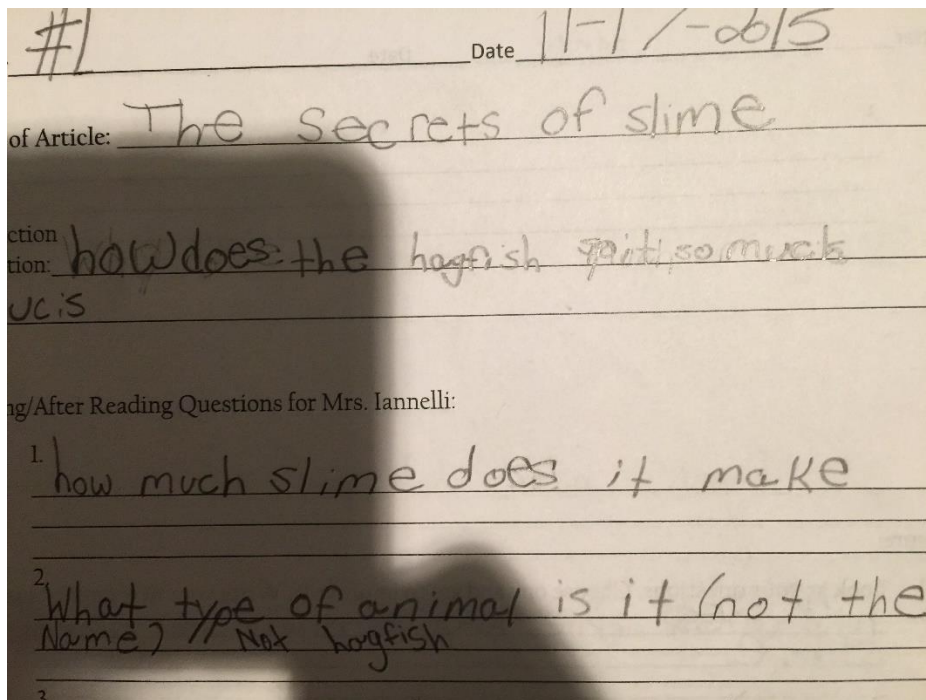


Figure 5.1 Student "L" Work Sample

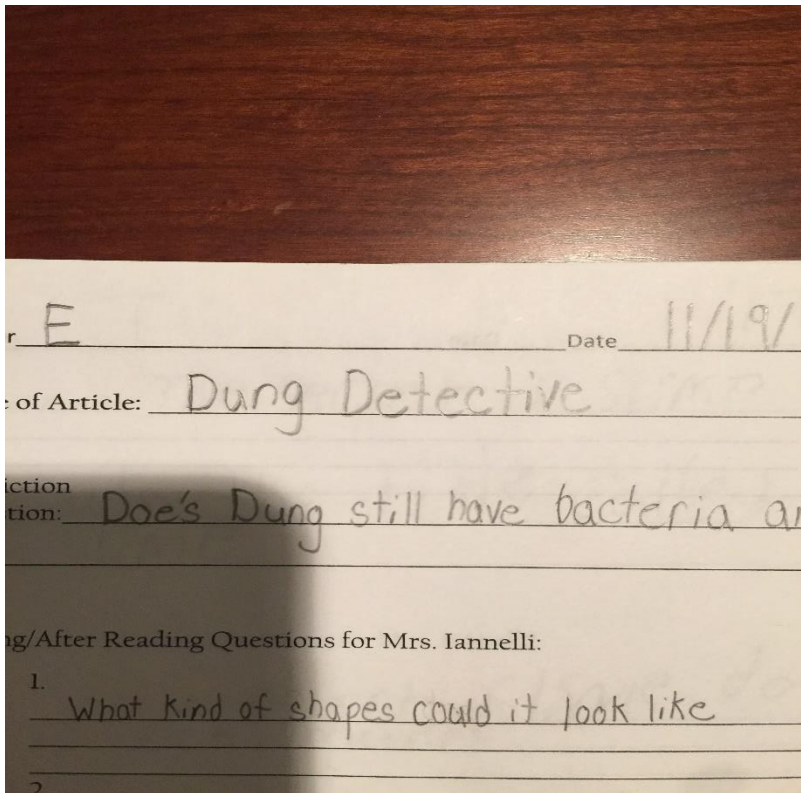


Figure 6.1 Student “E” Work Sample

Almost all of their questions were “Right There” questions which means the answer is directly stated within the text. Some examples of those questions were: “Where did they find the dung?” “Where were the droppings buried?” “What kinds of shapes could it look like?” I now see that they struggled to ask a variety of questions. What I was surprised to learn was that most of them were actually able to explain what the strategy was or how it could help them with reading (Appendix C). When asked the question, “How does this strategy help you to understand the text?” these were some responses: “It does help because I listened more”; “The Request strategy helps me better understand the

text because I get curious about the questions I ask and I also want to find out the answer to my questions”; “By writing your own questions so you can think about it as you are reading”; “It helps me understand because I was focus”; “It helps me how to ask yourself questions about the text”. While these responses are not perfect, one is able to glean that the children recognize the importance of the questioning technique and that they need to pay attention more to what they are reading. Based on the results of how the first and second week went, I felt that I needed to do more instruction with the creation of questions. I knew my students were understanding why this was a good strategy and when to use it, but their work was not proving that they could create a variety of good questions.

The third and fourth weeks of instruction focused on the four different types of questions (right there, on my own, think and search, and author and me) and at what point in reading (before, during, after) would be a good place to use them.

Before Reading Questions

- ~~Q1~~ - ~~Q1~~ I have been paying attention b/c of questions I need to ask.
- ~~Q2~~ - I noticed Think & Search requires you to use the whole story.
- ~~Q3~~ - If you could go swimming in this area would you (on my own)
- ~~Q4~~ - How would you survive. Asked her to change it to
if you were going to swim in the icy water how would you survive.
- ~~Q5~~ - Do you think... asked him to change it. Couldn't do it - had audience help
- ~~Q6~~ - In your opinion do this man have hypothermia?

During Reading Questions

- ~~Q7~~ - how do you feel if you are in the water
- ~~Q8~~ - why is he taking the...

Figure 7.1 Student Work (Oral) Recorded By Teacher 1

After reading:

- ~~Q9~~ - Where did he swim. She told me it's Think & Search.
- ~~Q10~~ - What does environmentalist mean. I asked her what kind of question & she told me.
- ~~Q11~~ - What happened to Louis Pugh after he swam 4 football fields. He told Think & Search.
- ~~Q12~~ - What does the word hypothermia mean? (right there)

Figure 8.1 Student Work (Oral) Recorded By Teacher 2

The questions they created in these weeks showed me they were improving (see Figures 7.1-8.1); however, they could not be independent without this paper (Appendices D & E). This organizer split the type of questions they could ask that were suited for before, during, and after reading on one side. On the other side it has question prompts for each type of question we worked on- right there, think and search, author and you, on your own. Therefore, I chose to continue to use the paper for week four too.

On the final day, we read our last article together, “Built for Speed” and that is where I asked them to create four questions they could ask me. The paper they wrote on was a graphic organizer split into four blocks with each block a space for the four different questions (Appendix F). Most of the them did create a variety of questions (Figures 9.1-13.1), although two students only created two questions each. One wrote only literal questions (Figure 14.1) while the other wrote only on my own and author and me (Figure 15.1).

7

Using QAR to Create Questions

QAR Practice – Given Questions

With a partner use the following Question-Answer Relationships worksheet to create questions for before, during and after reading that fits each of the four QAR categories. Use any interesting article.

Directions: Think of some questions that could be answered from reading the text. Write at least one question under each QAR heading.

In the Book - Right There 📖 What do they hope?	In My Head - On My Own 🧠 Would you like to get a really fast car?
In the Book -Think and Search 🔍 how long does it take to get full speed?	In My Head - Author and Me 🗣️ What is the article about?

After each question write the answer in parenthesis.

Figure 9.1- Student Work Sample 1

With a partner use the following Question-Answer Relationships worksheet to create questions for before, during and after reading that fits each of the four QAR categories. Use any interesting article.

Directions: Think of some questions that could be answered from reading the text. Write at least one question under each QAR heading.

<p>In the Book - Right There 📖</p>	<p>In My Head - On My Own 🌐</p> <p>how to they get technology</p>
<p>In the Book -Think and Search 📖</p> <p>how long does it take to get full speed</p>	<p>🌐 In My Head - Author and Me 📖</p> <p>why will they do 50 test run</p>

After each question write the answer in parenthesis.

Figure 10.1- Student Work Sample 2

QAR Practice – Given Questions

With a partner use the following Question-Answer Relationships worksheet to create questions for before, during and after reading that fits each of the four QAR categories. Use any interesting article.

Directions: Think of some questions that could be answered from reading the text. Write at least one question under each QAR heading.

In the Book - Right There 📖 How many time did they test run	In My Head - On My Own 🌐 in your opinion why the title called Built for Speed
In the Book - Think and Search 📖 what the current speed record	In My Head - Author and Me 📖

After each question write the answer in parenthesis.

Figure 11.1- Student Work Sample 3

Using QAR to Create Questions QAR Practice – Given Questions

With a partner use the following Question-Answer Relationships worksheet to create questions for before, during and after reading that fits each of the four QAR categories. **Use any interesting article.**

Directions: Think of some questions that could be answered from reading the text. Write at least one question under each QAR heading.

<p>In the Book - Right There 📖</p> <p>What is the current speed record? What could slow a car down? What did they do to reduce drag?</p>	<p>In My Head - On My Own 🌐</p> <p>If you could drive on the fastest car, would you, why or why not? Do you agree with them building the cars that go fast, why or why not?</p>
<p>In the Book - Think and Search 📖</p>	<p>In My Head - Author and Me 📖</p> <p>• Would you want to start building cars after reading this article?</p>

After each question write the answer in parenthesis.

Figure 12.1- Student Work Sample 4

Using QAR to Create Questions QAR Practice – Given Questions

With a partner use the following Question-Answer Relationships worksheet to create questions for before, during and after reading that fits each of the four QAR categories. Use any interesting article.

Directions: Think of some questions that could be answered from reading the text. Write at least one question under each QAR heading.

<p>In the Book - Right There 📖</p> <p>Why does there have to be a driver</p>	<p>In My Head - On My Own 🌐</p> <p>How did they get the technology to build this car?</p> <p>If this car didn't have the green like body how fast would it be?</p>
<p>In the Book - Think and Search 📖</p> <p>How can something with that shape be so fast?</p>	<p>In My Head - Author and Me 🌐 📖</p> <p>Why do they want to build this car?</p>

After each question write the answer in parenthesis.

Figure 13.1- Student Work Sample 5

Using QAR to Create Questions QAR Practice – Given Questions

With a partner use the following Question-Answer Relationships worksheet to create questions for before, during and after reading that fits each of the four QAR categories. Use any interesting article.

Directions: Think of some questions that could be answered from reading the text. Write at least one question under each QAR heading.

In the Book - Right There 📖 What kind of engine did they use for the super fast car.	In My Head - On My Own 🌐
In the Book -Think and Search 📖 How many times did it take to make the perfect model of the fastest car. What are the rules for building a car.	In My Head - Author and Me 🌐 📖

After each question write the answer in parenthesis.

Figure 14.1 Student Work Sample 6

#10

Using QAR to Create Questions QAR Practice – Given Questions

With a partner use the following Question-Answer Relationships worksheet to create questions for before, during and after reading that fits each of the four QAR categories. Use any interesting article.

Directions: Think of some questions that could be answered from reading the text. Write at least one question under each QAR heading.

In the Book - Right There 📖	In My Head - On My Own 🌐 How fast fast do the cars go and why 20 and
In the Book - Think and Search 📖	In My Head - Author and Me 📖 Would you want to start designing

After each question write the answer in parenthesis.

Figure 15.1 Student Work Sample 7

Based on the results of this student work, the next step in my instruction would be to begin to let the children who are creating good questions work within a group of their own. Those that were still struggling could continue to work with me for some support on how to fix or create the questions they come up with.

Comprehension tests. Another work sample I collected was a pre and post comprehension quiz of an informational article, “The Secrets of Slime”. Because the main point of my study was to determine if reading strategies help with students’ comprehension, I thought it may be important to see what their comprehension was like before and after support. (see Figure 16.1)

Question	Pre-Test (# correct)	Post-Test (# correct)	Increase (+-)
1. Which of the following terms is the scientific name for slime?	7	8	+1
2. Why do hagfish produce slime?	4	6	+2
3. Why does the writer call slime the hagfish’s secret weapon?	3	7	+4
4. How do hagfish prevent themselves from getting stuck in their own slime?	3	8	+5
5. In what way is slime like a liquid?	1	4	+3
6. What is one reason slugs produce slime?	3	7	+4
7. What is the purpose of mucus in the lining of a person’s stomach?	0	4	+4
8. Scientists think the tough fibers in hagfish slime could be used to make _____.	4	8	+4
9. Which new technology has been inspired by slime’s properties?	6	10	+4
10. Which sentence BEST represents the main idea of an article?	2	8	+6

Figure 16.1 No Sweat Bubble Test “Built for Speed”

When comparing the pre and posttest, one can see that the number of students who scored correctly for each question did improve overall. Questions one, two, three, six, seven, eight, and nine are all questions that have an answer within the text (lower-level questions). The remaining questions required the students to use the text plus their own knowledge to successfully answer the question (higher-level questions). There does not seem to be any correlation between the type of question (low-level or higher-level) and the amount of students who got the answer correct.

Observations. Another form of data I used to collect information were my observations of the students during the learning. Often times, this is recorded in a journal—a teacher research journal. For the first two weeks of my study I was able to write in it immediately following the lesson. When looking at the information in the journal, the biggest thing that I noticed was how my observations correlated with the other results I previously mentioned. For example, the Metacognitive Awareness Survey showed areas of growth in regard to student’s awareness of reading strategies. My journal proves the same thing. In an entry dated at the beginning of the study I wrote, “I asked the kids the name of the strategy they learned yesterday and how it helped them become a better reader. They were confused, a lot thought it was QAR. Once I told them it was ReQuest I asked them if they noticed anything about how it helped their reading. They were not able to give me correct answers so I reviewed the importance of it with them.” This would correlate with the response I received on the pretest survey. However, much farther on in my journal, I wrote, “Today Joseph and Robby asked two questions at the beginning of reading the article, “The Great Pumpkin Race” without me prompting them!” An entry

from the last week of my study particularly stands out. We were going to read the article, “Skating on Air” about how a technology company is creating a hover board from magnets repelling each other. We had been working on asking a variety of questions before, during, and after reading...

“What did we do yesterday?” I asked. “We made the questions better. Yesterday you asked us to do Think and Search, On My Own, and Author & You,” recited Andrew. “Can someone give me a question they would ask before reading?” I questioned. Robby replied with, “Why does the hover board smoke?” Good for Robby, I thought to myself. He has been having trouble asking questions that are on-topic so even though this is a right there question it still shows growth for him. Delilah was next. She asked, “Do you know anyone who has a hover board? That is an On My Own question Mrs. I.” I answered Delilah and then asked for another volunteer. Ashley was next. She asked me, “In your opinion would you ride the hover board why or why not?” The entry continues with me writing down the children’s questions as they ask them during and after the reading of the article. This entry from my journal is an example of the growth the children had from beginning to end in their ability to create a variety of questions and use them throughout different points when reading.

Another example that I found that correlates to my other data was at the end of the first two weeks when I had observed the children trying the strategy of ReQuest on their own. They were reading “The Great Pumpkin Race” about people who carve out huge pumpkins, get inside, and race one another on a lake. One child was chosen as the

teacher. It was up to the other children to ask that person questions and the teacher had to answer the questions...

“Where does the race take place?” asked Sammy. “Who can be in the race?” asked Alyssa. “When do they do the race?” asked Andrew. These are all Right There questions. Janet is doing a good job of answering the questions and I like that they are doing the strategy correctly; I wish they had more variety in their questions- it is easy to just go back to the text and find the answer. I want to work on them asking a variety of questions to help deepen their thinking and understanding. While the students were able to complete the strategy on their own and they did ask each other questions, I did want them to ask a variety of questions. This is an example that correlates to the work samples of the students.

Conclusion

In this qualitative study, data was gathered from a survey, student work samples, and through observations. While not individually compared, the survey results concluded that there was a positive increase in strategy use from before to after the implementation of the strategy technique. The student work samples concluded that most of the students were able to determine how this strategy was effective and were able to ask questions of varying difficulty with support. Overall, a significant amount of the group’s comprehension increased as well. When reading through the observational notes, it is clear that the student questions and understanding start off low and then as time goes by, their level of understanding increases both in their strategy and in their ability to create a variety of questions. One thing that the data all share is the fact that it would be difficult

to say that at this point in time the children are independently successful with this strategy. However, it can be concluded that instruction of this strategy did help their education and ability to read for the better.

After analyzing the data, the most important thing that has come from it is that yes, strategy instruction does improve comprehension but one needs to make sure that all of the components of the strategy are there or there will be no success. For example, just because the children learned that questioning made them pay attention does not necessarily mean they will improve unless they are able to create questions that promote their own thinking about the text. Therefore, mid-way through my instruction my focus was more on creating a variety of questions that promoted a deeper understanding of the text than on doing the strategy of “ReQuest”. Another thing that came from my data was that even though I chose to analyze it based on how it affected my instruction, the data that I collected let me see which students were struggling and will need further help.

The question I posed at the beginning of this study was, “What happens to student understanding of content when questioning techniques are used during the reading of informational texts?” Based on the results of the data I collected, I know that student understanding of content increases when they are more engaged with the text through techniques like ReQuest. However, the children need to be sufficient in asking a variety of questions in order to gain the most from the text. As I stated previously, I began this study with the intent to show the children the strategy of ReQuest, guide them in using it, and then have them use it on their own. But, I quickly realized that would never occur because their level of questioning was not where I thought it was. I know this because at

the beginning most of the questions were repetitive in the fact that they required the person being questioned to look back in the text and repeat an answer already in there- there was not much thinking involved. When I was able to show them the different ways to ask questions, they did have to think more about what they were reading to determine if that higher order thinking question was an appropriate one to ask. My results concluded that the students were beginning to understand this and would need more time with it but it was not until I introduced this concept of the study that I knew that.

Chapter V

Conclusion

One of my favorite quotes that relates to education is, “A child is a lamp to be lit, not a vessel to be filled” (Chinese Proverb). The reason why this quote resonates with me so well is because I believe that the main job of a teacher is to prepare their students for their future. This means that we need to teach them. I believe that some teachers often lose sight of what the word teach means. It does not mean to just recite information that has already been gathered. It means that students need to have the tools necessary to learn and more importantly know when to use them so that they can learn on their own. It is perhaps for those reasons that when I learned more about content area literacy it became so important to me. If there was one subject where I felt I was “filling” children rather than “lighting” them, it the content areas. Once I learned more about strategy instruction and that its purpose is so children can be successful on their own, I knew that it was something I wanted to incorporate into my classroom. Based on the research I gathered and the data that I collected from my own classroom, I know that the greater purpose of education has to be to prepare our students to be on their own. This study helps to prove why strategy instruction is a useful way of doing that.

My study helps the field of education because it adds to the body of research surrounding content area literacy. When I set out to do this study, my goal was to teach children a strategy that they could use to be more independent in learning new information. While I did do this, another major factor occurred- I realized that my children needed help creating questions. I was unable to move forward with my

independent use of strategy instruction because the children required so much help creating good questions. Sometimes they were grammatically incorrect, but often they just did not make sense or would not produce an answer that correlated with the reading.

The children struggled not only to identify their metacognitive abilities, but to form questions as well. I quickly realized that my idea of ReQuest may have to be as simple as learning how to create and ask questions. Therefore, the data that I had chosen to collect, may not show the results I had assumed. For example, I had planned to see growth in their metacognitive ability by the end of the study; I realized that may not be the case. Secondly, I had assumed they would be applying the ReQuest strategy on their own with very little input from me. Based on their work and my observations, they needed more help than I intended with creating questions. Like the research states, if I do not spend enough time scaffolding their learning, they will not be able to transfer the knowledge and will probably not use the strategy on their own. While I now realize that my original intentions did not go as planned, and the conclusions I had hoped to draw about my data would probably not occur, I do believe that the information I gathered was still helpful. I believe that the data I collected in the area of metacognitive ability will help me to see what areas I can look to when figuring out what types of strategies to teach next. I also think that student data will help me to see which students need help with specific types of questioning. Overall, I think the data will still provide the community with useful information because even though my original purpose for the information changed, the data still has value in regard to how children learn new information as well as how they assimilate it.

If my study does anything to help the field of education, it should be to show that children need more assistance with foundational skills required of them in the later grades. My students were fifth graders that needed remedial work on questioning techniques. More emphasis needs to be placed on teaching children to ask better questions because even they recognize its importance.

I found this study to have a profound impact on my teaching because it taught me something valuable. Often, we cannot just do something that has been proven to be right and expect it to work if our children do not have all of the support they need to be successful. While I know this to be true of other subjects like math and reading, I did not expect this to occur within strategy instruction. I did expect some resistance with creating questions, but I did not expect it to be such a hindrance nor expect it to take so long to correct.

I have already mentioned that the way I planned this study to go is not how it went due to unforeseen circumstances such as their inability to create good questions. I did work on that immediately and for the most part they are on their way to eventually trying ReQuest again. If this study were to continue the next steps would be to gradually remove the graphic organizer so the children were creating higher level questions on their own. Then, I would go back and reintroduce the ReQuest technique so they could begin to do it on their own. During the independence phase of the strategy, I would monitor how the students are doing and work individually with any students to fine tune where they are struggling. From there, I would have them do the strategy with a variety of texts from different content areas too.

In conclusion, this study has taught me not only more about my instruction and ways to make it better, but it has taught me that true learning does not exist in a perfect way. In order for learning to occur, sometimes the path winds, stops, or needs to turn around. If I want to be the kind of teacher that “lights” my students rather than “fill” them I need to be willing to take these chances.

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Appendix A

Metacognitive Awareness of Reading Strategies Inventory

DIRECTIONS: Listed below are statements about what people do when they read academic or schoolrelated materials such as textbooks, library books, etc. Five numbers follow each statement (1, 2, 3, 4, 5) and each number means the following:

- **1** means “I **never or almost never** do this.”
- **2** means “I do this **only occasionally**.”
- **3** means “I **sometimes** do this.” (About **50%** of the time.)
- **4** means “I **usually** do this.”
- **5** means “I **always or almost always** do this.”

After reading each statement, **circle the number** (1, 2, 3, 4, or 5) that applies to you using the scale provided. Please note that there are **no right or wrong answers** to the statements in this inventory.

TYPE	STRATEGIES	SCALE				
GLOB	1. I have a purpose in mind when I read.	1	2	3	4	5
SUP	2. I take notes while reading to help me understand what I read.	1	2	3	4	5
GLOB	3. I think about what I know to help me understand what I read.	1	2	3	4	5
GLOB	4. I preview the text to see what it’s about before reading it.	1	2	3	4	5
SUP	5. When text becomes difficult, I read aloud to help me understand what I read.	1	2	3	4	5
SUP	6. I summarize what I read to reflect on important information in the text.	1	2	3	4	5
GLOB	7. I think about whether the content of the text fits my reading purpose.	1	2	3	4	5
PROB	8. I read slowly but carefully to be sure I understand what I’m reading.	1	2	3	4	5
SUP	9. I discuss what I read with others to check my understanding.	1	2	3	4	5
GLOB	10. I skim the text first by noting characteristics like length and organization.	1	2	3	4	5
PROB	11. I try to get back on track when I lose concentration.	1	2	3	4	5
SUP	12. I underline or circle information in the text to help me remember it.	1	2	3	4	5
PROB	13. I adjust my reading speed according to what I’m reading.	1	2	3	4	5
GLOB	14. I decide what to read closely and what to ignore.	1	2	3	4	5
SUP	15. I use reference materials such as dictionaries to help me understand what I read.	1	2	3	4	5
PROB	16. When text becomes difficult, I pay closer attention to what I’m reading.	1	2	3	4	5
GLOB	17. I use tables, figures, and pictures in text to increase my understanding.	1	2	3	4	5

PROB	18. I stop from time to time and think about what I'm reading.	1	2	3	4	5
GLOB	19. I use context clues to help me better understand what I'm reading.	1	2	3	4	5
SUP	20. I paraphrase (restate ideas in my own words) to better understand what I read.	1	2	3	4	5
PROB	21. I try to picture or visualize information to help remember what I read.	1	2	3	4	5
GLOB	22. I use typographical aids like bold face and italics to identify key information.	1	2	3	4	5
GLOB	23. I critically analyze and evaluate the information presented in the text.	1	2	3	4	5
SUP	24. I go back and forth in the text to find relationships among ideas in it.	1	2	3	4	5
GLOB	25. I check my understanding when I come across conflicting information.	1	2	3	4	5
GLOB	26. I try to guess what the material is about when I read.	1	2	3	4	5
PROB	27. When text becomes difficult, I re-read to increase my understanding.	1	2	3	4	5
SUP	28. I ask myself questions I like to have answered in the text.	1	2	3	4	5
GLOB	29. I check to see if my guesses about the text are right or wrong.	1	2	3	4	5
PROB	30. I try to guess the meaning of unknown words or phrases.	1	2	3	4	5

Reference: Mokhtari, K., & Reichard, C. (2002). Assessing students' metacognitive awareness of reading strategies.

Journal of Educational Psychology, 94 (2), 249-259.

Metacognitive Awareness of Reading Strategies Inventory

SCORING RUBRIC

Student Name: _____ Age: _____ Date: _____

Grade in School: 6th 7th 8th 9th 10th 11th 12th College Other

1. Write your response to each statement (i.e., 1, 2, 3, 4, or 5) in each of the blanks.
2. Add up the scores under each column. Place the result on the line under each column.
3. Divide the score by the number of statements in each column to get the average for each subscale.
4. Calculate the average for the inventory by adding up the subscale scores and dividing by 30.
5. Compare your results to those shown below.
6. Discuss your results with your teacher or tutor.

Global Reading Strategies (GLOB Subscale)	Problem- Solving Strategies (PROB Subscale)	Support Reading Strategies (SUP Subscale)	Overall Reading Strategies
	8. _____	2. _____	GLOB _____
1. _____	11. _____	_____	
3. _____	13. _____	5. _____	PROB _____
4. _____	16. _____	_____	
7. _____	18. _____	6. _____	SUP _____
10. _____	21. _____	_____	
14. _____	27. _____	9. _____	
17. _____	30. _____	_____	
19. _____		12. _____	
22. _____		15. _____	
23. _____		20. _____	
25. _____		24. _____	
26. _____		28. _____	
29. _____			
_____ GLOB Score	_____ PROB Score		_____ SUP Score _____
_____ GLOB Mean	_____ PROB Mean		Overall Score _____ SUP Mean
			_____ Overall Mean

KEY TO AVERAGES: 3.5 or higher = High

2.5 – 3.4 =
Medium 2.4 or
lower = Low

INTERPRETING YOUR SCORES: The overall average indicates how often you use reading strategies when reading academic materials. The average for each subscale of the inventory shows which group of strategies (i.e., global, problem-solving, and support strategies) you use most when reading. With this information, you can tell if you are very high or very low in any of these strategy groups. It is important to note, however, that the best possible use of these strategies depends on your reading ability in English, the type of material read, and your purpose for reading it. A low score on any of the subscales or parts of the inventory indicates that there may be some strategies in these parts that you might want to learn about and consider using when reading (adapted from Oxford 1990: 297300).

Appendix B

MARSI Version Pretest & Posttest Results

Question	Never	Occasionally	Sometimes	Usually	Always
1. I have a purpose in mind when I read.	x	xx	xx	xxx	xx
		xx	xxx	xx	xxx
2. I take notes while reading to help me understand the text.	xxxxxxx	xxx			
	xx	xx	x	xx	xxx
3. I think about what I know to help me understand what I read.	x	xxxx	x	xx	Xx
		x	xxx	xxx	xxx
4. I preview the text to see what it's about before reading it.	xxxxx		xxxx	X	
			xx	xxxx	xxxx
5. When text becomes difficult, I read aloud to help me understand what I read.	xx	xxx	xx	X	xx
		xx	xx		xxxxxx
6. I summarize what I read to reflect on important information in the text.	xxxxx	xxx		xx	
	xx	x	xxxx	xx	x
7. I think about whether the content of the text fits my purpose.	xxx	x	xx	x	xxx
	xx		xxxxx	xxx	
8. I read slowly but carefully to be sure I understand what I am reading.	xx		xxx	xx	xxx
	x		xxxx	xxx	xxx
9. I discuss what I read with others to check my understanding.	xxxxx	xxxx	x		
		xx	xx	xx	xxx
10. I skim the text first by noting characteristics like length and organization.	xxxxx	x	xx	xx	
	x	x	xxxx	xxx	x

11. I try to get back on track when I lose concentration.		X	X		XXXXXXXX
	X		XX	XXX	XXXX
12. I underline or circle information in the text to help me remember it.	X	XXX	X	X	XXXX
	XXX	XXX	XX		XX
13. I adjust my reading speed according to what I'm reading.	XXXX	X	X	XXX	X
	X	X	XXX	X	XXXX
14. I decide what to read closely and what to ignore.	XX	XX	XX	X	XXX
	X	XXXX	XX		XXX
15. I use reference materials such as dictionaries to help me understand the text.	XXXXX	XX	XX		X
	XXX	XX	X	XXX	X
16. When text becomes difficult, I pay closer attention to what I'm reading.	XX		XXX	X	XXXX
		XX		XXX	XXXXX
17. I use tables, figures, and pictures in text to increase my understanding.	XXXXXXX		XX	X	
	XXX	XX	XXXX		X
18. I stop from time to time and think about what I'm reading.	XXX	XXX	XXX	X	
	X	XXXX	XXX		XX
19. I use context clues to help me better understand what I'm reading.	XXXXX	X		XXX	X
		X	XXX	XXX	XXX
20. I paraphrase to better understand what I read.	X	X	XXXXX	XX	X
	X		X	XXXXX	XXX
21. I try to picture or visualize information to help remember what I read.	X	XX	XXX	XXX	X
	X	X	XXXX	XX	XX
22. I use typographical aids like bold face and italics to identify key information.		X	XX	XXX	XXXX

	XX	XX	XXX	XX	XX
23. I critically analyze and evaluate information presented in the text.* NO data recorded					
24. I go back and forth in the text to find relationships among ideas.	XXXX	XX	X	XXX	
	XX		XXX	XX	XXX
25. I check my understanding when I come across conflicting information.	X	XXX	XX	XXX	X
	XX		XX	XXX	XXX
26. I try to guess what the material is about when I read.	XXX		XXX	XX	XX
		XXX	XX	XX	XXX
27. When text becomes difficult, I re-read to increase my understanding	XX	X	XX	XX	XXX
			XXX	XX	XXXXX
28. I ask myself questions I like to have answered in the text.	XXX	XXXX	XX	X	
	X	XX		XXXXX	XX
29. I check to see if my guesses about the text are right or wrong.	XXXX	XXX	XXX		
		XXX	XX	XX	XXX
30. I try to guess the meaning of unknown words or phrases.	X		XXX		XXXXXX
			XX	XXX	XXXXX

Appendix C

Student Work Samples

sure:

1. Look at your questions. Choose one and try to improve it. Write your new question here:
does it help

2. What is the name of the strategy you learned today?
Express

3. How does it help you to understand the text?
It does help because I listened

sure:

1. Look at your questions. Choose one and try to improve it. Write your new question here:
What can scientists study from cephalopods?

2. What is the name of the strategy you learned today?
The name of the strategy we learned today was called "Request"

3. How does it help you to understand the text?
The "Request" strategy helps me better understand the text because I get curious about the questions I ask and I also want to find out the answer to my questions.

3.

sure:

1. Look at your questions. Choose one and try to improve it. Write your new question here:
How does the hagfish puke or produce slime?

2. What is the name of the strategy you learned today?
In the book right there, Think and search

3. How does it help you to understand the text?
By highlighting your own questions so you can think about it as you are reading

3.

sure:

1. Look at your questions. Choose one and try to improve it. Write your new question here:
How much slime did the hagfish make in 1 second?

2. What is the name of the strategy you learned today?
Predict

3. How does it help you to understand the text?
It help me understand because I was focus

asure:

1. Look at your questions. Choose one and try to improve it. Write your new question.
How small and how big the pop can be.
2. What is the name of the strategy you learned today?
request
3. How does it help you to understand the text?
It helps me how to ask your self questions about the text.

Appendix D

QAR & The Reading Cycle

Before Reading	During Reading	After Reading
<p>On My Own Strategies:</p> <ul style="list-style-type: none"> • Think about what you already know • Make connections • Think about other texts that relate to this topic <p>Author and Me Strategies:</p> <ul style="list-style-type: none"> • Previewing features • Think about what I already know and what is in the text • Make inferences • Examine the author's techniques • Predict what will happen next 	<p>Right There Strategies:</p> <ul style="list-style-type: none"> • Reread • Scan • Look for Key Words • Remember from the first reading <p>Think and Search Strategies:</p> <ul style="list-style-type: none"> • Reread • Skim • Think about "big" or main idea • Look for important information • Make inferences about related details • Clarify • Summarize <p>Author and Me Strategies:</p> <ul style="list-style-type: none"> • Reread • Think about what I already know and what is in the text • Make inferences • Examine the author's techniques • Predict what will happen next 	<p>Think and Search Strategies:</p> <ul style="list-style-type: none"> • Reread • Skim • Think about "big" or main idea • Look for important information • Make inferences about related details • Clarify • Summarize <p>Author and Me Strategies:</p> <ul style="list-style-type: none"> • Reread • Think about what I already know and what is in the text • Make inferences • Examine the author's techniques • Predict what will happen next

Appendix E

QAR Prompts

QAR Prompts

Right There: The words used to create the question and the answer are in the same sentence.

What did ...
Who did ...
How many ...
What was ...
Who are ...
Define ...
What does ... mean
What kind ...

Think and search – The answer is found in different parts of the story. Words to create the question and answer are not in the same sentence.

How do you ...
What ...
What happened to ...
What happened before / after ...
How many times ...
What examples ...
Where did ...

On my own – The answer is not in the story. To answer the question, readers need to think about how the text and what they already know fit together.

Have you ever ...
If you could ...
If you were going to ...
In your opinion ...
Do you agree with _____ Why?
Do you know anyone who ...
How do you feel about ...

The Author and Me - The answer is not in the story. You need to think about what you already know, what the author tells you, and how it fits together.

I think that ... will happen next because...
I think that this story/text is mainly about...
The author's message/point of view is...
The theme of this story is...
The mood/tone of this story/poem is...
I think that the author makes/does not make a strong argument for... because...
The relationship in the story changes as/when...





Appendix F

Using QAR to Create Questions

Using QAR to Create Questions QAR Practice – Given Questions

With a partner use the following Question-Answer Relationships worksheet to create questions for before, during and after reading that fits each of the four QAR categories. Use any interesting article.

Directions: Think of some questions that could be answered from reading the text. Write at least one question under each QAR heading.

In the Book - Right There 	In My Head - On My Own 
In the Book -Think and Search 	In My Head - Author and Me 

After each question write the answer in parenthesis.