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Using Explicit Strategy Instruction to Improve Reading Comprehension

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For the purpose of this study, three students were explicitly taught three during reading comprehension strategies. Students were given a pre and post-assessment which were analyzed to determine the effectiveness and implications of explicit strategy instruction. Furthermore, a questionnaire, related to reading comprehension, was distributed to teachers at the school in which the study took place. Findings from the study suggest that although students' comprehension scores did not improve, their attitudes toward reading improved and their ability to use a wide variety of strategies increased after receiving explicit strategy instruction. The primary implication of this study is teachers must be willing to invest time in explicit strategy instruction in order for their students to reap the full benefits of this instructional technique.

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Using Explicit Strategy Instruction to Improve Reading Comprehension

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Abstract

For the purpose of this study, three students were explicitly taught three during reading comprehension strategies. Students were given a pre and post-assessment which were analyzed to determine the effectiveness and implications of explicit strategy instruction. Furthermore, a questionnaire, related to reading comprehension, was distributed to teachers at the school in which the study took place. Findings from the study suggest that although students' comprehension scores did not improve, their attitudes toward reading improved and their ability to use a wide variety of strategies increased after receiving explicit strategy instruction. The primary implication of this study is teachers must be willing to invest time in explicit strategy instruction in order for their students to reap the full benefits of this instructional technique.

Using Explicit Strategy Instruction to Improve Reading Comprehension

At a very early age, most children learn that print carries meaning. Listening to and reading books are enjoyable activities that many children look forward to at home and at school. Story time and quiet reading allow children to use their imagination to bring fictional places and people to life, as well as to make sense of their world by making connections between books and their everyday lives. In addition, by engaging in informal dialogue with parents, teachers, and peers, about and beyond books, children begin to feel like they are part of a community of readers in which reading and related activities are valued. During these early encounters with print, children develop important behaviors and skills that play a vital role in their literacy development.

However, not all children are exposed to the early literacy experiences previously described; as a result, some children do not acquire fundamental literacy behaviors and skills. According to the National Assessment of Educational Statistics (2003), only 24% of fourth graders and 29% of eighth graders meet the criteria necessary to be considered a proficient reader, which means roughly three quarters of students in fourth and eighth grade are less than proficient, if not struggling, readers. Furthermore, the National Center for Educational Statistics (2001) states that many high school graduates are not proficient readers causing 53% to enroll in remedial classes during their first years of college. They often lack the metacognitive awareness and critical thinking skills necessary to thoughtfully read and respond to text. Simply because a child can decode words and read phrases fluently, does not mean that a child is a proficient reader. Reading is a complex process that requires the individual to employ a variety of skills simultaneously. In fact, Harvey (1998) argues that we continue to "...develop strategies to improve reading proficiency well into adulthood" (p. 71). Perhaps the most important component of reading is comprehension. If an individual cannot understand text and use text to

think, speak, and write critically, he or she will eventually fall behind, whether it is in high school, college, or the workforce. According to Asselin (2000), future literacy instruction will be "...project-based rather than subject-based, inquiry-driven, involve much social collaboration, emphasize higher-level thinking, include explicit metacognitive instruction, and use information technologies as primary tools of learning" (p. 61). Therefore, tradition comprehension instruction, or lack thereof, will simply not suffice in the coming years. In order to better support all readers, but particularly those who have not yet developed metacognitive awareness and strategic reading behaviors, educators and educational researchers have conducted a variety of studies on the use of explicit strategy instruction to improve reading comprehension (Boulware-Gooden et al., 2007; Camahalan, 2006; Choo & Ahmad, 2011; Dori, 2007; Gooden, 2012; Kolic-Vehovec & Bajanski, 2006; Kragler & Martin, 2009; McKeown et al., 2009; Moore et al., 1994; Nash-Ditzel, 2010; Nelson & Manset-Williamson, 2006; Ness, 2011; Ofudo & Adedipe, 2011; Oster, 2001; Prado & Plourde, 2011; Sencibaugh, 2007; Smith, 2006; Taboada, 2012; Takallou, 2011; van der Schoot et al., 2008; Van Keer, 2004; Van Keer & Verhaeghe, 2005; Wichadee, 2011; Yang, 2006; Zhang, 2012).

Many teachers believe that by reading books, books, and more books, a good reader is born (Pressley, 2006). However, in the 1970s and 1980s researchers began to explore the reading behaviors of proficient and not yet proficient readers (Beach, 1996; Lenski & Nierstheimer, 2002; Paris, Lipson, & Wixson, 1983; Paris, Wasik & Turner, 1991). Harris and Pressley (1991) found that proficient readers flexibly utilized a variety of strategies while the not yet proficient readers employed fewer strategies. Furthermore, the not yet proficient readers were not particularly effective or efficient in their strategy use. As a result, researchers now understand that although time with text is important, some readers will not acquire a literal and

inferential understanding of text without intervention (Sencibaugh, 2007). Van Kerr (2004) challenges teachers to consider the assumptions they bring to their everyday reading instruction when she states that "...there is no reason to assume that all primary students spontaneously discover...and appeal to strategic processes when confronting texts that are challenging to comprehend" (p. 38). In reality, many readers can benefit from explicit strategy instruction. Pilonieta (2010) argues that "Instruction in comprehension strategies is particularly important for struggling readers as they are unlikely to discover these strategies on their own" (p. 152). Although much of the research on strategy instruction focuses on struggling readers, readers with special needs, and English Language Learners, all students can benefit from quality instruction designed to develop metacognitive awareness and critical thinking skills.

At this point, many teachers understand the importance of teaching, modeling, and practicing reading strategies in their classrooms. In fact, the No Child Left Behind Act (2002) challenges teachers to use research-based interventions, such as strategy instruction, to improve students' overall reading achievement (Pilonieta, 2010). Yet, few teachers have the knowledge, training, or resources to properly implement strategy instruction. In fact, in the 1970s, an educational researcher by the name of Durkin (1978-1979), found that educators were devoting little time to teaching their students techniques for enhancing their understanding of text; it is stated that "...less than 1% of classroom reading instruction was dedicated to comprehension instruction" (Pilonieta, 2010, p. 154). Although Ness (2011) reported that the teachers in her study used approximately 25% of instructional time for strategy instruction, many researchers would argue that there needs to be more time devoted to this type of direct teaching. Therefore, teachers continue to test, but not teach, comprehension and as a result, a large percentage of children continue to fail to reach their potential as readers (Pilonieta, 2010). It is critical that

researchers begin to reveal more data showing that strategy instruction improves reading comprehension. Kolic-Vehovec & Bajanski (2006) state that “Strategic reading reflects metacognition and motivation because readers need to know the strategies and be willing to use them” (p. 440). Similar to their students, teachers need to know that a specific teaching technique works before they willing and able to use it effectively. Based on the research gathered, strategy instruction works and should be used daily in our classrooms to improve students’ reading comprehension.

Essentially, the ability to comprehend is a key characteristic of a good reader. Therefore, it is important for teachers to support their students in understanding what they read. One of the ways in which teachers can support their students’ reading comprehension is through explicit strategy instruction. Explicit strategy instruction involves making students cognitively aware of the thinking processes good readers have as they engage with text and providing them with specific strategies they can use to support and repair their comprehension as they read a wide variety of texts. For the purpose of this study, three students were explicitly taught three during reading comprehension strategies: Visualizing, Making Connections, and Asking Questions. Instruction took place once a week over a three week period. Students were given a pre-assessment and post-assessment which included a reading survey, metacognitive strategy analysis, and comprehension questions based on a grade level passage. The pre-assessment and post-assessment data were analyzed and compared to determine the effectiveness and implications of explicit strategy instruction. Furthermore, a teacher questionnaire was distributed to teachers at the school in which the study took place. The teacher questionnaire was designed to assess teachers understanding of, beliefs towards, and practices related to reading comprehension. Information gathered from this questionnaire was used to support

findings from the initial study. Findings from the study suggest that although students' comprehension scores did not improve, their attitudes toward reading improved and their ability to use a wide variety of strategies increased after receiving explicit strategy instruction.

Theoretical Framework

It is important to note that effective strategy instruction supports sociocultural theory, as well as Vygotsky's (1978) zone of proximal development, in which individuals learn through interactions with others, receiving a great deal of support when learning something new, with a gradual release of responsibility, until the individual is able perform the task independently (Choo, Eng, & Ahmad, 2011; Iwai, 2011; Larson & Marsh, 2005). Furthermore, strategy instruction fits within the transactional theory of reading which defines reading as the various interactions between a reader and the text (Rosenblatt, 1938). According to Gooden (2012), "Instruction in comprehension strategies helps children become flexible thinkers who can approach a variety of texts with a repertoire of strategies, thus helping them to better comprehend those texts" (p. 17). In other words, the more strategies a reader has at his or her disposal, the more likely he or she is to interact meaningfully with a given text. Teachers need to understand the importance of strategy instruction, as well as the many educational theories that support it.

Before discussing the impact of strategy instruction on reading comprehension, it is important to define literacy and comprehension. First, literacy can be defined in a variety of ways. Kucer (2009) states that "Becoming or being literate means learning to effectively, efficiently, and simultaneously control linguistic, cognitive, sociocultural, and developmental dimensions of written language" (p. 5). Essentially, Kucer believes that all encounters with oral and written language require the individual to simultaneously rely on all four of these dimensions in order to make sense of the literacy event. Strategy instruction supports Kucer's dimensions of

literacy; through the process of explicitly teaching students reading strategies, the individual hones a variety of cognitive and linguistic processes within the context of a community of readers.

A second definition is provided by Gee (2001) who believes discourse must be understood before literacy can be defined. A discourse is a way of thinking, acting, and using language that can be linked to a particular group of people (Gee, 2001). An individual's literacy development relies heavily on his or her "control" or effective use of a variety of discourses (p. 24). Individuals have both primary and secondary discourses. Primary discourses are those ways of thinking, acting, and using language that are acquired within the home. Secondary discourses are those ways of thinking, acting, and using language that are learned within "social institutions beyond the family" such as school (p. 22). Gee believes that literacy is effective use of a secondary discourse. Furthermore, dominant literacy is effective use of a dominant discourse; in other words, a secondary discourse that provides access to "money, power, or status in a society" (p. 19). Gee states that individuals with a primary discourse compatible with the secondary discourse and also dominant discourse of schools, have better access to the various levels of literacy development. Strategy instruction can serve as a support for all students, but particularly those who do not have control over the dominant discourse. By explicitly teaching students how proficient readers navigate text, teachers increase the likelihood that all students will become skilled language users and as a result, gain access to the many opportunities that accompany effective use of the dominant discourse.

Literacy acquisition and learning are crucial to a child's literacy development. Gee (2001) sees a distinct difference between these words that are so often used interchangeably. According to Gee, literacy acquisition involves gaining oral and written language skills through

immersion in an environment in which the skills are used and valued by more experienced language users. Parts of oral and written language may or may not be explicitly taught by more experienced language users. Furthermore, literacy acquisition is a gradual process in which the individual internalizes the associated skills overtime. Through literacy acquisition, the individual is often unaware of the skills he or she possesses because the skills may have been acquired on a subconscious level. On the contrary, literacy learning involves gaining oral and written language skills through explicit teaching of those skills by more experienced language users. Through literacy learning, the individual is often aware of the skills he or she possesses because the skills were learned on a conscious level. In most cases, literacy acquisition happens at home and literacy learning happens at school. However, some educators may strategically plan their literacy instruction and activities to facilitate both processes for children, in particular, those who have a home discourse different from that of the school. When teachers use strategy instruction in their classroom, they are acknowledging the fact that not all literacy skills are acquired and that some need to be taught and practiced within a variety of contexts.

Goodman (1995) claims that comprehension occurs when the reader interacts with text within the context of a particular reading situation. According to Snow (2002), comprehension is “the process of simultaneously extracting and constructing meaning through interaction and involvement with written language” (p. 11). While some parts of comprehension are automatic, others are complex and thoughtfully executed mental processes (Kolic-Vehovec & Bajanski, 2006). Strategy instruction can help facilitate the comprehension process for students. Pilonieta (2010) defines comprehension strategies as “...conscious, deliberate, and flexible plans readers use and adjust with a variety of texts to accomplish specific goals” (p. 152). According to Schoot, Vasbinder, Horsley, and Lieshout (2008), successful adult readers often use reading

strategies, which they refer to as “high-level comprehension processes” (p. 203). Explicit strategy instruction refers to “...the purposive activities of a teacher to make children fully aware of the active character of the reading process and of the importance of comprehension-fostering and monitoring activities” (Van Keer, 2004, p. 38). Essentially, comprehension instruction involves not only teaching children what a particular strategy involves, but also why, where, and when to use it. Not to mention, how a specific strategy can be modified within a variety of contexts (Van Keer, 2004).

Research Question

After reviewing the transactional theory, as well as sociocultural theory and Vygotsky’s (1978) zone of proximal development, one could argue that reading comprehension is an active process that involves individual, as well as group, interactions with text. However, as previously described, each child enters school with unique literacy needs that must be identified and acknowledged by his or her teacher. In order to bridge the gap between those who have acquired effective reading techniques and those who have yet to learn them, as well as to enhance all students’ reading comprehension, teachers must be willing to experiment with strategy instruction in their classrooms. Given that literacy is a cognitive and social practice and comprehension occurs when a reader engages thoughtfully with the text and other readers, how can teachers use explicit strategy instruction to improve their students’ reading comprehension?

Literature Review

After reading and reviewing literature related to the topic of strategy instruction, three important themes were discovered, and worth exploring, in order to better answer the previously stated research question: How can teachers use strategy instruction to improve their students’ reading comprehension? The first theme explores metacognition. Since comprehension is a

complex cognitive process, readers must be aware of their cognitive processes as they read in order to monitor their understanding of text; this awareness and understanding of one's cognitive processes is called metacognition. Researchers such as Lawson (1993) and Mayo (1993) have found that metacognition can be developed and refined through the use of explicit strategy instruction. The second theme addresses the ways in which strategy instruction has been used to improve reading comprehension for an array of readers. The next theme pinpoints specific instructional methods and materials that can be used by teachers in order to support their students in developing reading strategies and ultimately, improving their overall comprehension of text. The last theme reviews alternative instructional techniques researchers have studied and teachers have used to improve students' comprehension. Ultimately, the reviewed literature highlights the effectiveness of strategy instruction in improving comprehension, and calls attention to the noticeable gaps between current research and practices in the field.

Understanding the Link between Metacognition and Strategy Instruction

According to Iwai (2011), "...metacognition – thinking about thinking – is key to reading comprehension" (p. 159). Strategy instruction challenges all students to be metacognitively aware as they read. In order to be metacognitively aware, an individual must be conscious of their cognitive processes while they are doing a given task, in this case reading (Flavell, 1976). Ofodu & Adedipe (2011) discovered that there is "...a significant relationship between students' awareness and application of metacognitive strategies" (p. 345). In other words, readers who are aware of their metacognitive processes are often those who utilize reading strategies most efficiently and effectively. This level of self-regulation is what distinguishes proficient readers from struggling readers. Van der Schoot et al. (2008) states that "Successful and experienced adult readers aid the construction of this mental model by the execution of high-level

comprehension processes that are often referred to as reading strategies (p. 203). Essentially, good readers, young and old, have a repertoire of strategies they use while reading to improve their overall comprehension. Moore, Zabucky, & Commander (1994) state that “Failure to regulate understanding is likely to produce problems...and results in poor comprehension of texts” (p. 468). In other words, if the reader is not aware of his or her cognitive processes, as well as the many strategies he or she can use to support these processes, the individual will be less likely to notice gaps in understanding while reading; moreover, he or she will be less likely to know how to bridge these gaps in understanding which will ultimately lead to limited comprehension. According to Piaget’s Theory of Cognitive Development, children must hone their metacognitive skills in order to be successful in the formal operational stage of development, which typically spans from age twelve through adulthood (Iwai, 2011). Basically, individuals who fail to develop metacognition before age twelve are more likely to experience delays and difficulties academically, and perhaps socially, during adolescence and adulthood. Moreover, Zhang (2012) states that

...reading is an active, constructive, and meaning-making process, one’s awareness and control of these cognitive processes is metacognition and it is a critical tool to successful reading...Metacognitive processes have been understood to play an essential part in achieving comprehension...The use of metacognitive strategies in the reading process has been generally supported as a valuable aid for its cognitive, social, and linguistic benefits. (p. 934).

It is evident that taking time to develop students’ metacognition has many benefits beyond improving students’ comprehension while reading. Clearly, the development of metacognition is important and a critical component of a child’s development.

Flavell (1979) developed a model of metacognition that includes three variables: person, task, and strategy. The first variable involves the individual understanding his or her abilities, the second requires the individual to assess the demands and difficulty of a given task and the third involves the individual's ability to employ a strategy or strategies that can be used to successfully complete the task at hand (Flavell, 1979). In other words, before beginning a task, the individual must assess his or her abilities, as well as the difficulty of the task, and determine which strategy or strategies he or she could use to successfully complete the given task. Furthermore, metacognition can be divided into three categories: declarative, procedural, and conditional (Jacobs & Paris, 1987; Paris, Lipson, & Wixson, 1983; Schraw & Moshman, 1995). Declarative knowledge involves the individual's understanding of a particular strategy, procedural knowledge involves knowing how to use the strategy, and conditional knowledge requires the individual to understand when, where, and why good readers use the strategy (Iwai, 2011; Kuhn, 2000; Nash-Ditzel, 2010). Teachers are often best at supporting students in developing students' declarative knowledge. As Nash-Ditzel (2010) discovered through her research, procedural and conditional knowledge are by far the most difficult for students to attain. When a teacher is successful in supporting his or her students in developing procedural and conditional knowledge of a particular strategy, students suddenly understand why a particular strategy is important and how to use the strategy independently. Therefore, Iwai (2011) states that children benefit most from "direct explanation of strategies," which is most often referred to as explicit strategy instruction (p. 158). According to Nash-Ditzel (2010), teachers can use modeling to teach students about strategies, "...but also how, when, and where each strategy could be best used" (p. 51). Lastly, metacognitive reading strategies can be divided into three groups: planning, monitoring, and evaluating strategies (Israel, 2007; Pressley &

Afflerback, 1995; Takallou, 2011). These groups are most often referred to by teachers as before, during, and after reading strategies (Iwai, 2011). While some strategies, such as predicting, can be used before, during, and after reading, others, like using context clues to figure out the meaning of unknown words, are often most effective during specific times, in this case during reading.

According to Denton & Fletcher (2003), many teachers assume that children naturally develop the ability to comprehend text, similar to the way in which young children acquire language. However, some researchers, like Pressley (2006), disagree with the previous statement. In fact, Pressley, Wharton-McDonald, Mistretta-Hampston, & Echevarria (1998) found that comprehension does not improve by simply reading more text. Many students need to be explicitly taught strategies for understanding what they read (Gough & Hillinger, 1980; Wren, 2002). Pressley et al. (1998) argues that by learning and using even one strategy, an individual's comprehension will improve. By learning and using multiple strategies, an individual's comprehension will improve significantly (Pressley et al., 1998). This research proves that reading instruction should not stop once children learn to decode; it must continue until the child has developed multiple strategies for comprehending a wide variety of texts (Boulware-Gooden, Carreler, Thornhill, & Joshi, 2007). Some argue that strategy instruction can occur even before students master decoding (Dori, 2007; Smith, 2006). Technically, parents and teachers can indirectly teach effective comprehension strategies before children learn to read by simply engaging in dialogue with the child during read alouds. In fact Kragler & Martin (2009) argue that "...strategic control over comprehension may develop quite early in children who have had more advanced literacy activities" prior to entering kindergarten (p. 514). While proficient readers employ a wide variety of strategies automatically, less proficient readers are often

unaware of the fact that good readers use a variety of strategies to make meaning and repair understanding while reading (Gooden, 2012). Metacognition and strategy instruction go hand in hand because, as stated by Gooden (2012), “Strategy instruction encourages students to think about their mental processes and...execute specific strategies to interact with text” (p. 17). In order for teachers to model these mental processes, as well as for them to monitor the mental processes of their students, teachers must find ways to make a somewhat invisible phenomenon visible. Boulware-Gooden et al. (2007) describe a teacher that taught her students to use certain cues to vocalize their cognitive processes while reading. For instance, “aha” meant that a child had learned something new while reading. Although code words are catchy, the ultimately goal of strategy instruction is to get children talking about their cognitive processes. An excellent way for teachers and students to get inside each other’s heads is through the think-aloud method which will be discussed later.

The next logical area of exploration would be which reading strategies promote metacognition. It is important to understand that the strategies listed are not necessarily the ones teachers choose to teach, yet another topic that will be explored later. The National Reading Panel (National Institute of Child Health and Human Development, 2000) highlight the following eight strategies: comprehension monitoring, cooperative learning, graphic and semantic organizers, story structure, question answering, question generation, summarization, and multiple strategy use (Boulware-Gooden et al., 2007). Paris et al. (1984) selected the following six strategies: understanding the purpose of reading, activating relevant background knowledge, allocating attention to main ideas, critically evaluating, monitoring comprehension, and drawing inferences (Nash-Ditzel, 2010). Pressley et al. (1992) used another variation of strategies which included summarization, prediction, visualization, thinking aloud, story

grammar analysis, text structure, analysis, prior knowledge activation, and self-questioning (Nash-Ditzel, 2010). Gooden (2012) included the following reading strategies in her research: activating relevant prior knowledge before, during, and after reading text, determining the most important ideas and themes in a text, asking questions, creating visual and other sensory images, drawing inferences, retelling and synthesizing what is read, and using “fix up” strategies to repair understanding. It is clear that researchers and teachers often use slightly different labels for similar strategies. Therefore, it is important for teachers to carefully study each strategy and select those that will best support their students’ understanding of text.

According to Wade (1990) there are two categories of comprehension strategies: top down strategies and bottom up strategies. Although students do not necessarily need to know which category a particular strategy belongs in, it is important for teachers to understand the difference between the two. Smith (2006) describes top down strategies as those that use what students already know to make sense of a text. Bottom up strategies are those that require students to identify important facts and details within the text that can be organized to develop new understandings about a given topic. It is important to note that both types of strategies are valid. Smith (2006) states that “It is only when both the top-down schemata and the bottom-up facts are integrated that the reader can reach the correct conclusion” (p. 768). Therefore, teachers should attempt to use a combination of top down and bottom up reading strategies to ensure that their students develop a solid understanding of a particular text.

Gooden (2012) conducted research to determine which reading strategies teachers use the most with their students and what factors influence their decisions. She found that 49 of 56 teachers taught, not necessarily directly, visualizing and 35 out of 56 used activating prior knowledge before, during, and after reading. Retelling, synthesizing, and fix-up strategies were

used the least. The strategies that were not even mentioned by teachers were drawing inferences, asking questions, and identifying important ideas and themes within a text. Essentially, Gooden (2012) realized that a great deal of effective reading strategies are being ignored by teachers. She attributes this to a lack of awareness of these strategies and/or methods and materials for teaching these strategies. Furthermore, she believes that much of it has to do with teachers teaching strategies that work for them, and not necessarily their students. One of the teachers in her study stated "The comprehension strategies that I teach are typically the strategies that I find are most beneficial to my own learning...I realize that I completely teach based on how I comprehend, not necessarily how my students comprehend;" hence why it is critical for teachers to determine the needs of their students before planning strategy instruction (p. 18).

Using Strategy Instruction to Enhance Comprehension for a Wide Variety of Readers

Strategy instruction has been used to improve comprehension for all types of readers. Overtime, researchers have focused their studies on subjects ranging from toddlers to adults and for the most part, have discovered that explicit teaching of reading strategies positively affects reading achievement and attitudes. According to Smith (2006), strategy instruction "...allows teachers to model and identify comprehension strategies very simply and directly, and to compel...students to use and identify these same strategies willingly" (p. 771). Furthermore, a great deal of studies focus on the effectiveness of strategy instruction in improving reading comprehension for struggling readers, students with disabilities, and English Language Learners (ELL). In addition, strategy instruction has been used in general education classrooms to challenge all students to become more active and critical thinkers before, during, and after reading. Without a doubt, most readers can benefit from some form or degree of strategy instruction.

Anderson (2002) argues that "...use of metacognitive strategies ignite one's thinking and can lead to high and better performance. Students who demonstrate a variety of metacognitive strategies perform better on examinations and complete work more efficiently. They are self-regulated learners..." (Anderson, 2002, p. 343). The good news is that, as stated previously, metacognition can be taught and developed within a wide range of readers. According to Boulware-Gooden et al. (2007), after participating in a five-week study, third graders receiving explicit strategy instruction improved their comprehension by 20% more than those in the control group.

Gersten, Fuchs, Williams, & Baker (2001) state that a great deal of research shows that explicit comprehension instruction improves the reading comprehension skills of students with reading disabilities. According to Raphael (2000), "comprehension instruction takes the mystery out of the reading process, helping students to assume control" (p. 292). In a study involving students with reading disabilities, Nelson & Manset-Williamson (2006) found that students who received an intervention involving explicit comprehension instruction made larger gains in reading comprehension than those who did not. Interestingly, although the explicit comprehension instruction intervention was considered more demanding for teachers and students than the instruction received by the other students, as it required more planning for teachers and the students to self-regulate and assume responsibility for their learning, students in the intervention group showed a greater increase in their positive affect toward reading from pre to posttest (Nelson & Manset-Williamson, 2006, p.224). Essentially, although integrating strategy instruction into the classroom proved to be hard work for both teachers and students, the benefits of this instructional improvement were noteworthy. Zhang (2012) conducted a study with Chinese students taking English as a Foreign Language (EFL) at the college level. Findings

showed that strategy instruction was “...effective in enhancing the students’ academic reading comprehension, and the students generally had positive attitudes toward it” (Zhang, 2012, p. 941). This research reveals that despite the initial struggles faced by students in Nelson & Manset-Williamson’s study, students eventually embrace learning and practicing reading strategies. Moreover, Takallou (2011) conducted a similar study with EFL learners. Her results also showed that

...the experimental groups outperformed the control group on the reading comprehension performance. Thus, the metacognitive strategy instruction seems to have contributed to the improvement of students’ reading comprehension performance. In other words, the explicit instruction and practice the experimental groups received about how to plan and how to monitor their reading, contributed to this improvement. (p. 294).

These studies provide teachers with evidence that strategy instruction can significantly improve students’ ability to comprehend text.

It is important to note that without the proper intervention and supports, many struggling readers, readers with disabilities, and English language learners begin to develop a negative attitude toward school and self (Nelson & Manset-Williamson, 2006). However, Nelson & Manset-Williamson (2006), found that “Through better self-regulation in reading, an increased sense of personal control over reading through the mechanisms of improved reading self-efficacy and more adaptive reading attributions is likely to develop, which, in turn, could result in greater positive affect for reading” (p. 216). In other words, developing metacognitive awareness through strategy instruction can cause students to feel a sense of control over their thinking and their learning. According to Wichadee (2011), “Effective readers often monitor their understanding, and when they lose the meaning of what they are reading, they usually select and

use a reading strategy...that will help them reconnect with the meaning of the text” (p. 33).

Through explicit strategy instruction, students begin to understand that reading is an active process that requires thinking and problem-solving. They begin to realize that all readers rely on strategies to help them make meaning while reading.

Many researchers and teachers have learned that readers do not acquire effective reading strategies overnight. Teachers who plan to implement strategy instruction in their classrooms must be patient and understand that it may take weeks, months, or even years to see significant growth in students’ comprehension of texts. Comprehension strategies must be practiced and refined overtime through use in multiple contexts and across various genres (Wichadee, 2011). Although strategy instruction can initially be laborious and even exhausting for some teachers and students, the rewards are significant for both parties. Nash-Ditzel (2010) stated that “...the participants reported that they found themselves using the strategies independently when reading both academic and out-of-school texts” (p. 57). When researchers and teachers discover that their subjects and/or students are internalizing strategies and using them in new contexts, they are rewarded for their efforts. One of the participants in Nash-Ditzel’s (2010) study said “Even if you don’t realize [you are using a strategy] or write it down, you’re still using it” in your head” (p. 58). With explicit instruction and plenty of practice, many readers begin to employ a variety of comprehension strategies automatically and simultaneously while reading.

Strategy instruction becomes increasingly important when teaching non-fiction. Beginning in fourth grade, students are expected to read across the content areas. However, many students are not prepared for this leap from narrative to expository texts (Nelson & Manset-Williamson, 2006). According to Nelson & Manset-Williamson (2006), “Despite this increase in complexity of text, conventional instruction does not involve the use of

comprehension instruction to meet the demands of expository material” (p. 214). Essentially, the strategies honed in the elementary grades often support students’ understanding of narrative texts. As a result, when heavy loads of content area reading materials are presented in the middle and upper grades, students do not have the strategies necessary to make sense of these expository texts. To avoid this disconnect, many districts are encouraging elementary teachers to integrate more expository texts, as well as strategies to support students’ understanding of these texts, into their classrooms. Furthermore, Ofodu & Adedipe (2011) argue that students need to be explicitly taught how to apply the strategies they have learned to the texts they will encounter in science, social studies, and other content areas. Taboada (2012) found that student generated questioning “...is a reading strategy that contributes to ELLs’ reading comprehension and conceptual knowledge in the content area of science” (p. 87). By providing children with exposure to both fiction and non-fiction texts and strategies in the early grades, students will be more prepared for the reading demands of middle school, high school, and college.

To ensure that students develop effective reading strategies before reading demands become overwhelming to the reader, Zhang (2012) suggests that explicit reading instruction should begin as soon “...as possible since the independent use of metacognitive strategies develops gradually through experience” (p. 941). In other words, the development of metacognition can be a slow process; therefore, teachers need to start using strategy instruction in the early grades in order to see the results they desire. Perhaps this is why Dori (2007) uses think-alouds to promote metacognition as early as preschool.

Identifying Effective Instructional Methods and Materials to Support Strategy Instruction

According to Gooden (2012), “There is little question that instruction in comprehension strategies is important and that we have known this for some time” (p. 17). The gap between

research and practice is revealed here. Although many teachers understand the purpose of using explicit strategy instruction to improve students' reading comprehension, few have been able to successfully implement this type of instruction in their classrooms (Pressley et al., 1998).

Interestingly, one of the primary reasons why some teachers are uncomfortable with strategy instruction is because they are unaware of the particular strategies they use as readers, which makes it difficult for them to guide their students in developing these strategies. In Gooden's (2012) study, 44 of the 56 teachers in her study were unaware of the comprehension strategies they use on a regular basis until they began learning more about the metacognitive processes that good readers use. According to Gooden (2012), "While we want children to reach automaticity in reading, teachers, who are expected to model and make their thinking transparent to students, need to be aware of the strategies they use in order to model effectively" (p. 17). In other words, a teacher will not be able to effectively explain and model a given strategy for his or her students if he or she does approach the lesson with a strong understanding of when, where, and how to use the specific strategy in his or her own reading experiences outside of the classroom. Another reason why teachers are hesitant to use explicit strategy instruction is because they do not know which strategies to address with their students. Since a plethora of articles, books, and websites have been devoted to reading strategies, teachers are often overwhelmed by the number of strategies that have been deemed "effective." Also, they are often confused when different names are given to somewhat similar strategies or when two clearly different strategies are given the same name. Unfortunately, strategy instruction is not always black and white. Therefore, teachers must be prepared to make instructional decisions regarding which strategies to teach, when to teach them, and how to teach them (Gooden, 2012). All of these factors depend on the strengths and needs of the student. Iwai (2011) suggests that teachers consider their instructional

goals before selecting a strategy to teach his or her students. Furthermore, when a strategy is well defined, the article, book, or website often fails to provide the teacher with meaningful activities or materials that can be used in the classroom to support the development of the particular strategy. As a result, teachers are often unsure of what materials to use as they teach comprehension strategies. It is evident that there are many obstacles that are keeping teachers from effectively implementing strategy instruction in their classrooms.

When considering effective instructional methods and materials, teachers should consider those that will be most meaningful and engaging to their students, as well as those that will be most helpful in supporting students as they learn to use a variety of strategies independently. According to Takallou (2011), effective strategy instruction is “explicit, integrated, task-based, and individualized” which means that strategies should be taught directly and occur within a meaningful context in which students have a purpose for engaging in completion of the task at hand (p. 278). Furthermore, he states that “Strategy instruction is much more effective when it is integrated into regular classroom learning activities, rather than treated separately, and when numerous strategies are taught over a longer period of time” (p. 279). As previously addressed, teachers must understand that the development of students’ metacognition takes time and will not occur unless the instruction designed to hone metacognition is made meaningful and relevant for students. In addition, Sencibaugh (2007) agrees that students need to see how multiple strategies can be used simultaneously and adds that strategy instruction is most effective in small group settings in which children have multiple opportunities to interact with the text, as well as their teachers and peers. It is evident that teachers have numerous variables to consider as they plan their strategy instruction and gather supplemental materials.

Scaffolding is an effective instructional method that can be used to support students in learning and practicing reading strategies. Smith (2006) describes scaffolding as when "...the adult steps in to assist a child in learning how to do a new, complex task. The adults provides...organization and guidance..." that will support the child in eventually completing the task independently (p. 766). In essence, scaffolding involves providing students with a high level of support when exposing them to a new skill or strategy. As the teacher closely monitors his or her student's progress, he slowly removes some of the supports until the child is able to use the skill or strategy independently across a wide variety of contexts. Another phrase used to describe this process is "...to fade instructional supports..." (Sencibaugh, 2007, p. 10). For instance, when teaching children how to summarize, a teacher might start by telling students what it means to summarize a text, why it is important, and how a reader goes about summarizing. After that, she might model the process of writing a summary for students. Next, she might ask her students for ideas as they write a summary together. Perhaps the following session would involve the teacher scribing as her students write the majority of the summary without her assistance. During this session, she would offer significant feedback to her students to ensure that her students are on the right track. Then, she might encourage her students to work in pairs to write a summary. Eventually, she will challenge her students to write a summary independently. During the last two phases of the process, it is important to note that the teacher is still actively monitoring her students' progress and providing instruction and guidance as needed. However, it is evident that she is carefully adjusting her level of support as her students become more independent users of the particular skill or strategy. This instructional method was designed with Vygotsky's (1978) zone of proximal development in mind. It supports the idea that with the proper support, children can acquire skills and strategies they

would not be able to acquire independently. Recently, scaffolding has been referred to as the gradual release of responsibility in which responsibility for concepts, skills, and strategies slowly shifts from teacher to student (Pearson & Gallagher, 1983). Although these techniques are highly effective in teaching reading skills and strategies, it is important that teachers understand that these instructional models can be applied across the curriculum, particularly when teaching new skills and strategies in writing and math.

Within a scaffolded lesson or series of lessons, teachers and students can use think-alouds to expose their use of a particular skills or strategy. The think-aloud method is a highly effective technique used to monitor students' use of reading strategies. It involves both teachers and students sharing the many thoughts they have while reading in order to reveal the countless processes that occur in our minds as we read. In support of teacher think-alouds, Dori (2007) states that "The more transparent we adults can make our thinking, the more children can use us as models for their own thinking patterns" (p. 103). Similar to scaffolded instruction, the think-aloud method can be used across the content areas, and even to teach social skills (Dori, 2007). The think-aloud method can be used with readers of all ages (Dori, 2007). According to Oster (2001), "Several studies have shown that students who verbalize their reading strategies and thoughts while reading score significantly higher on comprehension tests (p. 64-65). The following are examples of teachers and students using think-alouds during reading instruction. For example, during a read aloud, a teacher might stop and tell her students what she is picturing her head as she reads a particular story. Dori (2007) suggests using a signal or a symbol to notify students that the teacher is about to think-aloud. She points to her head, but shares other ideas, such as a think-aloud puppet with a catchy name (i.e. Mr. Metacognition). Another example would be a student telling his teacher what he thinks will happen next in a particular story during

a guided reading session. At first, the think-aloud method can feel unnatural and uncomfortable for teachers and their students. But Nash-Ditzel (2010) found that students "...thoughts in the second think-aloud appeared more authentic, as opposed to forced" (p. 55). Like any skill or strategy you learn, there is likely to be a period of discomfort before the skill or strategy is mastered.

It is important to note that the think-aloud method does not always have to be conducted orally; some teachers require their students to write down their thoughts as they are reading independently (Oster, 2001; Zhang, 2012). Zhang (2012) believes that "...journal writing can play an important role as an appropriate tool in encouraging students to think about their own reading processes and consider ways of improving their reading ability" (p. 942). When students document their think-alouds, it becomes a permanent fixture that both students and teachers can refer back to for reflective, as well as instructional and assessment purposes. Teachers can then use these documented think-alouds to identify students' strengths and needs related to comprehension, as well as to plan future strategy instruction, or even to guide classroom discussions about particular texts (Oster, 2001). Therefore, the think-aloud method can be used as both an assessment and instructional tool. Through her research, Nash-Ditzel (2010) discovered that "...the areas of the text where the participants stopped to think-aloud were, more often than not, areas they were then able to remember when it came time to answer the assessment questions" (p. 54). These results prove that the think-aloud method is effective in supporting students' strategy use and overall comprehension of text.

Another effective instructional technique is using students' think-alouds to drive classroom discussions and assignments. Nash-Ditzel (2010) believes that students benefit from hearing how their teachers and classmates are using strategies to improve their comprehension of

a single, or multiple, text(s). When think-alouds are shared within a classroom, students are challenged to compare their own thoughts with those of others, which can lead students to refine and strengthen their understanding of a given text. Van Keer (2004) informs teachers that “interactions between peers encourages children to talk not only about what they are reading, but also about what they do when reading” (p. 39). In other words, when students share their think alouds with their classmates, classroom dialogue shifts from simply focusing on the content and meaning of the text to the connections that can be made between the text and students’ lives, which inevitably strengthens students’ overall comprehension of the text. Oster (2001) used teacher and student think-alouds to support strategy use and facilitate discussion as her class read a classic novel together. She stated that

Once my students became comfortable with the think-aloud strategy, they valued peer sharing and class discussion based on their think-aloud comments. The level of student interest and participation increased, and their understanding of literature improved when I made the think-aloud strategy the basis of my teaching. (p. 69).

By having students share their think-alouds with the class, students are able to compare and contrast their thinking with that of their peers, which ultimately leads to higher level discussions about literature. Oster (2001) also used her students’ think-alouds as inspiration when developing writing assignments for her students. By taking her students ideas and wonderings into account when creating writing assignments, she increased the likelihood that her students would be willing to respond thoughtfully to her prompts.

Since many students seem to enjoy learning collaboratively, peer-tutoring is a unique context in which students can hone the reading strategies they have learned through teacher modeling. According to Van Keer (2004), there are two types of tutoring: same-age and cross-

age. Same age tutoring would involve, for instance, two fifth graders teaching each other a particular reading strategy. It is important to note that in same-age peer tutoring, both students should have the opportunity to act as the tutor and the tutee. The second type of tutoring involves older students teaching younger students. For example, a fourth grade and a second grade teacher might decide to pair their students into “Reading Buddies.” Students might meet with their buddies once a week to read together. In cross-age tutoring the older student is often supporting and guiding the younger student in using a variety of reading strategies. Van Keer (2004) argues that “As compared to conventional teacher-mediated instruction, peer tutoring increases individualization, time on task, immediate and specific feedback, reinforcement and error correction, as well as opportunities to respond, academic engagement and relevant academic behaviors that are related to specific academic tasks” (p. 40). It is important to note that the role of the teacher is still critical in peer-tutoring. Teachers must do a significant amount of modeling ahead of time to ensure that her students understand how peer-tutoring works. Also, teachers should circulate the room as peer-tutoring takes place in order to monitor each pair’s progress. Stopping here and there to coach students and support them in their strategy use, or the peer-tutoring process in general, can be extremely effective.

Teachers often find clever ways to teach reading strategies to even their most reluctant readers. Smith (2006) devised “Think-Aloud Mysteries.” Essentially, she created a series of short texts that span across multiple genres and grade levels. All of the texts follow a similar format in which the first sentence includes vague details, with each line after the first revealing more specific details, until main idea of the passage is finally exposed in the last sentence. She breaks the text into parts, revealing the text to her students sentence by sentence; she refers to each sentence as a clue. Students are challenged to think-aloud and employ various reading

strategies, as they attempt to determine the main idea of the text; she refers to this as solving the mystery. After students have mastered the format of the texts and process of the activity, Smith (2006) challenges her older students to write their own think-aloud mysteries for their teachers, parents, and friends to solve. Smith (2006) has experienced much success with the think-aloud mystery method she developed.

In regard to instructional materials that can be used to support strategy instruction, teachers have many choices. Some researchers and teachers argue that strategies should be taught within authentic texts in order to create a learning environment in which students can learn and practice strategies in a context that is meaningful and similar to the environment in which they will eventually apply the same strategies independently (Takallou, 2011). In support of this argument, Takallou (2011) found that the students in her study who were taught reading strategies through authentic reading materials did better than those who used inauthentic materials. Regardless, some researchers and teachers believe that strategies should be taught using simple texts that lend themselves to a particular strategy. Teachers can use authentic texts or texts created for teachers with strategy instruction in mind. When making the decision of which instructional materials to use, teachers should always consider the needs, as well as the interests, of their students.

Takallou (2011) believes that authentic texts are motivating for students and promote reading for pleasure. While authentic texts may be more engaging to students, they rarely come with instructional manuals or supplemental materials that support teachers in using these texts for strategy instruction. Therefore, teachers often need to create these lessons and materials on their own. As stated by Takallou (2011), "...without sufficient support materials using authentic materials can add time constraints for the instructor" (p. 282). Finding authentic texts to support

strategy instruction can be a daunting task that many teachers choose to avoid. When creating their own lessons and materials, one of the problems teachers often make is selecting the wrong type of text to teach a particular strategy (Takallou, 2011, p. 283). It is extremely important that the selected text contains features that address the teacher's instructional goals. However, as more researchers and teachers push for the use of authentic texts in reading instruction, some companies are beginning to design supplemental materials, or even entire reading programs, for teachers that support strategy instruction through authentic texts (Pilonieta, 2010). On the contrary, some teachers prefer to use short stories and passages found within their basal reading program to teach reading strategies. Smith (2006) argues that "It is too much to expect struggling readers to read and comprehend a long, complex passage with numerous words they cannot decode" while simultaneously requiring them to employ new reading strategies (p. 764). Essentially, when a child's attention is devoted to decoding, he or she does not have cognitive energy left to practice new reading strategies to improve comprehension. Short and simple texts often provide students with "...exposure to rules, patterns, or structures which they will need to achieve success..." (Takallou, 2011, p. 282). Another advantage of using the short stories and passages found within a basal reader is that they often are accompanied by teacher and student materials that can support strategy instruction. However, some teachers and students find these texts to be somewhat mind-numbing and/or irrelevant to their lives and experiences. In addition, Nash-Ditzel (2010) states that "...research has found that teaching isolated, basic skills, using prefabricated materials..." hinders strategy development, making it difficult for students to apply the strategies they have learned in authentic contexts (p. 60). Since neither option is fool proof, many teachers opt for a combination of both authentic texts and those found within pre-packaged reading programs. While short texts can be useful in modeling and practicing reading strategies,

a teacher's ultimate goal should be to eventually support students in applying the strategies learned to authentic texts.

Alternative Instructional Techniques for Improving Comprehension

Not all teachers and researchers are on board with strategy instruction. According to Nelson & Manset-Williamson (2006), "one could hypothesize that explicit strategy instruction may damage students' motivation to read" (p. 215). Essentially, instead of allowing children to discover effective reading strategies on their own through exposure to text, a teacher is telling children which strategies work. In other words, for many students explicit strategy instruction takes the guess work out of reading – which could very well be a good thing for the majority of readers. As previously mentioned, researchers understand that not all readers will discover effective reading strategies independently; many students need the explicit instruction that has been extensively outlined in the previous sections. Furthermore, findings from a study conducted by Nelson & Manset-Williamson (2006) prove that explicit, self-regulatory strategy instruction does not appear to be harmful to the reading-specific motivational and affective characteristics of students..." (p. 227). In reality, strategy instruction motivates students by providing students with strategies that can significantly enhance their comprehension of text. According to Nelson & Manset-Williams (2006), "Without explicit procedures, these students may not perceive the control they have over reading outcomes, instead making attributions for failure to stable and uncontrollable traits such as ability" (p. 227). In other words, without a repertoire of strategies, some readers may feel helpless when presented with a difficult text.

Other critics may argue that it is impossible for teachers to equip students with a strategy for each and every text and scenario they will encounter as readers. However, Nuttall (2000) acknowledges that

It is impossible to familiarize them with every text they will ever want to read, but what we can do is give them techniques for approaching texts of various kinds, to be used for various purposes, that is the essence of teaching reading. (p. 38).

It is important for teachers to remember that the goal of teaching reading is to support students in developing a wide variety of strategies they can use flexibly across multiple texts.

Another concern lies in application and retention of reading strategies. Although there is plenty of evidence that suggests the effectiveness of strategy instruction, many researchers and teachers are still baffled by students who, even after repeated exposure, are unable to transfer strategies to new contexts (Nash-Ditzel, 2010). Nash-Ditzel (2010) states that “Repeated modeling, practice, assessment, and continued feedback regarding these strategies were necessary to see progress. Students must be exposed to strategies more than once, and must have repeated opportunities to practice strategies after they are introduced” (p. 59). As previously stated, researchers, teachers, and students must be patient when it comes to seeing the results of strategy instruction (Takallou, 2011).

Some argue that strategy instruction and techniques such as the think-aloud, take the joy out of the reading process by frequently starting and stopping to analyze the text and our thoughts (Makeown, Beck, & Blake’s, 2009). Dori (2007) agrees that the first goal of a teacher is to inspire her students to love reading. Therefore, she suggests that teachers use strategy instruction, and in particular the think-aloud method, on the second or third readings of books. For instance, after reading a picture book once with her students to simply enjoy the story and the illustrations, she might come back to the text at a later time to use it as an instructional tool (Dori, 2007). She also encourages teachers to lightly sprinkle strategy instruction throughout the read aloud so as not to fragment the reading process for students (Dori, 2007).

McKeown, Beck, and Blake (2009) conducted research to determine the advantages and disadvantages of two approaches to comprehension instruction: the strategies approach and the content approach. The strategies approach is what has been discussed throughout this paper. In simple terms, the strategy approach involves explicitly teaching children a variety of effective reading strategies in order to improve their overall comprehension of text. However, the content approach involves keeping students' focus on the content of the text and developing an understanding of the text through discussion of the ideas and concepts presented in the text. Both approaches value the role of the reader, the text, and the context in comprehension (Goodman, 1995). McKeown, Beck, and Blake's (2009) study involved groups of students using the same texts but guided by teachers using different approaches to comprehension instruction. Through their research, they found that "...all instructional approaches provided for adequate comprehension, and a small but consistent pattern of differences occurred that favored the content approach" (p. 242). They argue that strategy instruction might not be productive because students are making meaning indirectly through strategies, rather than directly through engagement with the content of the text. In other words, they believe that strategy instruction requires students "to do something in addition to making sense of the text" which ultimately, could distract students from attending to the meaning of the text" (p. 245). Essentially, the fear is that some students will get so caught up in employing reading strategies that they will forget to actually comprehend. In McKeown, Beck, and Blake's (2009) words, "Focusing on strategies during reading may leave students less aware of the overall process of interacting with text, especially in terms of the need to connect ideas they encounter and integrate those ideas into a coherent whole" (p. 246). During strategy instruction, it is critical that teachers do not break a text apart without eventually putting it back together again. Regardless, McKeown, Beck, and

Blake's (2009) "acknowledge that the consensus in the field is that strategies instruction is useful" (p. 245). It is important for teachers to remember that what works for one reader, does not work for all readers. As stated throughout the paper, teachers need to consider the strengths, needs, interests, and learning styles of their students before selecting instructional methods or materials for teaching reading comprehension.

Conclusions

It is critical for teachers to understand that their strategy instruction will not be effective unless they are aware of their own metacognitive processes and properly trained in how to develop those metacognitive processes in their students. Sencibaugh (2007) states that "General and special education teachers lack the knowledge pertaining to the implementation of strategy instruction concerning reading comprehension, and the local schools are responsible for providing continuing education through professional development..." (p. 15). Very few colleges, universities, or school districts adequately train their teachers in how to teach reading strategies. However, they expect their students to employ a wide variety of reading strategies across diverse text types. The goal of producing proficient readers who think critically about the reading process will not be attained if teachers are not properly trained in strategy instruction. To support teachers in acquiring the knowledge and skills necessary to effectively implement strategy instruction, a district or school might organize professional development workshops or study groups, as well as classroom-based demonstration lessons, peer-observations, and coaching from a literacy specialist (Pilonieta, 2010). Block & Pressley (2002) are aware of the extensive behind the scenes work that must go on before teachers are ready to instruct their students effectively, and argue that strategy instruction involves a commitment from the teacher and the student, as well as sustained time for planning and instruction. It is imperative that district

and/or school administrators understand this before requiring teachers to implement strategy instruction. Nash-Ditzel (2010) states that like their students, "...instructors need substantial time to learn, practice, and implement effective reading strategies into their curriculum" (p. 61).

Teachers need to be passionate about strategy instruction and willing to devote planning and instructional time to the cause in order to see results.

Moreover, if a district or school desires to implement strategy instruction across the grade levels, it is important that a team of administrators and teachers meet to develop a common set of strategies, and language that will be used to teach those strategies, to avoid confusion among teachers and students. Also, they should devote time to mapping out the scope and sequence of strategy instruction to determine which strategies, and to what extent particular strategies will be taught at each grade level. It would also be beneficial for the district or school to decided on developmentally appropriate, yet somewhat consistent, methods and materials for assessing students' independent use of strategies.

Unfortunately, not all districts, schools, administrators, and/or teachers are willing to invest in the process previously described. For districts and schools that are looking for pre-packaged reading programs that explicitly instruct teachers in explicitly instructing their students on strategy use while reading to either supplement their initiative or serve as their initiative, many basal readers are being revised to meet today's standards for authenticity and rigor, particularly when it comes to strategy instruction. According to Pilonieta (2010), "It is estimated that elementary classrooms throughout the country use basal reading programs 80-90% of the time" (p. 150). As a result, the basal reading program adopted by the school often becomes the reading curriculum of the school. If the basal reading program the school has selected does not included explicit strategy instruction, students are missing out on a key component of reading

comprehension instruction. Therefore, it is imperative that administrators carefully examine basal reading programs before making a purchase to ensure that the program incorporates both strategy instruction and wide variety of authentic texts. Ideally, both teachers and students would also be part of this committee of examiners, since teachers and students will be the ones directly impacted by the program selected. Pilonieta (2010) believes that with some tweaking, basal readers could become "...a dependable source of support for teachers..." especially new teachers "...in surviving their initial teaching experience..." (p. 169). As previously noted, ideally, district or school-wide professional development should be teachers primary source of support in acquiring new teaching methods and materials; however, Pilonieta (2010) understands that professional development opportunities are not always readily available to teachers in some districts and schools.

Once a plan for strategy instruction is in place, teachers need to convey to their students the importance of metacognition and strategy development. Teachers and students need to stop defining a good reader as someone who can figure out tricky words and read quickly. Reading is more than that – reading is about making meaning and developing new understandings. Van Keer & Verhaeghe (2005) emphasize that "Research...has shown that good readers are characterized by more than just decoding skills" (p. 292). Once teachers and students begin to understand that developing effective strategies for improving comprehension is important, perhaps districts and schools will begin to take strategy instruction more seriously and make efforts to prepare their teachers to effectively instruct their students in proper strategy use. Although teachers need the support of their fellow teachers and administrators, if they want students to buy into strategy instruction, they need to find ways to help their students see the process as necessary and beneficial. According to Nash-Ditzel (2010), "Students must believe in

the value of reading strategies if they are ever to utilize them on a consistent basis” (p. 55). As previously described, when implemented correctly, strategy instruction can and should be engaging, motivational, and most importantly, beneficial to all students.

Methods

In order to develop a deeper understanding of the ways in which explicit strategy instruction enhances students’ comprehension, I conducted a brief study at The Harley School in Rochester, New York.

Context

As previously stated, my study was conducted at The Harley School in Rochester, New York. The Harley School is an independent school that was founded in 1917. Currently, approximately 520 students attend The Harley School, spanning from pre-kindergarten (nursery) through twelfth grade. As of September 2011, the student population was made up of students from 30 school districts and five counties. The school is comprised of three divisions including a Lower School (Nursery – Grade 4), Middle School (Grade 5 – Grade 8), and Upper School (Grade 9 –Grade 12). The teacher to student ratio is approximately one to seven. The Harley School places great emphasis on each child’s academic, social, and emotional development. Furthermore, each division strives to develop students’ intellectual abilities and interests, as well as their creativity through challenging academic programs and an extraordinary fine arts curriculum. At the secondary level, The Harley School also offers several unique courses such as hospice, organic gardening, and glass making, to name a few. The school offers a Student Support Program (SSP) for students with special needs from kindergarten through twelfth grade. Furthermore, students with Individualized Education Programs (IEP) receive services through the Brighton Central School District. Tuition varies for each division: Lower School (\$18,240),

Middle School (\$19,150), and Upper School (\$20,000). The Harley School offers financial aid to students' who qualify.

The students who volunteered to participate in this student were fourth graders. This year's fourth grade class had 43 students. There were 24 girls and 19 boys. The majority of the students were Caucasian with the exception of three mixed African American students, two mixed Asian students, one mixed Hispanic student, and one Middle Eastern student. Although only one child had an IEP, approximately four children received SSP services. The students were divided into three sections: 4A, 4B, and 4C. 4A and 4C had 14 children and 4B had 15 children. Students spent the majority of the day with their homeroom teacher, with the exception of math and reading class. Students were in flexible math groups based on their performance on pre-assessments that were given before each unit. For reading units, teachers presented a variety of books linked to common theme. Students were given the opportunity to select their top three books. The teachers reviewed each child's list and placed students into reading groups, taking interest and reading level into account when determining each child's placement. The fourth graders gathered weekly for community meeting and Very Important Person (VIP) presentations given by two students each week. There is a great sense of community in The Harley School, but particularly in fourth grade, because students have the opportunity to work with multiple teachers and a variety of students throughout the school day and year.

Participants

Although this study was small, it yielded results that are important to the educational community, in particular those that are interested in improving their literacy instruction.

Teachers. As both a teacher and researcher in this study, it is important to note my credentials and teaching experience. I graduated in 2009 with my bachelor's degree and

certification in Childhood Education and Special Education (Grades 1-6). From 2009-2011, I taught fourth grade in Webster, New York, first at Schlegel Road Elementary School and second at Klem South Elementary School. From 2011-2012, I taught fourth grade at The Harley School. In the spring of 2010, I started my master's program at St. John Fisher College in Literacy Education. As a result of my coursework in literacy acquisition and development, I was able to attain additional certification in Early Childhood Education (Birth – Grade 2) and Students with Disabilities (Birth – Grade 2). Currently, I am a capstone and practicum student and will graduate in August 2012 with my master's degree, as well as certification in Literacy Education (Birth – Grade 6).

As stated previously, the Lower School is comprised on Nursery through Grade 4. The following is the teacher break-down at each grade level: Nursery (six teachers), Kindergarten (three teachers), Grade 1 (three teachers), Grade 2 (three teachers), Grade 3 (two teachers), and Grade 4 (three teachers). There are also two SSP teachers that work as consultant teachers for students with special needs. The questionnaire was distributed to 21 of the 22 teachers, excluding myself. I received 16 completed questionnaires. Based on information provided by teachers in the questionnaires, two teachers have less than 10 years of teaching experience, three teachers have between 11-20 years, seven teachers have between 21-30 years, three teachers have between 31-40 years, and 1 teacher has 41 years of teaching experience. Based on this data, one can conclude that The Harley School has an older teaching staff with a great deal of experience.

Students. As previously mentioned, the students who volunteered to participate in this study are fourth graders from The Harley School. They gave assent and their parents gave consent for them to participate in this study. All three students will be addressed using

pseudonyms. Furthermore, all markings that could be used to identify the students have been removed from the artifacts gathered.

Samantha is a 10-year-old Caucasian female. She lives in Fairport, New York and started at The Harley School in third grade. Her father is a college professor and teacher at the Harley School. Her mother is also a college professor and former teacher. She is the oldest of four children including a brother and two sisters who also attend The Harley School. Outside of school, she enjoys playing soccer. She was in my homeroom this year and I was able to work with her during several reading units. Samantha excels in all subjects. She is very inquisitive and extremely passionate about learning. Although she is very bright, she is a slow and careful worker and occasionally worries that she is not as “quick” as some of her classmates. Although Samantha struggles with decoding and fluency when reading aloud, she is able to comprehend fourth grade material without adult support. She also makes valuable contributions to classroom discussions about literature.

Kelsey is also a 10-year-old Caucasian female. She lives in Rochester, New York and has attended The Harley School since Nursery. Her father is a former nurse and currently owns his own carpentry business. Her mother is a teacher at The Harley School. She is the older of two children including a brother who also attends The Harley School. Outside of school, she enjoys Irish dancing. Like Samantha, she was in my homeroom this year and I was able to work with her during several reading units. Kelsey is an average student in most subjects, but excels in the performing arts. Similar to Samantha, she is very inquisitive and extremely passionate about learning. Although she is quite capable, Kelsey often lacks confidence in her abilities, particularly those related to mathematics. Kelsey is a fluent reader and is able to comprehend fourth grade material minimal adult support. She also makes valuable contributions to classroom

discussions about literature. In the past, Kelsey received SSP in math, reading, and writing. Currently she is progress monitored by an SSP teacher. This year, she, along with a few of her classmates, participated in a brief program designed by an SSP teacher to improve her spelling skills.

Betty is a 10-year-old Caucasian female as well. She lives in Ogden, New York and has attended The Harley School since Nursery. Her father works for a local company and her mother is a teacher at The Harley School. She is the older of two children including a sister who also attends The Harley School. Outside of school, she enjoys playing sports and drawing. Unlike the other participants, she was not in my homeroom this year. However, I was able to work with her during the last reading unit of the year on Greek Mythology. Betty requires some adult support in most subjects, but excels in the creative arts. Regardless of academic struggles, Betty loves school and is engaged in learning activities throughout the day. Betty still struggles with decoding and fluency when reading aloud and requires adult support in order to comprehend fourth grade material. In the past, Betty received SSP in math, reading, and writing. Currently she is progress monitored by an SSP teacher.

Researcher Stance

As both a fourth grade teacher at The Harley School and a graduate student at St. John Fisher College, I acted as a participant observer in this study, engaging in and making observations about each step of the process (Mills, 2011). Since I have taught the students that I will be using as the participants in my study, and will continue to teach them as part of this study, I am presented with a few advantages and a few challenges. Knowing the students as individuals, and as learners, I have more insight than a stranger into each child's attitudes, behaviors, and performance in the area of reading. However, because I know the participants so

well, I may overlook something that may stand out to an “outsider.” To provide me with additional information to enhance the findings and implications of my study, I distributed a questionnaire about reading comprehension to the Lower School teachers at The Harley School. Therefore, the Lower School teachers also played an important role in my research.

Method

This study involved both qualitative and quantitative data collection techniques in order to observe students’ metacognitive awareness and strategy use, as well as their comprehension level of grade level text, and to determine how all of these are affected as a result of explicit comprehension strategy instruction. The study was conducted in a small group (three students and one teacher) within a fourth grade classroom at The Harley School. The following is a detailed description of the steps taken to conduct this study.

First, in order to begin the study, the students needed to provide me with assent and their parents with consent, that they were willing to participate in the study. As stated in the description of each child, all three students are children of teachers at The Harley School. In order to conduct my study before the end of the school year, I had to pinpoint students that would be willing and available to meet with me before and after school for five 20 minute sessions. I knew that these children were often at school earlier and left later than the average child; therefore, I assumed they would be the most reliable participants. Although I would have preferred to conduct my study using a random sampling of fourth grade students, due to the constraints of the course, my participants had to be hand-selected. After the assent/consent step was complete, the data collection began.

During our first meeting I explained the purpose of my study to my students. I compared my research to the research they conducted as part of their Science Fair projects earlier in the

year – suddenly, it all made sense to them! I stated that I was curious to know what was happening inside their heads while they were reading. I also told them that I wanted to find out if teaching kids reading strategies would help them to understand what they are reading. After that, I asked the children to complete a short survey that I designed to determine their attitudes about reading, as well as their current understanding and use of reading strategies (See Appendix A). Next, each child was given a short reading passage about Johnny Appleseed. This passage was at the fourth grade level and like all other passages and comprehension questions used in this study, it was obtained from the Qualitative Reading Inventory-4 (Leslie & Caldwell, 2006). The students were instructed to read the passage silently. However, whenever a thought came into their head while reading, they were to make a mark on the passage, and share the thought aloud into a microphone. I used a program called Audacity to record each child's thoughts as she read. At the end of this process, I had a brief audio-recording for each student that served as an important artifact for my research. Next, each student had to answer eight comprehension questions about the passage, half were explicit questions and the other half was implicit questions (See Appendix B). The students were able to look back at the text if needed. The survey, audio-recording, and the comprehension questions served as a pre-assessment. It allowed me to pinpoint strategies each child already uses while reading, as well as their current level of comprehension at the fourth grade level.

The next three sessions involved me explicitly teaching three different reading strategies: Visualizing, Connecting, and Questioning. Each session followed a similar format that involved a detailed description of the strategy, as well as why good readers use it and how they use it. After that, I would model the strategy for students using a passage at the fourth grade reading level. Next, we would practice the strategy together. Finally, I would read the remainder of the

passage aloud as the students practiced the strategy on their own using a graphic organizer designed to develop each strategy. At the end of each session, we would review the what, why, and how of the strategy. I would also ask the students whether or not they enjoyed learning about and using the given strategy. The strategy description posters and graphic organizers used at each session can be found in Appendix C - F. All of these resources were provided to the students in a packet that was collected at the end of the fourth session as additional artifacts.

During the final session, students completed the same survey they completed at the beginning of the study (See Appendix A); however, the survey also contained a few more questions that asked the children to consider their most and least favorite strategy, as well as whether or not they will use the strategies they learned through this study in the future. These additional questions were asked again during a brief interview with me that was recorded using Audacity (See Appendix G). The students repeated the same process as the first session; however, this time they read a passage about Amelia Earhart. The survey, audio-recording, comprehension questions (See Appendix H), and the interview served as a post-assessment. The post-assessment allowed me to determine student growth, as well as the effectiveness of my explicit strategy instruction. It is important to note that the students needed approximately 10 extra minutes to complete the pre-assessment and post-assessment. Also, the interviews were conducted during the school day in one-on-one settings during free moments.

The questionnaire given to teachers was also an important part of my data collection (See Appendix I). I created the questionnaire to get a sense of teacher attitudes toward reading development, as well as the instruction and assessment techniques and tools they are currently using in their classrooms. I personally delivered the questionnaires to teachers, hoping that my extra effort would increase participation. Teachers had two school days to complete the

questionnaire. As mentioned, 16 questionnaires were returned out of the 21 distributed. The teachers were not required to put their names on the questionnaires, although some did.

Quality and Credibility of Research

In order to ensure credibility, transferability, dependability, and conformability, I adopted several strategies from Guba (1981) and terms from Mills (2011). To guarantee credibility, which involves the researcher taking into account the complexities of the participants and the sometimes unexplainable trends that appear in research, I practiced triangulation which refers to the use of multiple data sources (Mills, 2011). Essentially, I attempted to collect my data from multiple sources including student surveys, audio recordings, standardized reading assessments, observations during instruction, student work, and student-teacher interview, as well as teacher questionnaires.

I considered transferability when planning the assessments and instruction used during my research. Transferability refers to the researchers understanding that all findings that result from a particular study are bound to the context of the study and should not be generalized (Mills, 2011). Since many schools require teachers to conduct one-on-one reading conferences with students in order to conduct reading assessments, the assessments I used could be used again with an entire class. Also, when planning my instruction, the procedures I followed could be replicated when teaching a whole-group mini-lesson or a guided reading lesson. However, I understand that my study may not yield the same findings in the contexts that differ from that of my study.

To ensure dependability, which refers to the “stability of data,” I established an audit trail in which my critical colleague (a fellow graduate student) and my professor cross-checked my data to ensure that it is both accurate and meaningful (Mills, 2011). Last, to insure

confirmability, or “objectivity of the data collected,” I compared multiple data sources and remained reflective of my own assumptions and biases throughout the process (Mills, 2011).

Informed Consent and Protecting the Rights of the Participants

Prior to meeting with the student participants, I distributed an informed consent form to parents and a written assent form for the students. The forms provided the children and their parents with a plethora of information, including but not limited to, the purpose of the study and length of participation, as well as the risks and benefits of participating. In addition, the children and their parents were given a list of rights designed to protect research participants.

Before asking the children and their parents to sign and date their respective forms, I explained all of the information provided and answered any questions they had. Also, I reminded them that their identities would remain anonymous through pseudonyms and the removal of all identifying markings from the student work collected throughout the study.

Data Collection

As previously noted, to determine whether or not strategy instruction improved students’ comprehension, I used multiple data collection techniques that provided me with both qualitative and quantitative data to support my analysis.

In order to collect qualitative data, I referenced existing archival sources within and about the school, created conventional sources, such as study surveys and teacher questionnaires, interviews, developed rating scales, used inventories, collected audio recordings, and made observations documented in my field notes (Mills, 2011). Each of the previously mentioned data collection techniques are described in detail in the *Method* section of this paper.

In order to collect quantitative data, I developed a scoring system for the student surveys, audio recordings, and comprehension assessments. The scoring system I developed helped me to

assess students' knowledge, skills, and behaviors related to reading comprehension. This scoring system is discussed in further detail in the next section of this paper.

Data Analysis

Before I report and discuss my findings, it is important to note the ways in which I evaluated my data sources. I used a variety of techniques for analyzing the data I collected throughout my study.

In order to analyze the student surveys completed as part of the pre-assessment and post-assessment, I created a scale to evaluate students' responses to particular questions (See Appendix J). Essentially, I created a rubric for some of the questions. The student could earn three points, two points, or one point, depending on their response. I clearly outlined what constituted a three point, two point, or one point response. Although the scaled rubric I developed could be viewed as subjective since it was developed with my own unique standards and expectations in mind, I needed to develop a consistent method for evaluating and assign credit to student responses. However, some questions did not lend themselves to a scaled rubric; for example, the questions that were added onto the survey and used in the interview that were related to students' preferences and future use of reading strategies. Therefore, I simply made observations about the students' responses.

In order to evaluate students' thoughts while reading the assigned passages during the pre-assessment and post-assessment, I used each student's recordings and marked up passages to transcribe their thoughts, as well as the text that came before each thought. In an attempt to determine which strategies the students were already using while reading, I developed the following code:

“Text” marks what the student read before they responded.

“/” marks when the student stopped reading in order to respond.

“Student” marks what the student said in response to the text.

C = Making Connections

Q = Asking Questions

V = Visualizing

O = Other

This coding system helped me to pinpoint each student’s strengths and needs in terms of their use of comprehension strategies. I also counted the number of times each child stopped reading to share a thought. By combining information gathered from my coding and counting system, I was able to complete what I refer to as a metacognitive strategy analysis.

To determine the correctness of students’ responses to comprehension questions following the passages used during the pre-assessment and post-assessment, I used the possible student responses outlined in the Qualitative Reading Inventory-4 (Leslie & Caldwell, 2006). For each question she answered correctly, the student received a point. Ultimately, the student received a total score out of eight, as well as an explicit score out of four, and an implicit score out of four. These results were combined with the points awarded from the survey to obtain a total pre-assessment and post-assessment score.

To evaluate the work students produced during the sessions in which I directly taught reading strategies, I made anecdotal notes about each student’s completed graphic organizers. See Appendix D-F for blank graphic organizers.

In order to evaluate the questionnaire given to teachers, I developed scaled rubrics similar to those created for the student survey (See Appendix K). Once again, teachers could receive three points, two points, or one point for any given response. Like the student surveys, I clearly outlined what constituted a three point, two point, or one point response. Furthermore, similar to the student surveys, some responses did not lend themselves to a scaled rubric or point system; therefore, I developed categories to place teachers in based on the information they provided regarding their teaching experience and grade level. Although I initially planned to complete a rubric for each questionnaire I received, I ended up tallying teacher responses to each question on the same rubric so that I could see the “bigger picture” by simply looking at one rubric. For instance, I would examine responses to the first question on all of the questionnaires, making tallies on my rubric to note whether each response fell in the three points, two points, or one point category, etc. In the end, I was able to calculate the percentage of teachers that received a three points, two points, or one point for each question.

When examining the data, it is important to reference the tables provided, as well as the explanations before and after each table, and also the appendix that includes the items from which the data was collected initially, in order to gain a full understanding of this studies results, implications, and conclusions.

Findings and Discussion

After reviewing the quantitative data, I created a variety of tables which organize the data from each source. It is important to note that not all data collected is revealed in the provided tables or my narrative analysis. I carefully selected pieces of data that pertain to my initial research question: How can teachers use explicit strategy instruction to improve their students’ reading comprehension?

The first set of data to be analyzed pertains to the information gathered from the pre-assessment given to students prior to receiving explicit strategy instruction (Pre-Assessment, May 30, 2012). Found in Table 1 are the scores obtained from the pre-assessment given to students before receiving explicit strategy instruction. Table 1 includes individual scores, as well as mean scores for the group, pertaining to each component of the pre-assessment. As previously noted, the pre-assessment included a student reading survey in which the students could earn a maximum of 15 points, as well as a reading comprehension exercise comprised of two parts. The first part included a metacognitive strategy analysis in which students earned points for the number of times they commented on the text. As described in the previous section, after tallying the number of times the student commented on the text, their comments were sorted into strategy categories including Making Connections (C), Asking Questions (Q), Visualizing (V), and Other (O). The second part of the reading comprehension exercise included eight comprehension questions in which the students could earn a maximum of eight points (four explicit questions and four implicit questions).

Table 1

Pre-Assessment Results

	Samantha	Kelsey	Betty	Mean Score
Reading Survey	12/15	11/15	12/15	11.7/15
Metacognitive Strategy Analysis	6 (Total)	14 (Total)	5 (Total)	8.3 (Total)
	0 (C)	0 (C)	3 (C)	1 (C)
	5 (Q)	14 (Q)	0 (Q)	6.3 (Q)
	0 (V)	0 (V)	0 (V)	0 (V)
	1 (O)	0 (O)	2 (O)	1 (O)
Comprehension	7/8 (Total)	6/8 (Total)	2/8 (Total)	5/8 (Total)

Questions	4/4 (Explicit)	3/4 (Explicit)	0/4 (Explicit)	2.3/4 (Explicit)
	3/4 (Implicit)	3/4 (Implicit)	2/4 (Implicit)	2.7/4 (Implicit)

Based on the information provided in Table 1, prior to receiving explicit strategy instruction, Samantha, Kelsey, and Betty entered this experience with a similar level of understanding pertaining to the characteristics of a good reader, their strengths and needs as readers, as well as the strategies good readers can use to improve their understanding of text. When examining their metacognitive strategy analysis, I noticed that all of the students were already using reading strategies prior to receiving my instruction. Kelsey vocalized her strategy use the most; however, it is important to note that the other students may have been using a variety of strategies in their heads, without necessarily vocalizing them. Kelsey and Samantha seemed to favor the strategy of Asking Questions. Last, Betty seemed to rely most on connecting the text to her own life and experiences. Overall, when examining their metacognitive strategy analysis as a whole, Asking Questions surfaced as the most used strategy among the girls. When studying their responses to the comprehension questions, it is clear that Kelsey and Samantha had a strong understanding of the text. Betty seemed to have difficulty responding to the comprehension questions. Interestingly, Betty answered more implicit questions correctly than explicit, which is typically not the case for the majority of students I have encountered in my teaching experiences.

After receiving three sessions of explicit strategy instruction featuring three reading strategies: Visualizing, Making Connections, and Asking Questions, the students took the post-assessment which mirrored the pre-assessment with the exception of a few extra questions on the student survey pertaining to strategy preferences and future strategy use. Table 2, 3, and 4

feature each child's scores from the pre-assessment to the post-assessment. Results from the one-on-one interviews, conducted after the post-assessment, will also be included in the following sections. In an attempt to preface the data presented from the interviews, it is important to note that the interview questions were designed to evaluate which strategy each student liked the best, the least, and whether or not each student plans to use the strategies she learned through this study in the future (Student-Teacher Interviews, June 7, 2012). After reviewing student responses that I transcribed, I looked for key words such as the specific strategies they named and yes or no for whether or not they plan to use the strategies they learned in the future. Highlights from these interviews will be discussed following an analysis of each child's scores.

Table 2

Comparison of Samantha's Pre-Assessment and Post-Assessment Scores

	Samantha Pre-Assessment	Samantha Post-Assessment
Reading Survey	12/15	11/15
Metacognitive Strategy Analysis	6 (Total)	7 (Total)
	0 (C)	1 (C)
	5 (Q)	1 (Q)
	0 (V)	4 (V)
	1 (O)	1 (O)
Comprehension Questions	7/8 (Total)	5/8 (Total)
	4/4 (Explicit)	3/4 (Explicit)
	3/4 (Implicit)	2/4 (Implicit)

Unfortunately, based on Table 2, Samantha made slight declines in most areas of the assessment from before receiving explicit strategy instruction to after. However, it is important to note that after receiving explicit strategy instruction, she was able to make connections and visualize while reading, which are two strategies she did not use during the pre-assessment. Similar to my analysis of the mean scores, after receiving explicit strategy instruction, Samantha now uses a wider variety of strategies while reading independently.

It is also intriguing to explore how Samantha's response to the question: What are some characteristics of a good reader?, found in the student survey, evolved from the beginning to the end of this study. At first, Samantha stated that being a good reader involves "Understanding what you read. Doing expretions when different charetors are speaking" (Student Survey, May 30, 2012). This transcription shows that Samantha believes a good reader reads with expression and understands what he or she reads. After receiving explicit strategy instruction, Samantha stated that being a good reader involves "Understanding what you read" (Student Survey, June 7, 2012). Since both of her responses reference comprehension, it is evident that Samantha understood and continues to understand that good readers understand what they read and use strategies to repair their understanding when it is lost.

Based on the information gathered from the interviews conducted after the post-assessment was complete, Samantha enjoyed visualizing the most (Student-Teacher Interviews, June 7, 2012). . In the metacognitive strategy analysis portion of the post-assessment, Samantha used visualizing four times in the post-assessment as opposed to not using this strategy at all during the pre-assessment which might mean that she is beginning to use this new strategy on her own. In her interview, Samantha stated that her least favorite strategy was making connections. Despite naming making connections as her least favorite strategy, Samantha used this strategy

once, as noted in the metacognitive strategy analysis of her post-assessment. Lastly, the interview data revealed that all three students plan on using the strategies they learned through this study again in the future. In her interview, Samantha elaborated by stating that using these strategies will make her a better reader.

Table 3 features Kelsey's scores from the pre-assessment to the post-assessment. Following the table, one can find an analysis of the scores, as well as supplemental data gathered from the student surveys and interview.

Table 3

Comparison of Kelsey's Pre-Assessment and Post-Assessment Scores

	Kelsey Pre-Assessment	Kelsey Post-Assessment
Reading Survey	11/15	14/15
Metacognitive Strategy Analysis	14 (Total)	9 (Total)
	0 (C)	1 (C)
	14 (Q)	7 (Q)
	0 (V)	0 (V)
	0 (O)	1 (O)
Comprehension Questions	6/8 (Total)	6/8 (Total)
	3/4 (Explicit)	3/4 (Explicit)
	3/4 (Implicit)	3/4 (Implicit)

Table 3 clearly shows that Kelsey's developed a stronger understanding of her strengths as a reader and the many strategies she can use to support her comprehension while reading. However, based on the information provided in the table, Kelsey used fewer strategies in the metacognitive strategy analysis portion of the post-assessment than she did during the pre-

assessment. Although, she was able to employ a wider variety of strategies during the post-assessment. Last, her scores on the comprehension question portion of the assessment remained the same in all areas from pre-assessment to post-assessment.

When examining Kelsey's responses to the question: What are some characteristics of a good reader? found in the student survey, Kelsey's understanding of what it means to be a good reader changed rather significantly. At first, Kelsey stated that "A good reader is some one who does not really worry about surten things and stays calm wile reading" (Student Survey, May 30, 2012). This response does not address specific components of reading but is still valuable. It seems like Kelsey believed that good readers have a certain level of confidence in themselves while reading. After receiving explicit strategy instruction, Kelsey's definition of a good reader includes mores specific characteristics that are directly related to particular components of reading. Kelsey stated that being a good reader involves "Know different words, knowing how to ask questins. Knowing different phrases" (Student Survey, June 7, 2012). Although Kelsey does not specifically reference comprehension in her description of a good reader before or after receiving explicit strategy instruction, it is interesting to note that she does include a specific strategy she learned through her involvement in this study: asking questions. The fact that she referenced use of a particular strategy in her description of a good reader could mean that she now realizes that good readers use strategies to support and improve their understanding of text.

Based on the information gathered from these interviews, like Samantha, Kelsey enjoyed visualizing the most (Student-Teacher Interviews, June, 7, 2012). However, although Kelsey named visualizing as her favorite strategy, her responses during the metacognitive strategy analysis portion of the post-assessment did not reveal her use of this strategy which could mean that Kelsey enjoyed practicing the strategy but has yet to apply it to her everyday reading

repertoire. On the other hand, visualizing is a strategy that students often do without realizing it; therefore, there is a chance that Kelsey was visualizing while reading but simply didn't think to vocalize it. During the interview, Kelsey stated that asking questions was her least favorite strategy. Despite naming asking questions as her least favorite strategy, asking questions continues to be Kelsey's most frequently used strategy in the metacognitive strategy analysis of both her pre-assessment and post-assessment. Perhaps because Kelsey formulates questions quite naturally as she reads, she felt that the task of writing down her questions as she read to be laborious during the session of explicit instruction. Although writing down questions during reading is simply a scaffold for students, Kelsey might have thought that asking questions while reading meant always having to write down your questions and not just ask them spontaneously mentally or verbally while reading. Finally, Kelsey stated that she plans on using the strategies she learned in the future because they will allow her to read more challenging texts.

Table 4 includes a comparison of Betty's scores from the pre-assessment to the post-assessment. The scores are discussed in more detail and supported by information gathered from the student surveys and interview in the paragraph that follows the table.

Table 4

Comparison of Betty's Pre-Assessment and Post-Assessment Scores

	Betty Pre-Assessment	Betty Post-Assessment
Reading Survey	12/15	14/15
Metacognitive Strategy Analysis	5 (Total)	3 (Total)
	3 (C)	2 (C)
	0 (Q)	1 (Q)
	0 (V)	0 (V)

	2 (O)	0 (O)
Comprehension Questions	2/8 (Total)	4/8 (Total)
	0/4 (Explicit)	2/4 (Explicit)
	2/4 (Implicit)	2/4 (Implicit)

Based on Table 4, like Kelsey, Betty's scored more points on her reading survey during the post-assessment compared to her pre-assessment. Once again, this shows that through her participation in this study, Betty developed a stronger understanding of her strengths as a reader and the many strategies she can use to support her comprehension while reading. Unfortunately, during the metacognitive strategy analysis portion of the post- assessment, Betty used fewer strategies than she did in the pre-assessment. However, she did use questioning in the post-assessment, which is a strategy she did not use initially. Therefore, like the other girls, Betty is using a wider variety of strategies during reading after receiving explicit strategy instruction.

When comparing Betty's descriptions of a good reader from the student survey portion of the pre-assessment and post-assessment, it was discovered that Betty developed a new understanding of what it means to be a good reader after receiving explicit strategy instruction. Initially, Betty described a good reader as someone who can "Sound out words and reads at a good speed" (Student Survey, May 30, 2012). In other words, Betty thought that a good reader has strong decoding skills and can read at an appropriate rate. After receiving explicit strategy instruction, Betty answered the same question on the student survey differently. She stated that good readers "...think about what there reading and when they have trouble with reading a word they sound it out" (Study Survey, June 7, 2012). It is important to point out that Betty's new description of a good reader references metacognition, or in a variation of her words, thinking

about reading. This change in her thinking could mean that strategy instruction challenges readers to be more aware of their own thoughts as they are reading. Furthermore, thinking about reading relates to comprehension, so in reality, Betty's new definition of a good reader includes both decoding and comprehension which means she is beginning to develop a more balanced view of what it means to be a good reader.

In addition, interview data revealed that Betty liked making connections best. Interestingly, making connections was a strategy Betty already used frequently based on her pre-assessment which could mean that making connections is the strategy Betty feels most comfortable and confident using while reading independently. When asked to name her least favorite strategy, Betty stated that she did not like visualizing because drawing she said it took her too long to draw what she was seeing in her head as she read. Interestingly, Betty did not use it during the metacognitive strategy analysis portion of the post-assessment. Betty's response to the last interview question regarding whether or not she plans to use the strategies she learned through this study in the future, was quite simple: "I will use some because some of them work" (Student-Teacher Interviews, June 7, 2012).

After comparing each child's performance from the pre-assessment to the post-assessment, it is important to evaluate changes the group made as a whole from the beginning to the end of this study. Therefore, Table 5 was designed to compare the pre-assessment and post-assessment mean scores.

Table 5

Comparison of Pre-Assessment and Post-Assessment Mean Scores

Pre-Assessment Mean Score	Post-Assessment Mean Score
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Reading Survey	11.7/15	13/15
Metacognitive Strategy Analysis	8.3 (Total)	6.3 (Total)
	1 (C)	1.3 (C)
	6.3 (Q)	3 (Q)
	0 (V)	1.3 (V)
	1 (O)	0.7 (O)
Comprehension Questions	5/8 (Total)	5/8 (Total)
	2.3/4 (Explicit)	2.6/4 (Explicit)
	2.7/4 (Implicit)	2.3/4 (Implicit)

Based on the data provided in Table 5, after receiving explicit strategy instruction, Kelsey and Betty developed a higher level of understanding pertaining to the characteristics of a good reader, their strengths and needs as readers, as well as the strategies good readers can use to improve their understanding of text. Although Samantha's reading survey score declined by one point, I do not believe that this variation from the pre-assessment to the post-assessment is significant enough to be analyzed. Overall, the students reading survey score increase from the pre-assessment to the post-assessment by roughly one and a half points. This finding aligns with Nelson & Manset-Williamson's (2006) findings that state students who received strategy instruction made significant gains in their positive affect toward reading from pre-test to post-test. Perhaps students' reading survey scores increase because explicit strategy instruction is powerful in that it takes the mystery out of reading by acknowledging the fact that reading is not always easy and it is important for all readers to have a toolbox of strategies they can use to support and repair their understanding of text (Raphael, 2000). Explicit strategy instruction gets teachers and students talking about complex processes that usually take place behind closed

doors. By simply talking about our mental processes as readers, students begin to feel like they are a part of a community of readers who are faced with similar challenges, but have access to a variety of strategies that allow us to overcome these challenges. Strategy instruction motivates students by providing students with strategies that can significantly enhance their comprehension of text. As previously stated, Nelson & Manset-Williams (2006) believe that “Without explicit procedures, these students may not perceive the control they have over reading outcomes, instead making attributions for failure to stable and uncontrollable traits such as ability” (p. 227).

Kelsey’s response to the following interview question: Will you use the strategies you learned through this experiment in the future? Why or why not? captures the idea that explicit strategy instruction improves students’ attitudes toward reading. Kelsey stated that “I probably will because there are many books out there that I really wanna to read that might be a little too hard for me but I will try and use these strategies and they will help me probably” (Student-Teacher Interview, June 7, 2012). In other words, after learning just three new strategies, Kelsey feels confident enough to read books that before this experience, she might have avoided. Essentially, without a repertoire of strategies, some readers may feel helpless when presented with a difficult text. Anderson (2002) argues that “...use of metacognitive strategies ignite one’s thinking and can lead to high and better performance. Students who demonstrate a variety of metacognitive strategies perform better on examinations and complete work more efficiently. They are self-regulated learners...” (p. 343). Strategy instruction provides students with the tools they need to feel a sense of control over the reading process, which in turn improves their attitude and confidence as readers.

In regards to students’ performance on the metacognitive strategy analysis portion of the post-assessment, Table 5 shows that students use of strategies while reading actually declined

slightly from pre-assessment to post-assessment. Although the ultimately goal of the study was to see students metacognitive strategy use to increase from pre-assessment to post-assessment, this data does not show that explicit strategy instruction is ineffective. Numerous factors could have contributed to this decline. As stated in the literature related to explicit strategy instruction, a common concern lies in application and retention of reading strategies. Although there are many studies that suggest the effectiveness of strategy instruction, many researchers and teachers are still concerned by students who, even after repeated exposure, are unable to transfer strategies to new contexts (Nash-Ditzel, 2010). However, it is interesting to point out that the students are using a wider variety of strategies while reading in the post-assessment, as compared to the pre-assessment. Perhaps, the students are applying more strategies more strategically which might decrease the frequency in which students are stopping to comment as they read. Despite the decline in the number of comments students made while reading, findings from this portion of the study could show that strategy instruction can encourage students to use a wide variety of strategies to support their understanding of text. Table 5 shows that after receiving explicit strategy instruction, all three students began using a wider variety of strategies while reading. In other words, while they used to use one or two strategies while reading, they are now using two or three. According to Gooden (2012), while proficient readers employ a wide variety of strategies automatically, less proficient readers are often unaware of the fact that good readers use a variety of strategies to make meaning and repair understanding while reading. It is critical for readers to employ multiple strategies while reading, especially when they begin to encounter more complex texts. Ofodu & Adedipe (2011) argue that students need to be explicitly taught how to apply the strategies they have learned to the texts they will encounter in science, social studies, and other content areas, seeing as though expository text often requires a slightly

different set of reading strategies than narrative texts. Essentially, the data that shows that the students are employing a wider variety of strategies might allude to the fact that they are, slowly but surely, becoming more strategic readers.

Despite explicit strategy instruction, Table 5 reveals that overall, students scores on the comprehension question portion of the pre-assessment and post-assessment remained the same. While students' explicit understanding of text increased slightly, their implicit understanding of text declined slightly. Once again, numerous factors could have contributed to this decline, primarily the brevity of this study. Research shows that "Students must be exposed to strategies more than once, and must have repeated opportunities to practice strategies after they are introduced" (Nash-Ditzel, 2010, p. 59). It is only with repeated exposure to strategies through modeling, practice, and feedback overtime that students truly benefit from explicit strategy instruction. Comprehension strategies must be practiced and refined overtime through use in multiple contexts and across various genres (Wichadee, 2011). Therefore, researchers, teachers, and students must be patient when it comes to seeing the results of strategy instruction (Takallou, 2011).

The last piece that will be discussed in this paper is a portion of the teacher questionnaire (Reading Comprehension Questionnaire, June 8, 2012). While the entire questionnaire provided me with a great deal of information, two questions will be analyzed in depth. The first question was: What are the characteristics of a good reader? This question was selected because it corresponds to a question asked in the student survey. Therefore, I thought it would be interesting to compare teachers' ideas to those of their students to see whether or not they align. The second question was: Do children need to be taught how to comprehend or do they acquire the ability to comprehend naturally. This question was selected because it sheds light on whether

or not teachers see a need for explicit strategy instruction in their classrooms. For both questions, I sorted teacher responses into the three categories listed down the left side of Table 8 and Table 9. These categories correspond to the scales I created to assess teacher responses that was described in the *Data Analysis* portion of the paper.

Table 6

Teacher Responses to the Question: What are the characteristics of a good reader?

Description of a good reader takes into account multiple components of reading including, but not limited to, decoding, fluency, and comprehension.	62.5%
Description of a good reader focuses solely on one component of reading.	18.75%
Description of a good reader is vague and does not list a specific component of reading.	18.75%

Based on Table 6, a small percentage of teachers, 18.75% to be exact, have a limited or vague understanding of what it means to be a good reader. Most importantly, the majority, 62.5%, of teachers questioned understand that a good reader has a grasp of multiple components of reading including, but not limited to, the ability to decode unknown words, read fluently and with expression, and understand what has been read both explicitly and implicitly. However, it would be unwise to assume that these teachers attend to all facets of reading, simply because they understand that readers need to be well-versed in multiple components of reading. Van Keer & Verhaeghe (2005) emphasize that “Research...has shown that good readers are characterized by more than just decoding skills” (p. 292). Therefore, it is critical for teachers and students to understand that developing effective strategies for improving comprehension is important. As previously stated, according to Table 6, most of teachers questioned understood that a good

reader has a grasp of multiple components of reading including, but not limited to, the ability to decode unknown words, read fluently and with expression, and understand what has been read both explicitly and implicitly. Although this is encouraging, student s' initial responses to this question did not necessarily mirror the understandings shared by many of the teachers. In fact, before receiving explicit strategy instruction, only one student referenced comprehension when describing a good reader. Since only one out of three students deemed the ability to understand text as a notable characteristic of a good reader, one might conclude that teachers are not explicitly telling their students just how important comprehension is when reading. This finding could also mean that teachers are publicly praising students more for their decoding and fluency skills, rather than their ability to understand what they have read. Moreover, these findings might mean that teachers are not spending enough time explicitly teaching students the strategies good readers use to support their comprehension while reading.

Table 7

Teacher Responses to the Question: Do children need to be taught how to comprehend or do they acquire the ability to comprehend naturally?

Believe that children acquire the ability to comprehend naturally.	0%
Believe that children need to be taught how to comprehend.	18.75%
Believe in a balance of both acquisition and instruction. AND/OR It varies from child to child.	81.25%

Table 7 clearly shows that the majority, 81.25%, of teachers who completed the questionnaire believe in a balance between acquisition and instruction when it comes to students' ability to understand text. Moreover, 18.75% of teachers believe that children do not acquire the ability to

comprehend while reading and need to be taught. These findings are very encouraging because they allude to the fact that many teachers believe that explicit strategy instruction is beneficial. As stated in the literature related to comprehension, many students need to be explicitly taught strategies for understanding what they read (Gough & Hillinger, 1980; Wren, 2002). However, it is important to note that just because teachers believe strategy instruction is important, does not mean that all teachers are effectively teaching reading strategies in their classrooms. Although teachers listed a plethora of strategies they already use in their classroom to teach comprehension, within the realm of this study, it would be impossible to determine the explicitness and/or the effectiveness of each strategy noted. However, it would be interesting to explore the effectiveness of particular strategies for improving reading comprehension in a future study. As stated when discussing Table 6 and Table 7, teachers know that good readers understand what they read, that it is important to teach comprehension, and often have techniques they often use to support students' comprehension; however, it is very difficult to prove that teachers are teaching comprehension or more importantly, teaching it effectively. These findings support those of Pressley et al. (1998). Pressley found that although many teachers understand the purpose of using explicit strategy instruction to improve students' reading comprehension, few have been able to successfully implement this type of instruction in their classrooms.

Ultimately, it is clear that the quantitative and qualitative data collected and analyzed through this study has profound implications for researchers, teachers, and students that will be further discussed in the next section of this paper.

Implications and Conclusions

This study has profound implications for educational researchers, as well as administrators, teachers, and students. As a teacher-researcher, designing and conducting this study has encouraged me to adopt an additional technique for assessing comprehension in my classroom – something I called the “metacognitive strategy analysis.” Prior to conducting this study, I used surveys, as well as running reading records and student responses to oral and written comprehension questions to learn more about my students as readers. However, this study provided me with the challenge of finding a way to get inside my students’ minds as they read. Using a recording device to capture my participants’ thoughts as they read was the key to discovering the level to which each child was metacognitively aware, as well as the strategy or strategies a particular child used most frequently as they read. Conducting a metacognitive strategy analysis for each student was without a doubt time-consuming, but undoubtedly valuable to me as a teacher-researcher. In the future, if I cannot complete a metacognitive strategy analysis on all of my students, I will most definitely make every effort to do it for my struggling readers. Furthermore, findings from this study have encouraged me to use explicit strategy instruction in my classroom because it can improve students’ attitudes toward reading by helping them to understand what it truly means to be a good reader and providing them with specific strategies they can use to gain control over the reading process, thus increasing their confidence as readers. However, since three 30 minute sessions of strategy instruction did not yield significant improvements in students’ abilities to answer explicit and implicit comprehension questions correctly, when I use strategy instruction in my classroom in the future, I will know to take my time and carefully teach strategies over time, encouraging effective and independent use of each strategy across multiple text types before moving on to the next. Most importantly, this study has motivated me to encourage my students to share their thoughts while

reading, whether it is in a journal, to a recording device, or through conversations with their teacher and peers. As previously stated, by simply talking about our mental processes as readers, students begin to feel like they are a part of a community of readers who are faced with similar challenges, but have access to a variety of strategies that allow them to overcome these challenges. Given adequate time, explicit strategy instruction can reap many benefits for readers.

When deciding whether or not to incorporate explicit strategy instruction into a classroom or school-wide literacy program, teachers and administrators must consider the findings from studies such as this one. As mentioned in the previous paragraph, teachers might want to consider conducting a metacognitive strategy analysis on their struggling readers, if not all of their students. Information gathered from a metacognitive strategy analysis can be used to determine a student's level of metacognitive awareness, as well as the strategies he or she is currently using to support his or her comprehension while reading. This information can be used to inform future instruction related to reading strategies. For instance, if a teacher notes that his or her students are already making connections frequently as they read, he or she can begin to plan instruction that focuses on other during reading strategies, like asking question, visualizing, inferring, and the like. Furthermore, if a teacher notices that a particular student is asking so many questions while reading that he or she is beginning to distract him or herself from the overall meaning of the text, he or she can begin to plan instruction that teaches the child how to use the specific strategy of asking questions more strategically.

Next, since a great deal of time was spent analyzing student and teacher definitions of what it means to be a good reader, administrators should make sure that their teachers, and teachers should make sure that their students, have a balanced understanding of what it means to be a good reader including the ability to decode, fluently read, and understand text. By simply

telling students that good readers understand what they read and make efforts to repair their understanding when it is lost, can be enough to inspire most readers to “buy into” strategy instruction. However, once students “buy into” strategy instruction, it is the teachers challenge to model and practice strategy use enough to ensure that students can use a variety of strategies effectively and independently. As stated in the review of literature, one of the best ways for teachers to model and students to practice using reading strategies is through think-alouds (Dori, 2007; Oster, 2001; Smith, 2006).

The last implication to be discussed is that findings from this study suggest that in order to see improvements in students’ ability to answer comprehension questions correctly, teachers need to be willing to invest more than just 90 minutes to strategy instruction. It is only through repeated modeling of, exposure to, and practice using reading comprehension strategies that students truly reap the benefits of explicit strategy instruction. Nash-Ditzel (2010) states that both students and teachers “... need substantial time to learn, practice, and implement effective reading strategies” (p. 61). Therefore, teachers need to be passionate about strategy instruction and willing to devote planning and instructional time to the cause in order to see changes in their students’ standardized assessment scores.

Conclusions

As previously stated, the ability to comprehend is a key characteristic of a good reader. Therefore, it is important for teachers to support their students in understanding what they read. One of the ways in which teachers can support their students’ reading comprehension is through explicit strategy instruction. Explicit strategy instruction involves making students cognitively aware of the thinking processes good readers have as they engage with text and providing them

with specific strategies they can use to support and repair their comprehension as they read a wide variety of texts. For the purpose of this study, three students were explicitly taught three during reading comprehension strategies: Making Connections, Asking Questions, and Visualizing. Instruction took place once a week over a three week period. Students were given a pre-assessment and post-assessment which included a reading survey, metacognitive strategy analysis, and comprehension questions based on a grade level passage. The pre-assessment and post-assessment data were analyzed and compared to determine the effectiveness and implications of explicit strategy instruction. Furthermore, a teacher questionnaire was distributed to teachers at the school in which the study took place. The teacher questionnaire was designed to assess teachers understanding of, beliefs towards, and practices related to reading comprehension. Information gathered from this questionnaire was used to support findings from the initial study. Findings from the study suggest that although students' comprehension scores did not improve, their attitudes toward reading improved and their ability to use a wide variety of strategies increased after receiving explicit strategy instruction.

If a study similar to this one was to be conducted in the future, it is important for the researcher to understand that he or she may not see results in students' ability to answer comprehension questions accurately immediately. The researcher should plan on conducting their study over a significant length of time, such as an entire school year. Ideally, the study would follow a group of students from kindergarten through grade 12, since longitudinal studies often yield the most notable findings.

As previously alluded to, one of the greatest limitations of this study was that it was conducted over a very brief period of time. As stated by Takallou (2011), "Strategy instruction is much more effective when it is integrated into regular classroom learning activities, rather than

treated separately, and when numerous strategies are taught over a longer period of time” (p. 279). As previously addressed, teachers must understand that the development of students’ metacognition takes time and will not occur unless the instruction designed to hone metacognition is made meaningful and relevant for students. One might argue that during this study, the participants received isolated explicit strategy instruction. In other words, rather than learning reading strategies within the context of their classrooms, and the texts they are currently reading, they learned them in a small group, before or after school, with short texts written for assessment and instructional purposes. Although Takallou (2011) argues that short and simple texts often provide students with “...exposure to rules, patterns, or structures which they will need to achieve success...” (p. 282), Nash-Ditzel (2010) states that “...research has found that teaching isolated, basic skills, using prefabricated materials...” hinders strategy development, making it difficult for students to apply the strategies they have learned in authentic contexts (p. 60). Therefore, using short texts could also be seen as a limitation of this study.

After conducting this study, several questions still remain. As mentioned in a previous section, a completely separate study could be conducted using responses from the questionnaire distributed to teachers (Reading Comprehension Questionnaire, June 8, 2012). In particular, the last two questions pertained to techniques teachers are currently using to teach and assess comprehension. Although all of the teachers that responded were able to share a least one technique for each question, it was impossible to determine their effectiveness. Therefore, it would be interesting to conduct a study similar to McKeown, Beck, and Blake’s (2009) study in which the advantages and disadvantages of two approaches to comprehension instruction were explored. Furthermore, it would be interesting to conduct a study to measure the brain activity of

students while independent reading and compare those who are receiving explicit strategy instruction to those who are not.

Although this study did not yield findings that suggest that explicit strategy instruction improves students' ability to answer comprehension questions accurately, it is important to note that it did improve students' attitude toward reading and their ability to use a wide variety of strategies while reading independently. Therefore, explicit strategy instruction is worth implementing in classrooms, if not to support all learners, at least to support some. This study should encourage teachers to ask themselves the following question: How can I use explicit strategy instruction in my classroom to make my students more confident and strategic readers?

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Appendix A: Student Survey

Please answer all questions. Your answers will help me get to know you better!

1. What are some characteristics of a good reader?
2. What do you do well as a reader?
3. What do you need to work on as a reader?
4. List some strategies you use to make sure you understand what you are reading:
5. List some strategies you use when you don't understand what you have read:
6. Describe what happens in your head while you are reading?

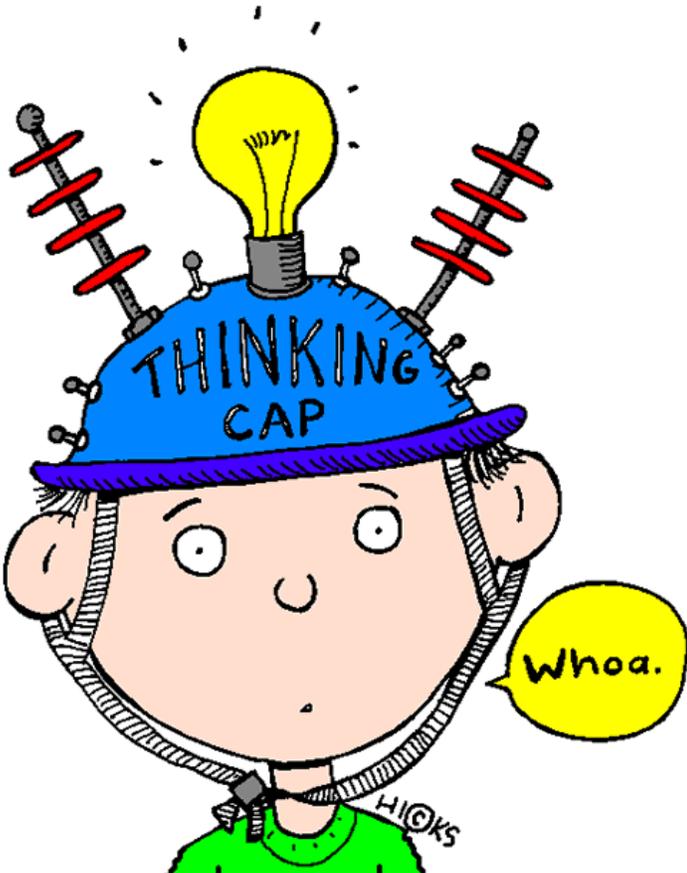
Appendix B: Pre-Assessment Comprehension Questions

Answer each question using a complete sentence.

1. What was John Chapman's main goal?
2. Why did John choose apples to plant instead of some other fruit?
3. Where did John get most of his seeds?
4. Why would John be able to get so many seeds from cider makers?
5. How do we know that John cared about planting apple trees?
6. How did John get to the many places he visited?
7. Name one hardship John suffered.
8. Why should we thank Johnny Appleseed?

Appendix C: Introductory Student Handouts

What’s happening inside your head as you read?



Appendix C: Introductory Student Handouts

Do reading strategies help kids to understand what they are reading?

Appendix C: Introductory Student Handouts

Reading is all about making meaning! If you don't understand what you are reading, what's the point?



Appendix C: Introductory Student Handouts

Reading is an active process. It should get your brain moving. Don't let your brain be a couch potato!



Appendix D: Visualizing Student Handouts

Visualizing



What?

Good readers think about what is happening in the text and try to picture it in their mind.

Why?

Visualizing while reading strengthens your understanding of the text by making it come to life.

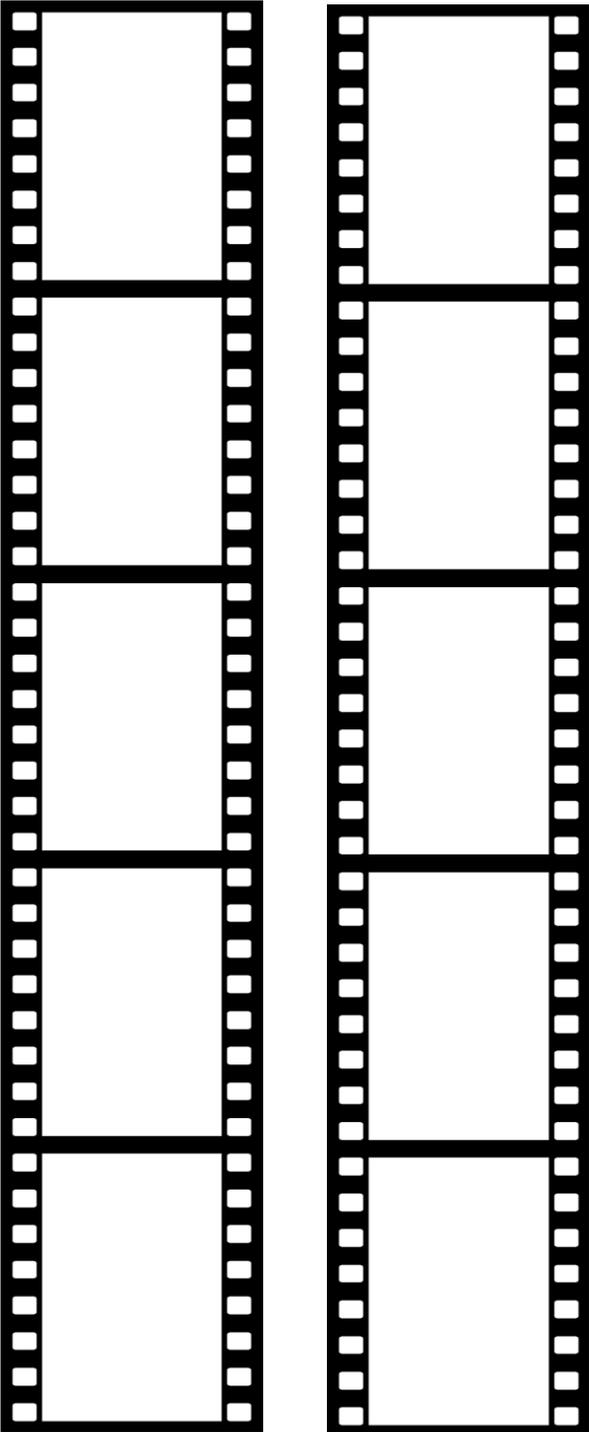
How?

Use details from the text to make a movie in your mind. Sometimes it helps to actually draw what you are picturing on paper.

Appendix D: Visualizing Student Handouts

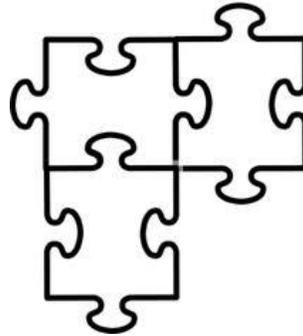
Visualizing

Draw what you are seeing in your head on the filmstrip as you read.



Appendix E: Making Connections Student Handouts

Making Connections



What?

Good readers think about what is happening in the text and try to connect it to something they already know. There are three types of connections: Text-to-Self, Text-to-Text, and Text-to-World.

Why?

Making connections while reading strengthens your understanding of the text by making it more meaningful to you.

How?

If something in the text looks or sounds familiar, stop and make a connection.

Appendix E: Making Connections Student Handouts

Making Connections

Type of Connection	Explain
Text-to-Self (something that happened to you)	
Text-to-World (something that happened to someone you know, something you've heard about, etc.)	
Text-to-Text (something you have already read)	

Appendix F: Asking Questions Student Handouts

Asking Questions

**What?**

Good readers think about what is happening in the text and ask “I don’t understand...” or “I wonder...” questions.

Why?

Asking questions strengthens your understanding of the text by making things clearer for you.

How?

If you don’t understand or are wondering about something while reading, ask yourself a question. Sometimes you might find the answer later in the text!

Appendix F: Asking Questions Student Handouts

Asking Questions

Part that made me confused, wonder, etc.	My Question

Appendix G: Student-Teacher Interview Protocol

1. Which strategy did you like the best? Why?
2. Which strategy did you like the least? Why?
3. Will you use the strategies you learned through this experiment in the future? Why or why not?

Appendix H: Post-Assessment Comprehension Questions

Answer each question using a complete sentence.

1. What was Amelia Earhart's main goal?
2. What was Amelia Earhart doing in a plane when she first crossed the Atlantic?
3. How long did it take Amelia Earhart when she flew across the Atlantic?
4. Why would flying alone across the Atlantic be an especially dangerous thing to do?
5. What was one of the dangers of flying in those early days?
6. How do we know Amelia Earhart believed in equal rights for women?
7. What was Amelia Earhart trying to do when her plan disappeared?
8. Why do you think her plane was never found?

Appendix I: Teacher Questionnaire

Total Years of Teaching Experience: _____

Grade Level: _____

1. What are the characteristics of a good reader?
2. Do children need to be taught how to comprehend or do they acquire the ability to comprehend naturally?
3. At what grade level do most students shift from “learning to read” to “reading to learn”?
4. What are some strategies you teach to improve your students’ comprehension?
5. What are some techniques and/or tools you use to assess your students’ comprehension?

Appendix J: Student Survey Scoring Rubric

What are some characteristics of a good reader?

3	2	1
Strong understanding of what makes a good reader. Description takes into account decoding, fluency, comprehension, etc.	Good understanding of what makes a good reader. Description focuses solely on one part of reading.	Still developing an understanding of what makes a good reader. Description is vague.

What do you do well as a reader?

3	2	1
Strong understanding of himself/herself as a reader. Mentions 2 or more things he/she does well.	Good understanding of himself/herself as a reader. Mentions 1 thing he/she does well.	Still developing an understanding of himself/herself as a reader. Does not mention anything he/she does well.

What do you need to work on as a reader?

3	2	1
Strong understanding of himself/herself as a reader. Mentions 2 or more things he/she could work on.	Good understanding of himself/herself as a reader. Mentions 1 thing he/she could work on.	Still developing an understanding of himself/herself as a reader. Does not mention anything he/she could work on.

Appendix J: Student Survey Scoring Rubric

List some strategies you use to make sure you understand what you are reading:

3	2	1
Strong understanding of effective during reading strategies. Lists 3 or more strategies. Mostly independent and rarely seeks adult support.	Good understanding of effective during reading strategies. Lists 1-2 strategies. Somewhat independent but seeks adult support often.	Still developing an understanding of effective during reading strategies. Does not list strategies or relies on solely on adult support.

List some strategies you use when you don't understand what you have read:

3	2	1
Strong understanding of effective fix-up reading strategies. Lists 3 or more strategies. Mostly independent and rarely seeks adult support.	Good understanding of effective fix-up reading strategies. Lists 1-2 strategies. Somewhat independent but seeks adult support often.	Still developing an understanding of effective fix-up reading strategies. Does not list strategies or relies on solely on adult support.

Describe what happens in your head while you are reading?

No points.

Which strategy did you like the best? Why?

No points.

Which strategy did you like the least? Why?

No points.

Will you use the strategies you learned through this experiment in the future? Why or why not?

No points.

Total: _____/15

Appendix K: Teacher Questionnaire Scoring Rubric

Total Years of Teaching Experience:

Step 1	Step 2	Step 3
Less than 5 years of teaching experience.	Between 5 and 10 years of teaching experience.	More than 10 years of teaching experience.

Grade Level: _____

Pre-Kindergarten	Primary	Intermediate
Nursery	Kindergarten, 1 st , 2 nd	3 rd , 4 th

1. What are the characteristics of a good reader?

3	2	1
Strong understanding of what makes a good reader. Description takes into account decoding, fluency, comprehension, etc.	Good understanding of what makes a good reader. Description focuses solely on one part of reading.	Still developing an understanding of what makes a good reader. Description is vague.

2. Do children need to be taught how to comprehend or do they acquire the ability to comprehend naturally?

3	2	1
Believes in a balance of both acquisition and instruction. AND/OR It varies from child to child.	Believes children need to be taught how to comprehend.	Believes that children acquire the ability to comprehend naturally.

3. At what grade level do most students shift from “learning to read” to “reading to learn”?

3	2	1
Believes that learning to read is an ongoing process. Children will always be learning to read and reading to learn.	Believes that the shift happens at the intermediate and secondary level.	Believes that the shift happens at the primary level.

Appendix K: Teacher Questionnaire Scoring Rubric

4. What are some strategies you teach to improve your students' comprehension?

3	2	1
Strong understanding of effective reading strategies. Lists 3 or more strategies.	Good understanding of effective reading strategies. Lists 1-2 strategies.	Still developing an understanding of effective reading strategies.

5. What are some techniques and/or tools you use to assess your students' comprehension?

3	2	1
Strong understanding of effective assessment techniques/tools. Lists 3 or more techniques/tools.	Good understanding of effective assessment techniques/tools. Lists 1-2 or more techniques/tools.	Still developing an understanding of effective assessment techniques/tools.

