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How Can Pre-reading Strategies Benefit Students with Disabilities?

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Abstract

This research study sought to determine if students with disabilities benefit from pre-reading strategies in reading comprehension. Reading is a fundamental skill that supports academic achievement. Using pre-reading strategies will motivate and increase student comprehension. In an effort to influence students with disabilities, the concept of pre-reading strategies was introduced to a group of middle school students. Some pre-reading strategies included selecting interesting texts, graphic organizers, vocabulary instruction, visual representations, and the activation of prior knowledge. Findings have shown that pre-reading strategies influence student motivation, increase the activation of prior knowledge and they can be used as a tool for increased comprehension. Implications determined that pre-reading strategies are essential for students with disabilities to comprehend instructional level texts.
How Can Pre-Reading Strategies Benefit Students with Learning Disabilities?

Educational researcher Gee (2001) defines literacy as being the ability to control secondary uses of language, and that students must have a complete understanding of both written and oral language in order to be proficient in literacy. Therefore, it is imperative that teachers find and model the most beneficial pre-reading strategy instruction, which allows students with learning disabilities to make the most progress in their literacy and comprehension activities. Teachers also need to provide equal opportunities for students with learning disabilities by providing additional teacher support through more deliberate lessons.

Reading is constructing meaning from print. Teachers strive to teach all of their students to read for meaning or comprehend text. We want students to not only understand what they have read but also to enjoy texts, interpret them, and apply their learning from reading to other areas (Fountas & Pinnell, 2001).

As a teacher, I have come to realize the relationship between reading and achievement across all subject areas. In my substitute student teaching and teaching experiences, I have discovered that many students lack the abilities necessary for effective and efficient independent reading. These students are often referred to as students with learning disabilities or struggling readers. I believe that pre-reading strategies can provide these students with unique opportunities to be successful when preparing to read. Pre-reading strategies including graphic organizers and deliberate instruction seek to support students in their reading. The foundation of
my research is my interest in pre-reading strategies and students with disabilities and how I can combine them to provide students with an interdisciplinary motivator.

Too often students are labeled as incapable of learning. Rather than assuming that these students cannot learn, teachers should set high goals and expectations for students with learning disabilities. Many of these students can succeed with the appropriate supports and teacher adaptations. Researchers provide a variety of learning strategies for teachers to support the reading comprehension of students with learning disabilities.

Educational researchers Larson and Marsh (2005) explain that traditional approaches to literacy education assume that all students progress at similar rates and acquire specific reading acquisition skills in sequence or according to their age. Underachieving students were labeled “at risk” or inadequate in some way. Many were children who came from poverty stricken homes and were deemed at risk for failure. Educators using these traditional approaches focused on the negative aspects of this particular group of children rather than looking at their positive contributions to the classroom (Larson and Marsh, 2005). Teachers can-and should-adapt their classrooms to support the needs of this specific group of learners.

Larson and Marsh (2005) explain that students’ individuality must be taken into consideration when acquiring reading skills. It is now widely accepted that all students have unique methods and rates of learning. This belief is echoed in the work of Goudis and Harvey (2007). They explain that learners have different ways of monitoring their thinking and understanding. They also assert that tacit learners are readers who lack awareness of how they think when they read. Researchers found that aware learners realize when meaning has broken down or confusion has set in but may not have the sufficient strategies to solve the problem.
Tacit learners require teacher guidance in integrating the context of their reading material in a way that an aware learner does not (Goudis and Harvey, 2007).

By exploring the effectiveness of pre-reading strategies and acknowledging varying learning methods, this research will identify which pre-reading strategies are most beneficial in enhancing understanding and acquiring knowledge when working with students who are tacit learners. Constructing and revising personal knowledge is one pre-reading strategy. Meaning is often constructed by employing one or more of the following strategies: vocabulary preview, predicting and inferring, connecting, visualizing, prioritizing, questioning and used at any combination of all or perhaps just one.

This study was completed to prove the benefits of using pre-reading strategies to increase comprehension for students with learning disabilities, since pre-reading strategies provide teachers with the opportunity to increase students’ comprehension. This research sought to determine if the use of selecting interesting texts, graphic organizers, vocabulary instruction, visual representations, and activation of prior knowledge increased comprehension by making connections with the text. The research was conducted with a group of middle school students in a 12:1:1 inclusive classroom, and included the use of a variety of pre-reading strategies. Student achievement was measured after a reading lesson that used each pre-reading strategy and was compared with student achievement following a reading lesson with no pre-reading strategy. The findings suggest that the utilization of pre-reading strategies helped students not only gain a better understanding of the text but also helped build motivation and confidence in students’ abilities to read.
Theoretical Framework

According to researchers Lankshear and Knobel (2003), literacy was previously thought of as just reading and writing; however, in recent years literacy has broadened its definition to include other communication skills needed to survive in today’s society such as listening, speaking, viewing, and thinking. Prior to the 1970s, literacy was linked to non-formal instruction and it was taken for granted for all students except those with severe learning disabilities (Lankshear & Knobel, 2003). The educational programs developed by Freire, the adult literacy crisis of the 70s, and the increased development of the sociocultural perspective were three different factors that moved literacy practices into a more formal educational setting. These educational changes have transformed the idea of “literacy” into a broader concept.

Early literacy acquisition is a subconscious activity. Children are not born with the choice of whether or not they want to learn. It is the natural curiosity of human beings that impels them to become literate, along with the desire to make meaning, to communicate, and to be social (Kucer, 2005). Language is not just the process of imitating others; it is something broken down by surrounding people and then internalized (Gee, 2001). Discourse is a way of expressing oneself by speaking or writing and using language in a group or network. Discourse includes everything in a person’s identity along with values and viewpoints, and tells a lot about that individual as a person (Gee, 2001).

Gee (2001) also explains that primary discourse is acquired unconsciously and is more or less family oriented. It may be a language that is only understood by the immediate family. It is used mostly as oral language in the family or community and in face-to-face situations with close personal relationships in the process of enculturation. This process of attaining something by exposure to models is referred to as acquisition (Gee, 2001).
Gee (2001) further explains that secondary discourse is language used outside of the family and friends realm in school, workplaces, church etc. It is a mainstream discourse to communicate and is used beyond primary discourse. This process is conscious knowledge gained by teaching and is referred to as learning. Depending on the home life of a particular child, he/she may not be exposed to secondary discourse, which is a disadvantage for the child because according to Gee (2001), literacy is considered control of secondary discourse.

Gee (2001) explains that formal schooling alone will not bring children to a full understanding of literacy. One way children acquire literacy skills is by being exposed to different models in natural settings, which allows children to develop their own beliefs about literacy. Another way students come to appreciate literacy is through formal teaching and learning. Gee (2001) describes learning as “a process that involves conscious knowledge gained through teaching” (p. 20). Learning transpires in classroom settings where students are educated in skills that are necessary for literacy development. Children come to acquire language by a mixture of acquisition and learning and being given opportunities to use language in different situations for various functions (Gee, 2001).

Every child’s journey towards literacy acquisition is different. Just as children learn to walk and talk at their own pace, they must learn to read and write at their own pace as well. The teacher’s role is to expose children to new experiences and to increase children’s already extensive background knowledge to help them become literate individuals. Activating this background knowledge is what is known as the Schema Theory. This theory explains how our previous experiences, knowledge, emotions, and understandings have a major effect on what and how we learn and our schema is the sum total of our background knowledge, and experience is what each of us brings to our reading (Goudvis and Harvey, 2007). Schema theory helps prepare
students for learning new information that builds upon what they already know. Developing this schema is essential to reading comprehension and literacy achievement, and pre-reading strategies that support the use of background knowledge lead to success in understanding.

Learners rely on their memories for building connections that not only help them remember and recall information stored away, but also allow them to use this memory to build upon what they know as they learn new things. Connecting what readers know to new information is the core of learning and understanding. Schema theory is important for teachers to take into account each time new material is taught. If a child does not have the appropriate schemata built up, he or she will not be able to comprehend the material (Cohen & Cowen, 2011). When learners make connections to the text they are reading, their comprehension increases. There are a variety of ways in which teachers can help students develop background knowledge and build schemata before a text is read in order to improve comprehension (Cohen & Cowen, 2001). Developing background knowledge is an essential pre-reading activity that will promote reading comprehension and literacy achievement.

Another applicable theory in this research of pre-reading strategies for students with learning disabilities is disability theory. Schema theory supports the development of one element of reading comprehension, whereas disability theory seeks to see the student as a whole person and does not focus solely on reading skills. Disability theorists look at how people have been treated cruelly and inhumanely throughout history. They also look at the oppressive predispositions that have been embedded in society such as the misconception that people with disabilities are insignificant in comparison to those without disabilities (Tregaskis, 2004). The notion that society struggles to make those with disabilities equal to those without has been an
ongoing struggle. This struggle for equality also exists in the classroom environment for students with disabilities.

Disability theorists advocate for equality by raising awareness regarding various disabilities and how these disabilities can impact the lives of many. Preston (2010) demonstrates that disability theory also helps to de-stigmatize disabilities and educate people in society to be helpful and inclusive toward people with disabilities. The goal is not to ignore that disabled people are different, but to find ways in which society can accept these differences without treating them as juvenile or second class citizens (Preston 2010). Individuals need to accept the differences of those with learning disabilities and make the necessary accommodations to be included equally in society. Disability theorist; Preston (2010) points out how members of society are all different in that they each have different attributes, but on some level that makes them the same, too. Teachers can play a key role in advocating for the equality of students with disabilities in their own classrooms through differentiation and tailored deliberate instruction.

Since the mid-1990s, there has been a trend toward more inclusive classrooms where students with special needs stay in the regular education classroom rather than going to a resource room and receiving instruction from a special educator. With the changing composition of students, many traditional assumptions about literacy must be reexamined. Teachers can practice ways of accepting various disabilities in their inclusive classrooms by familiarizing themselves with different types of approaches to teaching reading and they must view literacy as a long-term developmental process that is unique for each student (Cohen and Cowen, 2011). This goal can be accomplished by utilizing the appropriate educational tools such as pre-reading strategies to accommodate individual differences instead of teaching all students according to the “norm.” Woodcock and Vialle (2010) explain that it is essential that teachers be trained to fully
understand students with learning disabilities and modify teaching styles to support these students.

**Research Question**

Since students with learning disabilities learn differently than their general education peers they may require more direct instruction. Teachers should try to provide an environment in which all students are given the tools they need to succeed. Disability theorists emphasize that students with disabilities should be given every opportunity to be successful, which may include direct instruction. Schema theory also provides a lens for teaching in a way that draws on a students’ prior knowledge and applying it to new learning. This action research project asks how would students with learning disabilities benefit from pre-reading strategies in reading comprehension?

**Literature Review**

Based on my research question, I surveyed recent literature regarding pre-reading strategies and students with learning disabilities. The findings from the research completed on this topic revealed that there are various strategies that are beneficial to students with learning disabilities that can be used within all classroom settings. This literature review will discuss the benefits of pre-reading activities and how teachers should guide instruction in pre-reading strategies for students. The included pre-reading strategies are comprehension instruction, vocabulary, imagery and graphic organizers. This review also discusses the benefits of pre-reading strategies on student reading comprehension. Although pre-reading can encompass a variety of strategies, for the purpose of this study the research focused on visual aids, vocabulary previews and activating prior knowledge by making connections with the text. The following literature review explores the research examining reading comprehension instruction with
learning disabled students, pre-reading strategies used to improve comprehension, benefits of graphic organizers and the benefits of pre-reading strategies.

**Reading Comprehension Instruction with Learning Disabled Students**

Reading comprehension has been defined as a process of constructing and extracting meaning from written texts, based on a complex coordination of a number of interrelated sources of information (Sencibaugh, 2007). Reading comprehension is the level of understanding a student gains from text, and this understanding comes from the interaction between the words written within the text and how students generate knowledge outside of the text. For a teacher, the ultimate goal of reading is comprehension; yet the ability to understand can be a difficult task for many students with learning disabilities. Sencibaugh (2007) states that students with learning disabilities in reading comprehension have difficulty associating meaning with words (semantics), recognizing and recalling specific details, making inferences, drawing conclusions, and predicting outcomes. Because of these learning deficits, many students with learning disabilities have gaps in the knowledge of their core subject areas. These gaps can interfere with their understanding of the material they encounter in new texts, which incurs consistent comprehension difficulties. According to Mastropieri, Scruggs, and Graetz (2003), reading is the major problem area for most students who have learning disabilities. A learning disability in reading comprehension affects the learners’ ability to understand the meaning of words and passages which can have negative effects in all academic areas. Other researchers echo this belief. In fact, Vaughn, Levy, Coleman and Bos (2002) explained that 90% of students with learning disabilities demonstrate significant difficulties while learning to read. Instructional practices should be considered as to how teachers can support students with learning disabilities to be successful in the reading process.
Research on how special education teachers support reading comprehension is beneficial to teachers and their students. Previous research can help teachers identify whether instruction is static or whether it has advanced from preceding studies. The research conducted by Durkin (1978-1979), Taylor et al. (2000) and Vaughn, Moody, and Schumm (1998) has shown that teachers rarely provided explicit instruction designed to promote their students’ reading comprehension skills. In fact, in one research study, Klinger et al. (2010) explained that out of the 41 observations conducted; only one case recorded a teacher actually teaching students a comprehension strategy. When presenting pre-reading instruction, teachers often state the skill that they want students to use. Then they give students time to practice the skill, yet they do not teach the skill before the reading of the text to ensure success, which shows a lack of pre-reading teaching.

Along with the lack of applicable instruction, the lack of metacognitive skills also tends to be a contributing factor with comprehension difficulties in students with learning disabilities. Klinger et al. (2010) states that these students have difficulty reflecting on their reading and knowing what appropriate strategies should be utilized when they are exhibiting difficulty with the text. If teachers assist students and instruct them on how they can utilize metacognitive strategies, students’ comprehension will also improve.

More recent research has been conducted to see how much instruction has changed since the studies of Durkin (1978-1979) and Vaughn, Moody, and Schumm (1998). In the study completed by Klinger et al. (2010), teachers were observed for providing explicit comprehension instruction such as modeling/explaining comprehension skills and strategies, using think-alouds for students in order to demonstrate strategies or skills, prompting students to focus on relevant information, reminding students to use strategies, modeling metacognition,
promoting self-regulation, engaging students in discussion, incorporating students’ questions, monitoring student comprehension, and asking higher order questions, asking students to provide evidence for their responses, and encouraging students to elaborate when responding to questions. Brownell et al. (2009) discovered that little has changed in the past 30 years and comprehension is not emphasized enough by teachers to support the needs of students with learning disabilities.

Due to the wide disparities that existed in research and practice in 1997 Congress formed the National Reading Panel in order to assess the effectiveness of different approaches used to teach children to read (NRP, 2000). The panel’s findings were published in the National Reading Panel Report (2000) which emphasized reading comprehension as a main instructional area, yet Klinger et al.’s (2010) study shows that teachers are not revealing much progress in regards to supporting comprehension for students with learning disabilities. Klinger et al. (2010) concludes from their study that a large portion of certified special education teachers continue to have difficulty supporting student comprehension. Many teachers continue to prompt students to use strategies, but do not provide them with the instruction needed to do so. According to the study, observations continued to lack the promotion of interactive dialogue, instruction of different text structures, and prompting of student self-regulation. Teachers also failed to follow up to check if student predictions were correct. It is clear that more needs to be done by Special Education teachers to support students with learning disabilities through reading instruction that includes deliberate instruction.

It is the goal of special education teachers to ensure that students become independent learners. It is their responsibility to help students identify where their difficulties lie in comprehension and model before teaching them specific strategies to support in their
understanding of text. Klinger et al. (2010) introduced a list of student success strategies which include directed questioning, explaining concepts and procedures fully, controlling difficulty of task demands, modeling steps and processes, providing cues to prompt children to use appropriate strategies and having students work in small groups. Comprehension strategies can be a difficult task for students with learning disabilities that lack persistence and motivation due to a sense of failure of academic tasks. Therefore, DeWitz (1997) explains that students must be taught, coaxed, and encouraged to use strategies that they are only beginning to master. These student strategies can prove effective if they are focused on students with learning disabilities and their aim to be successful.

An earlier study by Sencibaugh (2007) sought to explore more deeply the findings of the National Reading Panel Report (2000). The study by Sencibaugh (2007) was completed with the intent of conducting a meta-analysis on metacognitive instructional strategies used to improve the reading comprehension levels of students with disabilities. Sencibaugh (2007) explains that students with learning disabilities have difficulties in reading comprehension associating meaning with words (semantics), recognizing and recalling specific details, making inferences, drawing conclusions, and predicting outcomes, which is often attributed to lack of metacognitive skills. This lack of metacognitive skills makes it difficult for learners to self-monitor their steps to comprehension. Gersten and Baker (2009) further explain that students with learning disabilities often fail to realize that they must pay attention to how well they understand a text as they read so that they can go back and reread as necessary. It is important for students with learning disabilities to learn different strategies before, during, and after reading in order to improve their comprehension abilities. Instruction of pre-reading strategies is an effective means to help students with learning disabilities improve their metacognitive skills.
Sencibaugh (2007) researched fifteen studies reported in journal articles. Sencibaugh (2007) explains that all strategy instruction was implemented in order to improve reading comprehension of students with learning disabilities. Strategy instruction was the focus of this research because many students with learning disabilities lack metacognitive skills. Johnson, Graham, and Harris (1997) explain that students with learning disabilities appear to be prime candidates for strategy instruction, as their strategic reading behavior is often inefficient and inflexible. A total of 538 students were represented and identified as learning disabled or identified as poor readers who were performing below grade level. The two general types of instructional strategies used to improve reading comprehension were visually dependent strategies and auditory/language dependent strategies (Sencibaugh 2007). These two strategies were implemented in an attempt to increase active involvement or critical thinking on behalf of the student.

According to the National Center for Learning Disabilities (1999), the two most common areas of difficulty involved with a learning disability are visual and auditory perception. Since so much information in the classroom is presented visually and or verbally, students with an auditory or visual perceptual disorder can be at a disadvantage in reading instruction. Sencibaugh (2007), results revealed that visually dependent strategies such as graphic organizers and visual attention therapy had the most significant effects in reading comprehension. In regards to auditory/language development strategies, such as questioning, Sencibaugh (2007) explains that text structure based teaching and paragraph restatement positively affected the recall of central and incidental information over traditional instruction. Sencibaugh (2007) further explains that, the strongest outcomes for facilitating reading comprehension were in teacher-led questioning and self-questioning strategies, followed by text enhancement strategies, and finally, strategies
including basic skills and reinforcement. This research shows the positive impacts of both visually dependent and auditory/language strategies on reading comprehension. The research of Pressley & Wharton McDonald (1997) indicates that good readers of all ages engage in conscious, active comprehension strategies before, during, and after reading. Therefore, in order for all students to improve their reading comprehension they must incorporate different strategies throughout their reading process.

Summarization, self-instructional strategies, and reciprocal teaching also revealed significant effects, and teachers may assist students in comprehending texts by organizing information visually. Researchers Mastropieri and Scruggs (1997) further explain that students greatly benefit from training in strategies that activate prior knowledge and in organize and summarize texts. The studies of Mastropieri and Scruggs (1997) have shown that when students with learning disabilities are taught how to utilize metacognitive strategies and teachers facilitate the process, comprehension levels increase. Gersten and Baker (2009) reiterate this when they explain that frequent, ongoing discussions about the meaning of the text, in which the teacher models the array of strategies and tools that good readers use to make sense of text, is a promising approach to reading comprehension instruction.

In their study, Mastopieri and Scruggs (1997) also included the following beneficial strategies for educators:

- **Skill Training and Reinforcement**: reinforcement, vocabulary instruction, corrective feedback, repeated readings and direct instruction.
- **Text Enhancement**: illustrations, representational illustrations, imagery, special organization, mnemonic illustrations and adjunct aids.
- **Questioning Strategies**: activating prior knowledge, summarization and main idea strategies, summarization training plus self-monitoring and attribution, elaborative interrogation, text-structure-based
strategies, multicomponent strategies or training packages, multipass, reciprocal teaching, POSSE, story grammar, problem solving, and meta-comprehension training. (p. 7)

Mastopieri and Scruggs (1997) and Gersten and Baker (2009) both share best practices that include a variety of ways in which instructors can improve comprehension in students with disabilities. Whereas the research by Klinger et al. (2009) discovered that actual “instruction” was missing from comprehension instruction, the research by Mastopieri and Scruggs (1997) sought to fill in such gaps. These writers not only instructed students on how to use strategies, but they also provided instruction for students to do so before, during and after reading.

The previous studies have discussed both negative and positive ways in which to implement pre-reading strategies in order to improve comprehension. Klinger et al. (2010) suggest that comprehension is not emphasized enough. Teachers continue the practice of mentioning a skill and providing opportunities to practice but neglecting to offer explicit instruction in the skill. Sencibaugh (2007) further explains that this lack of student instruction could be due to teachers who have deficient knowledge pertaining to the implementation of strategy instruction concerning comprehension. Therefore, it is imperative that teachers receive the knowledge required to effectively teach strategy instruction in their classrooms. The success of improving reading achievement of students with learning disabilities is contingent upon the implementation of appropriate strategy instruction. This research continues to elaborate on more pre-reading strategies that benefit students with learning disabilities.

**Pre-Reading Strategies Used to Improve Comprehension**

Authors Cohen and Cowen (2011) explain that one of the major advances to reading comprehension occurred in the early 1980s when theorists showed the importance of activating
background knowledge and prior experiences for developing critical understanding of texts. As stated by Cohen & Cowen (2011) schema theory prepares students for learning new information that builds upon what they already know. Therefore, according to schema theory, readers can comprehend text only by relating their own schemata to the new information in the text.

According to Little and Box (2011) the principles of schema theory, state that it is important to teach general knowledge and generic concepts. A large proportion of learner difficulties, especially when reading text materials, can be traced to insufficient prior knowledge of the concepts being presented, especially with at-risk students. Teachers may assist students with learning disabilities, who may struggle with relating schema, by helping them learn concepts and organize their thoughts, which would lead to improved comprehension.

Through pre-reading strategies, teachers can help students build and activate background knowledge on subject matter contained in the text. Mihara (2011) explains that comprehending a text is an interpretive process involving the reader’s background knowledge and the text itself. This background knowledge that is stored in an individual’s mind is referred to as schema. Dole et al., (1991) explains that if students do not have the appropriate background knowledge or schema, it is important for teachers to introduce them to knowledge-building activities like those discussed in the research of Dole et al. (1991) that can enhance comprehension of the text.

The study reviewed by Dole et al. (1991) found evidence of the importance of using pre-reading instruction to develop background knowledge. Three different methods were used. One method was designed to facilitate learning by a teacher-directed strategy where the teacher delivered structured information for comprehension of new material. The second method was an interactive strategy was one in which the teacher lead a discussion to help students activate their existing knowledge about the topic of the new text. Both methods received the same
information. The last method was a no treatment control condition where students were asked to read the text with no pre-reading prior knowledge. The results showed that well developed pre-reading instruction improved students’ comprehension of texts. The results also provided evidence that the teacher-directed strategy was more effective than the interactive strategy (Dole et al. 1991). The study results proved that when students are given explicit instruction or pre-reading strategies that are relevant to the upcoming text, students have a better understanding. The research of Woodcock and Vialle (2010) also found that direct teacher-centered instructional strategies were most appropriate for students, especially those with learning disabilities.

Therefore, if existing background knowledge is the key to text comprehension, then teacher-directed pre-reading instruction is required in order to maximize comprehension of the text. The report by the National Commission on Reading (Anderson et al. 1985) explains direct instruction as:

Direct instruction needs to be distinguished from questioning, discussion, and guided practice. Direct instruction in comprehension means explaining the steps in a thought process that give birth to comprehension. It may mean that the teacher models a strategy by thinking aloud about how he or she is going about understanding a passage. The instruction includes information on why and when to use the strategy. Instruction of this type is the surest means of developing the strategic processing that identified characteristics of skilled readers (p. 72).

Based on this study and report, the best practice for teachers would be to provide their students with a pre-reading strategy that includes direct instruction. The goal would be for students to learn and copy the steps modeled by the teacher and personalize them to fit their own comprehension needs.
One way in which a teacher may support students is through activating prior knowledge. In all but one of 14 studies that Trabasso and Bouchard (2002) reviewed on encouraging students in first through ninth grades to activate prior knowledge, reading comprehension was significantly improved. Gurlitt and Renkl (2010) support the previous research when they explain that prior knowledge is one of the most important prerequisites for learning. Based on this research, a teacher may support student learning by providing a framework that helps students understand new information. This framework may also stimulate interest in the text, leading to more attentive reading and more motivation to learn.

Pre-reading strategies can also be beneficial in identifying what prior knowledge a student has and these same strategies can also be used as an assessment tool by a teacher to tell when a student has incorrect or inaccurate prior knowledge on a subject. Researcher Shapiro (2004) supports the findings of Trabasso and Bouchard (2002), and explains a study that gave third grade students eight different texts to read. Before reading, the students took a pretest to determine how familiar they were with the text content, and the pretest gave a measure of how much each student knew or did not know or to what extent each had misconceptions about the text. Students who had prior knowledge about a text performed best on items regarding text content. Students who had misunderstandings about the text content performed worse than students who knew nothing about the text content at all (Shapiro, 2004). Since inaccurate prior knowledge can obstruct a student’s learning about a text, an implication of this study is that a teacher should be sure to identify what kind of background knowledge a student possesses before proceeding with the text.

Another strategy that can improve comprehension is vocabulary. According to Jitendra et al. (2004), reading for understanding suggests that vocabulary and word knowledge can
contribute to improved comprehension. A significant amount of students’ vocabulary growth may develop through independent reading. Cunningham and Stanovich (2003) explain that the amount of print that children are exposed to has profound cognitive consequences, and that the act of reading itself serves to increase the achievement differences among children. The more children read, the greater their vocabulary and the better their cognitive skills. The lack of independent reading may offer some explanations as to the widening effects of decreased vocabulary and comprehension amongst students with learning disabilities. Jitendra et al. (2004) further reveal that students who struggle with reading often fail to participate in the amount of independent reading necessary to improve vocabulary. Since students with learning disabilities often lack word knowledge and independent reading skill, it is important that vocabulary is taught explicitly by the teacher in order to help students prepare for the upcoming text.

Jitendra et al. (2004) further explain that according to research on explicit vocabulary instruction by a teacher, selected vocabulary should include words that are important for understanding text, as well as functionally important words or words that students will encounter often. Grade level, sight word vocabulary are words that are encountered often in books that students should practice. Phillips, Foote, and Harper (2008) explain that an effective vocabulary teacher builds a word rich environment in which students are immersed in words for both incidental and intentional learning, and the development of word awareness. In order to have an effect on reading comprehension, vocabulary instruction should include multiple exposures to words because the more children hear, see, and engage with words, the better they will learn them. Jitendra et al. (2004) continues that instruction should also include the use of a word’s context and definition opportunities for deep processing, making up a novel sentence with a word, classifying the word with other words and relating the definition to one’s own experience.
To find best vocabulary instruction practices, Jitendra et al. (2004), reviewed a study that is designed to find effective and productive approaches to word learning for students with learning disabilities. Results of intervention studies revealed that mnemonic approaches, cognitive strategy instruction, direct instruction, activity-based methods and computer-assisted instruction all enhanced vocabulary instruction for students with disabilities. Results of Bryant et al. (2003) studies paired mnemonic and direct instruction, suggesting that vocabulary instruction may be optimized when the features of both are incorporated. A teacher, therefore, should initiate a variety of approaches to vocabulary learning while correlating them with instructional goals.

Many students with learning disabilities benefit from visual cues or aids to help them remember key elements from a text and vocabulary. Terrell, Scrugs and Mastropieri (2004) wondered if mnemonic strategies would be beneficial to students with disabilities. Over six weeks, students were taught vocabulary with either a traditional instructional approach or pictorial mnemonic keyword strategies. Similar to the study by Jitendra et al. (2004), the results of this study also showed mnemonic instruction to be beneficial for students. Results disclosed that students had learned 92% of the words under mnemonic instruction versus the more traditional approach. Teachers who use mnemonic devices can help students with learning disabilities remember vocabulary, which will support reading comprehension.

According to the National Reading Panel Report (2000), pre-instruction of vocabulary words before reading facilitates vocabulary acquisition and comprehension. Vocabulary is the body of words used in language. It is one of the five core components of reading instruction knowing words, morphology, the use of context, and the role of definitions in understanding words and the size and growth of vocabulary (Irvin, 2001). Vocabulary knowledge is important because it includes all the words we must know to access our background knowledge, express
our ideas and communicate effectively. Rupley, Logan and Nichols (1998) describe vocabulary as the glue that holds stories, ideas and content together, making comprehension accessible for children. Vocabulary is vital to student comprehension needs and must be supported by teacher instruction.

While the National Reading Panel Report (2000) simply stated the importance of vocabulary, Irvin (2001) sought to understand how students develop vocabulary skills. Irvin explains that all readers encounter words that they do not know; strong readers have strategies for figuring out what to do with them. Educators should support students by providing strategies to utilize when they come across a word that they do not know. Irvin further explains that strong readers use any or all of the following strategies when they encounter an unknown word: skip it and read on, re-read, think about what they are reading, sound it out to see if it is a word they know, look at the headings and subheadings of the text, guess at what type of word would go there such as noun, or an adjective or associate parts of the word (prefixes, root words, suffixes) with words they know. These strategies must be explicitly taught to students with learning disabilities. Irvin finds a resolution when she points out that all students need to learn to combine the use of vocabulary strategies such as context, prior knowledge, syntax, and definitions to successfully learn context. Bryant et al. (2003) reiterates the need to include strategies when they explain that if the goal of vocabulary instruction it to teach word meaning, which can also transfer to reading comprehension, interactive interventions that feature associative learning, conceptual relationships, and prior knowledge should be selected. These instructional strategies incorporate more active engagement and a higher level cognitive processing. Teachers should continue to practice these pre-reading strategies with their students until they become automatic.
Differentiated and deliberate instruction have been proven effective by Irvin (2001) for the development of vocabulary skills of students with learning disabilities, but not all teachers are following such advice. Researchers Phillips, Foote and Harper (2008) explain that unfortunately there are still teachers who resort to copying definitions as the strategy of choice in vocabulary instruction, as opposed to more beneficial strategies. Teachers explain that it saves them time and enables them to progress to the actual content in a more efficient manner (Phillips, Foote & Harper, 2008). When students are asked to look up a word that they are unfamiliar with in the dictionary and memorize the definition, this does not improve comprehension. This is problematic. Irvin (2001) points out two problems with definitions. One problem outlines that a person must often know a word to understand it, and also that definitions do not always contain enough information to allow for complete understanding. Some type of instruction is needed to help students translate the unclear content of certain dictionary definitions. Irvin (2001) suggests that the dictionary be used as a “verification” of meaning after the student has a teacher-instructed understanding of the word. Word knowledge involves a complex process of integrating new words with ideas that exist in the schema of the reader and must be taught to students with learning disabilities instead of copying and memorizing definitions.

Differentiated instruction exists in many forms. Laws on educational provisions for students with disabilities include full participation in the general education setting (Evmenova et al., 2011). Providing these environments can be challenging at times for students with learning disabilities who are expected to keep up with the general education curriculum. It is the teachers’ responsibility to provide an equal opportunity environment for students with disabilities and to support them with appropriate differentiated instruction. One form of differentiated instruction is assistive technology, which offers a variety of instructional accommodations and opportunities
for students (Evmenova et al., 2011). One technology-based strategy that can be implemented to build background knowledge and improve comprehension is visual imagery. Evmenova et al. (2011) explain that the capacity of video to focus students’ attention on relevant stimuli and its repetitiveness, controllability, and intrinsic motivation was determined to have a positive effect on the acquisition and maintenance of various skills by students with intellectual disabilities. Using photos or videos from educational clips can be an advance organizer on listening comprehension. Movies can provide students with setting details for students who lack prior knowledge (Hibbling and Erikson, 2003). Coinciding with video, the visual aspect of closed captioning along with the auditory motivation also helps to focus learners’ attention (Evmenova et al., 2011). Through the use of visual imagery, teachers can help their students with learning disabilities, because when students are focused and immersed in content, they will exhibit better comprehension.

Evmenova et al. (2011) investigated the effects of picture/word based captions and interactive video searching features for improving comprehension in students with intellectual disabilities. Comprehension of the non-fiction video was measured by the number of questions the participants answered correctly after watching the video. Results revealed that all participants displayed an increase in correct responses when videos were enhanced with closed captioning (Evmenova et al., 2011). Closed captioning was once used for individuals with hearing impairments but now proves useful when included for teaching reading and listening skills and improving comprehension and retention of video. Hecker et al. (2002) explain that the presentation of visual and auditory stimuli may be enhanced when combined with highlighting the captions synchronized with the narration. This strategy acts to focus learners’ attention on the words. Results from the Evmenova et al. (2011) study reiterate that the pre-reading strategy of
viewing videos with close captioning before a text is read can prove beneficial for students with disabilities. Strategic use of visual material can enhance reading experiences for reluctant and low-ability readers and help them become more proficient in comprehension.

Since many students with learning disabilities are unable to plan their educational tasks, teachers have to accept the responsibility and train their students to implement different strategies to complete their educational tasks. Comprehension strategies that teachers can use may include direct instruction, text enhancement, vocabulary instruction, illustrations, mnemonic (keyword) strategies, pre-reading, the use of visuals, and activating prior knowledge. These pre-reading strategies will strongly impact the reading comprehension of students with learning disabilities.

**Benefits of Graphic Organizers**

Phillips, Foote and Harper (2008) explain graphic organizers as a two dimensional, visual representation that shows relationships among concepts. They also explain that graphic organizers facilitate higher level thinking and they serve as retrieval cues to promote learning. Teachers support the use of organizers to facilitate and improve learning outcomes for a wide range of learners. Graphic organizers are further described by Ae-Hwa, Vaughn, Wanzek, and Wei (2004) as visual and spatial displays designed to facilitate the teaching and learning of textual material through the “use of lines, arrows and spatial arrangement that describe text content, structure, and key conceptual relationships. Researchers agree that strategies such as graphic organizers serve as ideas for teachers to improve their instruction.

Graphic organizers are another tool used to provide learners with an outline to organize their existing knowledge to build new knowledge. Kim, Vaughn, Wanzek, and Wei (2004)
explain that graphic organizers are used by educators to facilitate the readers understanding of the text. Comprehension is understood through visual depictions of key terms and concepts and the relationship among them. This can be important for students with learning disabilities who have difficulty with challenging texts. DiCecco and Gleason (2002) explain that graphic organizers are one method that might achieve what textbooks fail to do. Students with learning disabilities can often have difficulty organizing verbal information but may have more success with nonverbal tasks of filling in a graphic organizer. Kim, Vaughn, Wanzek, and Wei (2004) explain that there are a variety of graphic organizers that can be used, and they should be selected on the basis of their “fit” to the text being read and for the age level or appropriateness of the reader. Graphic organizers can include story maps, concept maps, mind maps, cause/effect maps, character trait maps, plot maps, timelines, and Venn diagrams. The study of DiCecco and Gleason (2002) results revealed that graphic organizers are a powerful pedagogical tool for students with learning disabilities because they allow students to visualize concepts and the hierarchical relationships between them. Teachers may choose a graphic organizer for a student with learning disabilities in order to visualize the most significant concepts of the text which will aid in their recall of knowledge.

Kim, Vaughn, Wanzek, and Wei (2004) researched the use of graphic organizers and explained that a learner’s existing knowledge, which they referred to as cognitive structure, greatly influences his or her learning. When the cognitive structure expands and strengthens by incorporating new information, learning occurs. To facilitate this process, graphic organizers provide learners with a meaningful framework for relating their existing knowledge to the new information. Gurlitt and Renkl (2010) recommend concept maps as a tool for getting students to examine their prior knowledge before studying new material. Concept maps are diagrams that
represent ideas as node-link assemblies. They indicate that concept maps facilitate learning in a variety of instructional conditions including different topics and educational levels. Therefore, graphic organizers can assist students by helping them join their existing knowledge with the information in the text (Kim, Vaughn, Wanzek, & Wei 2004). This can be especially helpful when students are working with expository text, since this type of text is a more challenging read than fiction reading. Expository texts can include challenging vocabulary and require complex tasks in order to comprehend the reading.

Studies show that graphic organizers, such as semantic maps, story maps and concept diagrams, are effective tools in improving comprehension of students with learning disabilities (Boulineau, Fore, Hagan-Burke and Burke, 2004, Kim et al., 2004). Kim, Vaughn, Wanzek and Wei (2004), reviewed the finding of group design intervention studies that examined the effect of graphic organizers on comprehension with students with learning disabilities. The goals was to determine if graphic organizers help improve reading comprehension of students with learning disabilities. 21 studies were reviewed that included 848 students with learning disabilities. The graphic organizers included in the study were semantic organizers, cognitive maps with mnemonic, cognitive maps without a mnemonic and framed outlines. According to Kim, Vaughn, Wanek, and Wei (2004) one study demonstrated how organizers were generated by teachers and researchers in two ways: prior to instruction and used during instruction, prior to instruction but left incomplete for the teacher or researcher to fill out with students during instruction. Other studies included independent student-generated organizers and blank ones designed by the teacher and filled in by the student independently. Kim, Vaughn, Wanek, and Wei (2004) findings reveal that regardless of who generated the graphic organizers (student/teacher), large effect sizes were found. Groups using visual display organizers
significantly outperformed those using more conventional reading techniques (Kim, Vaughn, Wanek, & Wei 2004). Therefore, graphic organizers do enhance the reading comprehension capabilities of students with disabilities by helping students organize verbal information and improving their recall of material.

The research by Idol and Croll (1987) correlated with that of Kim, Vaughn, Wanek, and Wei (2004) in showing that graphic organizers are valuable tool for reading comprehension. An example is story maps, which can be used as a pre-reading activity in order to generate questions about narrative stories. Idol and Croll (1987) offered evidence of using a simple story map to teach story grammar elements to elementary students with learning disabilities. At the completion of the intervention phase, the majority of students showed an increase in correct written responses to questions related to story grammar components (Idol & Croll, 1987).

A variety of research has shown that the utilization of graphic organizers amongst all grades and ages has proved beneficial. Graphic organizers help teachers facilitate the readers’ understanding of the text by using the visual display of information to help students make connections between concepts. Graphic organizers are important for the classroom teachers because these connections that graphic organizers make are what help in the aid of text comprehension.

The Benefits of Pre-reading Strategies

Due to the move toward the inclusion of students with special needs into mainstream classrooms, teachers need to foster an environment that encourages all students to reach their highest level of achievement (Woodcock & Vialle, 2010). Disability theory encourages teachers to recognize and embrace individual differences by modifying curriculum and implementing
instructional strategies. All students should be treated fairly in schools and teachers need to recognize that some students with learning disabilities may require various tools for reading comprehension. Wiedyani (2010) states the functions of pre-reading activity are to introduce and arouse interest in the topic of the text, to motivate learners by giving a reason for reading, and to provide some language preparation for the text. Pre-reading strategies can be a significant tool that will bring about positive benefits if implemented correctly.

An important part of reading is activating prior knowledge, known as schema theory. Goudvis and Harvey (2007) explain that our schema is the sum total of our background knowledge and experiences that we bring to our reading. Teachers need to provide the scaffolding for students with learning disabilities to help them activate prior knowledge and become better readers. Little and Box (2011) state that a reader’s prior knowledge and experiences about events, concepts, vocabulary, and objects described in a text passage can have a significant influence on the meaning the students obtains from the text. Therefore, pre-reading strategies such as graphic organizers implemented before reading or studying the topic is likely to assist in schema building and therefore enhance vocabulary and reading comprehension. Pre-reading strategies can act as an umbrella that covers a variety of essential reading needs.

Based on the findings of several research studies by Sencibaugh (2007), Mastropieri, Scruggs (1997), Vaughn, Levy, Coleman, and Bos (2002), and Torgenson et al. (2001) pre-reading strategies when taught by a more expert other, in most cases the teacher, can have a positive impact on comprehension reading abilities of students with disabilities. Research by Vaughn, Levy, Coleman, and Bos (2002) has shown that 90% of students with learning disabilities struggle with reading. It is possible to assist these students who have difficulty with reading comprehension through deliberate instruction, according to Torgenson et al. (2001).
Sencibaugh (2007) states that strategic instruction strongly impacts the reading comprehension of students with learning disabilities based on the notion that the students with learning disabilities are inactive learners with metacognitive deficits. Mastropieri and Scruggs (1997) build on this notion and explain that students with learning disabilities greatly benefit from training in such strategies as activating prior knowledge and organizing and summarizing texts.

One pre-reading strategy which can be used for students with learning disabilities is a graphic organizer. In research completed on graphic organizers Kim et al. (2004), Dicecco and Gleason (2002), Gardill and Jitendra (1999), and Phillips, Foote and Harper (2008) all found that direct instruction of graphic organizers had positive impacts on instruction when used in pre-reading and post-reading activities, and when used with narrative and expository texts. Kim et al. (2004) included the findings from all the group design studies conducted between 1963 and June of 2001 that examined how effective the use of graphic organizers are at improving the reading comprehension of students with learning disabilities. The research on graphic organizers, although very different, shows that graphic organizers assist student with organizing prior knowledge, facilitating higher level thinking and learning components of grammar in writing.

An important element of reading comprehension which students with learning disabilities may have difficulty with is vocabulary. Researchers Irvin (2001), Jitendra et al. (2004), Terril, Scruggs and Mastropieri (2004), and Phillips, Foote and Harper (2008) all agree that it is important for all teachers to work toward learning environments in which sufficient time is devoted to strategic instruction of newly-learned vocabulary knowledge in order to comprehend texts. Overall, the studies reviewed explain that if pre-reading strategies are included in vocabulary instruction, students with learning disabilities can gain word knowledge which will lead to greater comprehension.
Given that the majority of research evidence produced positive outcomes, the pre-reading process is an effective way that teachers can improve reading comprehension and motivate students in their classrooms. Although reading comprehension can be a difficult process for some, high quality instruction and pre-reading strategies that incorporate graphic organizers and texts that fit the students’ interests can prove beneficial. The more teachers know about the pre-reading process, the better suited they will be to instruct their students. When planning instruction, time allocated to instruction and modeling should be taken into consideration so students are more likely to demonstrate success with reading activities, especially in the pre-reading stages.

**Methods**

**Context**

Research for this action research project will answer the question; do pre-reading strategies benefit students with learning disabilities? and it took place from mid-June to the end of the 2012 school year. I introduced the study at the beginning of the school day, upon completion of homeroom. The participant’s school is located in the Gainesville Central School District (a pseudonym). This District has a population of 42,581 and is located in Monroe County, south of the City of Rochester, New York. This rural district consists of predominately white lower to middle class families of which 29.3% of students qualify for free or reduced-price lunch. The research project was introduced and initiated in the 12:1:1 classroom of the participants in a small group setting. The classroom consisted of nine students all of whom have a learning disability. All nine students are eligible for New York State alternative assessments. The student disabilities include: autism, intellectual disability, TBI (traumatic brain injury),
multiple disabilities, and muscular dystrophy. The sample group for this research included four male students and one female student. Three of the students are Caucasian, one is Latino and the other student is African American.

**Participants**

Victor is a 14 year and three month old Hispanic male. He is currently at the end of the seventh grade and likes to swim, play video games and make pizza. Victor is currently diagnosed with autism. Victor shows most success with mathematic skills. Victor resides with his mother, brother and sister in a housing development located approximately fifteen minutes from the school. The development consists of mostly older children and Victor and his siblings do not have many acquaintances to associate with. Victor’s mother works for the Gainsville school district (pseudonym) as a lunch monitor. The socioeconomic class of this family is economically disadvantaged. His disability makes it difficult for Victor to read independently and to decode what he is reading Victor currently has an Individualized Education Plan which allows him access to service providers for Speech therapy. Victor’s classroom is a 12:1:1 setting and he is currently reading at grade level 2 (Fountas & Pinnell level J-L).

Michael is a 14- year- and- six- month old Caucasian male. He is currently at the end of the seventh grade. Michael likes to swim, listen to music, play video games and watch sports. Michael lives with his mother, father, and sister in their grandmother’s home in the town of Gainsville. Both of his parents are currently unemployed. Due to their unfortunate financial situation, Michael often shares that he and his father look through neighboring garbage cans for bottles and cans to recycle for money. The socioeconomic status of this family is economically disadvantaged. Michael is currently diagnosed with an intellectual disability. His disability
makes it extremely difficult for him to maintain focus at school, and he is currently taking
treatment for his attention deficit disorder. Michael has an Individualized Education Program
which provides him with Speech and Counseling services. Michael is in a 12:1:1 classroom
setting and he is currently reading at grade level 2 (Fountas & Pinnel level J-L). According to
Michael, his favorite subjects are Physical Education and Technology.

Jonathan is a 12- year- and- eight- month old Caucasian male. He is currently at the end
of sixth grade. Jon enjoys all animals, especially dolphins; he likes to watch movies, and is
currently learning how to swim. Jonathan lives with his father who is employed in security.
Jonathan`s mother passed away unexpectedly at the beginning of the school year; therefore Jon
goes to his grandparents` house after school each day until his father is able to pick him up after
work. The socioeconomic status of this family is middle class. Jon is diagnosed with muscular
dystrophy and has great difficulty with his fine motor skills. Jon currently has an Individualized
Education Program which allows him services in Speech, Occupational Therapy and Physical
Therapy. Jon is in a 12:1:1 classroom setting and he is currently reading at grade level 2 (Fountas
& Pinnel level J-L). While in the sixth grade, Jon enjoyed both reading and social studies.

Brandon is a 14- year- and- six- month- old Caucasian male. Brandon is at the end of his
eighth grade year, and will be entering a new school in the fall. Brandon was diagnosed with
autism at the age of three. Brandon has a great sense of humor, enjoys movie and television
logos, and riding his bike. Brandon lives with his mother, father and brother. Both of his parents
are employed and adjust their schedules in order for one to be home for Brandon every day after
school. The socioeconomic status of this family is middle class. Brandon has an Individualized
Education Program which provides him with Speech, Occupational Therapy and Music Therapy.
services. Brandon is in a 12:1:1 classroom setting and he is currently reading at grade level 3 (Fountas & Pinnel J-L). Brandon enjoys hands on science activities and mathematics.

Kamiyah is a 14- year- and- four- month- old African American female. She is a serious student who works hard to improve her skills, and enjoys shopping and reading teen magazines. She is also at the end of her eighth grade year and will be entering a new school in the fall. Kamiyah lives with her mother, sister, grandmother and uncle. Kamiyah’s mother is a home health aide for an elderly woman that resides in town of Gainsville. The socioeconomic status of this family is economically disadvantaged. Kamiyah has multiple disabilities and has great difficulty spelling and organizing her writing. Kamiyah has an Individualized Education Program and receives Speech services. She is in a 12:1:1 classroom setting and she is currently reading at grade level 2 (Fountas & Pinnel J-L). According to Kamiyah, her favorite classes are American Sign Language and mathematics.

Mrs. M. (pseudonym) is a certified Speech and Language Pathologist who also works with the 12:1:1 student population. She has been a Speech teacher for five years at the middle school level. Mrs. M is also responsible for teaching the 12:1:1 classroom at the next school that the students will attend. It is beneficial for students to have Mrs. M work at both schools because it makes for an easy transition for students that will be moving up to the next school.

Mrs. S. (pseudonym) is a 6:1:1 Special Education teacher that works with the BTRL school district but is currently working in a district- based environment. She has been teaching for 16 years and has certifications in special education K-12 and elementary education pre-k-6. She currently teaches students whose ages range from 11-13 and who are in grades 6-8. Mrs.S. works with students that have learning disabilities and behavior concerns.
Researcher Stance

I am currently employed as a 12:1:1 teacher and have been teaching for five years. I enjoy teaching this population of students, and I structure learning based on students’ individual goals. I also foster independence by teaching learning strategies that students can work towards utilizing on their own. I am currently attending Saint John Fisher as a graduate student working towards a Master’s Degree in Literacy Education (B-6th). I presently hold a bachelor’s degree in Childhood Education and English. While working towards obtaining certification in Literacy, I also have certification through New York State in Childhood Education, Special Education and English. During this researcher study I will act as participant observer and I will be actively engaged in participant activities. Mills (2011) explains that if the researcher is “a genuine participant in the activity being studied,” then the researcher is called a participant observer. When opportunities arise I will also act as a privileged, active observer and a passive observer in order to assemble a variety of data collection for my research. Mills (2011) describes a privileged, active observer as an opportunity to work as a “teacher’s aide” and observe children during a time when they are not directly responsible for the teaching of a lesson, for example during a “specialist’s” time in music, library or physical education. Mills (2011) also describes teachers that take on the role of passive observers as no longer assuming the role of the teacher and focusing only on data collection. Several of my students have speech related reading goals. Therefore, when the Speech teacher pushes into the classroom, I took these opportunities to move in and out of speech lessons, observe student interaction and document the effects of the different reading strategies the Speech teacher utilizes in her reading lessons. Through this role as an observer I witnessed how the students responded to speech lessons that incorporate reading.
Method

To carry out this research, I studied the effectiveness of pre-reading strategies on student reading. In order to do this, I introduced a variety of pre-reading strategies to the participants during mini-lessons. I observed students on five separate occasions using four different strategies. The last observation will not include a pre-reading strategy. Each observation will include all five participants in a small group setting which will be approximately 45 minutes in length. The five strategies I used for this study are, text analysis to activate schema and set a purpose (using a pre-reading T-Chart), brainstorming (using a concept web), vocabulary introduction (using a vocabulary organizer), and the use of visual representation (movie). After presenting and modeling the specific strategies, the participants and I worked together to complete the strategies before introducing the text. I observed the students behaviors while they engaged in the individual pre-reading strategies and I documented participant engagement while I looked to see if the strategies helped participants to make connections, synthesize new information, deepen existing understandings and inform misconceptions.

I initiated this action research study by surveying the class for two weeks using reading logs to determine how much time students read independently inside and outside of school. Based on the reading logs, I selected five students all which include a learning disability. Once I choose my participants, I administered McKenna and Kear’s *Elementary Reading Attitude Survey*. This survey consists of 20 Likert-type questions each including four pictures of the cartoon character Garfield expressing emotions ranging from excited to angry. The survey measured both academic and recreational reading attitudes. I also administered a Reading Interest Survey that I created based on other reading inventories and the specific needs of my study. The reading survey was also used to determine students’ interests and genre preferences.
Finally, students’ independent reading levels were based on a *Bader Reading Assessment* and converted to Lexile Measures for convenience.

Based upon the data I collected through the interest and attitude surveys and the students’ reading levels, I selected five different books. For example, Victor indicated that he was interested in non-fiction material like famous biographies. Based on his reading level, and on the Bader scale and the Lexile Measure of 300-600, I selected the books *Inventions* by Jennifer Osborne and the early biography *Alexander Graham Bell* by Justin McCory Martin.

In my first observation, participants were introduced to a vocabulary organizer. This strategy allowed the students to develop a deeper understanding of the words in the text. After modeling the first vocabulary word, the participants filled out an organizer and brainstormed what the word means, found the true definition of it, and then found examples and created an illustration. By connecting the word to these different forms, the words became engrained in the students’ vocabulary rather than memorizing words for the week and forgetting them. After completing this strategy participants were introduced to the book *Inventions*. This text is a nonfiction book that discusses what an invention is, what problems they have solved, and why inventions are important. It included a table of contents, four chapters, an invention time line, glossary, index and numerous illustrations. During reading, when we approached a vocabulary word, I paused to review it and answered any questions that participants had.

In the second observation, I presented participants with a concept web which is ideal for brainstorming and helped to activate schema on the topic of “lakes.” I modeled how this graphic organizer should be filled in and together we came up with an abundance of lake related concepts and ideas which were used in order to assimilate new information in an organized way. After
completing the concept web and discussing personal ideas, participants read *On the Lake*, which is a realistic fiction book with a word count of 589. In this book the main character; Kim learns how to sail with her dad in their new sailboat. When the wind dies down, her father takes a nap and Kim feeds the fish. That’s when Kim loses her balance and learns the value of wearing a life vest.

In the third observation, participants were introduced to the Walt Disney movie *The Sword in the Stone*. This visual representation allowed students to identify with where and when the story took place by seeing buildings and how characters were dressed in this time period. Participants were also able to see how a legend such as Arthur displayed qualities of honor, decency and inner strength in order to claim the throne of England. Upon completion of the movie, participants read *The Sword in the Stone* which is a legend genre with a word count of 373. In an effort to find a suitable king, it is to the surprise of grown men at war, that it is young Arthur who eventually draws the sword from the stone and becomes king.

The fourth observation consisted of introducing participants to a pre-reading t-chart. This organizer allowed participants to examine the content and format of the text in order to better understand what they were reading, become aware of the text layout and activate any schema that they may have had on the topic. I modeled how to look at the title and the picture on the cover to find out what the book might be about. I modeled how to flip through the pages to determine if the book is fiction or nonfiction text. Participants were asked if the text features enabled them to tell anything about the characters, setting or plot. They were also asked to see if the book reminded them of any other books that they have read in the past. After modeling how to browse through the text prior to reading in order to help activate schema and set a purpose for reading participants read *Alexander Graham Bell: A Famous Inventor*. This is a biography with a
word count of 431 about an innovator who changed American life forever with his invention of the telephone. Upon completion of the text, students watched the animated movie version of Alexander Graham Bell as they viewed the inventors’ positive traits of endurance, determination, and innovation.

In this final observation, participants did not receive a pre-reading strategy before reviewing the text. Students were immediately introduced to the mystery book entitled Solve It! This book contained three short mysteries for students to solve. The same characters are featured in each mystery- Ken, Mike and Gail, the “kid detective.” Together, they solve each mystery while playing games, having sleep-overs, and collecting caterpillars. After the final observation, I conducted a one-on-one audio interview with each individual student to determine which, if any, pre-reading strategies those participants found to be useful in their ability to comprehend the text. I also included five different comprehension activities (student work) for each book completed by participants in order to compare and contrast participant findings.

Quality and Credibility of Research

To confirm quality and credibility during this action research study, certain methods were utilized. Credibility of a study refers to the researcher’s ability to take into account the complexities that occur during a study (Mills, 2011). To make this study credible, I used persistent observation in order to identify pervasive qualities as well as atypical characteristics (Mills, 2011). In order to accomplish this goal, I observed students while they engaged in the pre-reading process. Another strategy I used is peer debriefing with a colleague. According to Mills (2011) peer debriefing provides researchers with the opportunity to test their growing insights through interactions with other professionals. This process allowed me to have another
perspective and additional insight throughout the research process. I also practiced triangulation in this research study. Mills (2011) describes triangulation as the desire to use multiple sources of data. As previously stated, I collected a variety of data that included: questionnaires, surveys, reading inventories, audio recordings and participant work examples. These varieties of data allowed me as the researcher to cross check and compare strategies with one another.

Another method I used is dependability. Mills (2011) refers to dependability as the stability of the data. To confirm dependability, overlap methods were used. A variety of methods were utilized in such a way that the weakness of one is compensated by the strength of another (Mills, 2011). Using a variety of data will help me as the researcher to recognize commonalities or differences. An audit trail is another method that can be used. Mills (2011) explains that when you establish an audit trail it makes it possible for an external “auditor” to examine the processes of data collection, analysis, and interpretation. This process once again allows my colleague to analyze my data and provide critical feedback in order to reflect on my research.

Along with credibility and transferability of my research, I also included confirmability. Mills (2011) explains confirmability as the neutrality or objectivity of the data that has been collected. One way to do this, as stated above, is by practicing triangulation (collecting multiple sources of data). I also practiced reflexivity to intentionally reveal underlying assumptions or biases that cause the researcher to formulate a set of questions in a particular way and to present findings in a particular way (Mills, 2011). This strategy allowed me to refer back to my initial research questions and introduce new concepts which can be used for future research.
Informed Consent and Protecting Right of the Participants

Before initiating this study, I collected informed consent from parents and adults and informed assent from the children who were used in the research process. All parents were informed about the purpose of the study. All participants were be informed of research study confidentiality, and assured that names will remain anonymous and all identifying marks will be removed from research study artifacts. Participants were also cognizant of the fact that they can opt out of the study at any given time.

Data Collection

As previously discussed, a variety of data was collected for this research study. Before initiating pre-reading strategies, I collected data from participants in order to determine participant likes and dislikes as to their relationship with the reading process. This data allowed me as the researcher to determine how much participants were reading on a weekly basis, what kind of books they preferred to read, and what obstacles they may come across when reading. I was able to perform active observation with all participants to see how they interacted with each pre-reading strategy. My data collection included field notes from observing participants during group speech sessions. Observing participant behaviors offered beneficial information to the researcher such as if participants struggled with a particular strategy or if the strategy was helpful with their comprehension needs.

I also implemented two teacher interviews through e-mail in which I asked questions in regards to teacher experiences, both positive and negative with pre-reading strategies and students with disabilities. Lastly, I ended the observations by completing an audio interview with
participants in regards to which strategies they found most beneficial to their comprehension needs.

**Data Analysis**

A variety of data was collected and evaluated to show patterns that emerged during the research study. Reading logs, reading inventories, teacher interviews, and researcher observations were analyzed to find any similarities and/or differences between the participants’ knowledge of the pre-reading strategies used in this study and their ability to use the strategies before reading. Student work samples were examined to distinguish the effectiveness of the pre-reading strategies by comparing work samples that utilized strategies and samples that did not. Three themes became evident based on the similarities found during cross-examination of the data: motivation, activating prior knowledge, and using pre-reading strategies as a tool for increased comprehension.

I initiated this action research study by surveying the class for two weeks using reading logs (Appendix A) to determine how much time students read independently both inside and outside of school. My goal was to find out which students are not reading independently and to see if the utilization of pre-reading strategies in an effort to increase comprehension would motivate students to read more. Based on the reading logs, I selected five students all which include a learning disability and lacked the enthusiasm to read independently. Once I chose my participants, I administered McKenna and Kear’s *Elementary Reading Attitude Survey* (Appendix B). This survey consisted of 20 Likert-type questions each including four pictures of the cartoon character Garfield expressing emotions ranging from excited to angry. This survey measured both the academic and recreational reading attitudes of my students. According to the
PAWS scoring guide, the results revealed that all five participants’ reading attitudes range from mildly upset to very upset when it comes to reading. I also administered a Reading Interest Survey (Appendix C) that I created based on other reading inventories and the specific needs of my study. The reading survey was used to determine students’ interests and genre preferences. Finally, the students’ independent reading levels were based on a Bader Reading Assessment and converted to Lexile Measures for convenience.

Based upon the data I collected through reading logs, the interest and attitude surveys and the students’ reading levels, I selected five different books for participants. The results showed that three out of five students indicated that they had an interest in non-fiction material such as famous biographies. Based on student reading levels, the Bader scale and the Lexile Measure of 300-600, I selected the non-fiction books Inventions by Jennifer Osborne and the early biography Alexander Graham Bell by Justin McCory Martin. The data also demonstrated that although all 5 students checked a variety of genres as being their favorite, they chose books that they were familiar with and three out five students chose books about animals. Based on students genre preferences and the type of books they typically chose I decided to pick different genres such as a realistic fiction book On the Lake by Liane Onish, a fantasy book The Sword and the Stone by Grace Maccarone and a mystery book Solve It by Meish Goldish. My goal is to reintroduce students to a variety of genres and topics to generate interest in reading. Based upon student interview answers (Student Interview June 20, 2012) of students’ utilization of pre-reading strategies, results show that strategies were not being used by all five participants when reading independently.
Findings and Discussion

A few themes developed after careful analysis and cross examination of the data collected from my research. The themes of lowered motivation, increasing use of prior knowledge, and using pre-reading strategies as a tool for increased comprehension were prevalent. The following quantitative and qualitative data collected can be used to support the benefits of students using pre-reading strategies.

Based on student work samples and the researcher observations, all four of the pre-reading strategies introduced to the participants during the research study benefitted the students by improving their comprehension. This data is consistent with the research done by Gersten et al. (2001) and Box and Little (2011), who found that pre-reading strategies such as graphic organizers implemented before reading or studying a topic can assist in schema building and enhance vocabulary and reading comprehension.

In this study the students were provided with five texts with diminishing levels of pre-reading support. The texts in order of administration were: Inventions, On the Lake, The Sword and the Stone, Alexander Graham Bell, and Solve It. All five texts were in the Scholastic guided reading level range of H-M with lexile levels of 300-600. The selected texts included both fiction and non-fiction reading material and incorporated a variety of genres. Student comprehension was measured with fill-in-the-blank literal recall of “wh” questions and each assessment included at least one inferential question. Each student’s accuracy was measured as a percentage of correct responses.

In the initial observation, participants were introduced to a vocabulary organizer/word map. This strategy allowed students to develop a deeper understanding of the words in the
text. After modeling the first vocabulary word together, the participants filled out an organizer and brainstormed what the next word meant, as well as the true definition of the word along with synonym and antonym, as well as examples in order to create an illustration of the word and lastly they used the word in a sentence. By connecting the word to these different forms the words become engrained in the students' vocabulary rather than existing merely a week and forgotten. After completing this strategy participants were introduced to the book *Inventions*. This is a nonfiction book that discusses what an invention is, what problems inventions have solved, and why inventions are important. It includes a table of contents, four chapters, an invention time line, glossary, index and numerous illustrations. During reading, when we approached a vocabulary word, I paused to review it and answered any questions that participants had.

During this vocabulary instruction strategy I saw students working together to brainstorm what they thought a word might be. Students utilized the texts glossary, dictionaries and/or the internet to find the true meaning to the word and an antonym or synonym for the word. After documenting information onto the graphic organizer, four out of five students were able to independently and accurately use each word in a sentence. After completing this strategy, I assessed students’ vocabulary knowledge with a brief word bank quiz (Appendix K). The quiz produced positive results as to vocabulary acquisition. The students’ average was 85% with 3 students receiving a perfect score of 100%. The results of the quiz demonstrate that by incorporating a pre-reading strategy such as a vocabulary word map four out of five students were able to accurately understand the words prior to reading the text. The ability to understand the words helps students to activate prior knowledge which will increase comprehension. The comprehension assessment average results were 67%. These results show me as a teacher that
although vocabulary is an important pre-reading strategy, it does not incorporate enough background knowledge necessary to make connections with the text. In the future, I might consider another strategy to go along with the vocabulary organizer; I would incorporate a strategy that activated more prior knowledge on inventions.

In the second observation, I presented participants with a concept web which is ideal for brainstorming and helps to activate schema on the topic of “lakes.” I modeled how this graphic organizer should be filled in, and together we came up with an abundance of lake-related concepts and ideas which were used in order to assimilate new information in an organized way. After completing the concept web and discussing personal ideas, participants read On the Lake, which is a realistic fiction book with a word count of 589. In this book the main character, Kim learns how to sail with her dad in their new sailboat. When the wind dies down, her father takes a nap and Kim feeds the fish. That’s when Kim loses her balance and learns the value of wearing a life vest. The concept web helped students to work together and brainstorm ideas. The average result of the comprehension assessment for this activity was 78%. This activity included literal questions, true and false questions, and an inferential question. As a teacher, I felt that this activity was beneficial for students. Brainstorming ideas about a lake helped each student to activate schema on this topic. After listening to each student’s ideas, I felt that they all participants would be able to make a connection with the text. The results reiterate this by coming in as the second strategy to show best results and the top results for an individual pre-reading strategy.

In the third observation, participants were introduced to the Walt Disney movie The Sword in the Stone. This visual representation allowed students to identify with where and when the story took place by seeing buildings and how characters are dressed in this time period.
Participants were also able to see how a legend such as Arthur displays qualities of honor, decency and inner strength in order to claim the throne of England. Upon completion of the movie, participants read the text *The Sword in the Stone* which is a fantasy legend genre with a word count of 373. In an effort to find a suitable king, it is to the surprise of grown men at war, that it is young Arthur who eventually draws the sword from the stone and becomes king. All participants were intent while watching the movie. One student raised his hand to comment on a part of the movie that was portrayed differently from the book. After reading and viewing the movie, participants were asked how the text and the movie visualization helped them to understand the story of Arthur. In an interview (Student Interview June 20, 2012) Jonathan explained that he found the movie helpful because the movie showed him “what the characters looked like, where they lived, and what kind of clothes they wore.” He further explained that it is hard for him to “put a picture in his mind when he reads a book, it helps when he can see what he is reading about.” Although the movie was the most preferred strategy by four out of five students, the average result of the comprehension assessment for the visualization strategy was only 65%. After reviewing the results, I feel that students required more background knowledge in order to make a connection with the text. A brainstorming strategy used along with a concept web and the movie would have provided more background knowledge and produced more positive results.

The fourth text, *Alexander Graham Bell* was introduced to participants along with a pre-reading t-chart. This organizer allowed participants to examine the content and format of the text in order to better understand what they were reading, become aware of the text layout and activate any schema that they had on the topic. I modeled how to look at the title and the picture on the cover to find out what the book might be about. I modeled how to flip through the pages
to determine if the book is fiction or nonfiction text. Participants were asked if the text features enabled them to tell anything about the characters, setting or plot. Participants were also asked to see if the book reminded them of any other books that they have read in the past. After modeling how to browse through the text prior to reading to help activate schema and set a purpose for reading participants read *Alexander Graham Bell: A Famous Inventor*. This is a biography with a word count of 431 and is about an innovator who changed American life forever with his invention of the telephone. Upon completion of the text, students watched the animated movie version of *Alexander Graham Bell* as they viewed the inventors’ positive traits of endurance, determination, and innovation. The average result of the comprehension activity was 81% which resulted in the most positive results. The encouraging results may be because of the combined strategies that were utilized. Students had the opportunity to analyze the text, read the text and watch a movie about the text. The combination of these strategies may have a positive impact on comprehension outcomes.

In this final observation, participants did not receive a pre-reading strategy before reviewing the text. Students were immediately introduced to the mystery book entitled *Solve It!* This book contained three short mysteries for students to solve. The same characters are featured in each mystery- Ken, Mike and Gail, the “kid detective.” Together, they solve each mystery while playing games, having sleep-overs, and collecting caterpillars. After the final observation, I conducted a one-on-one audio interview with each individual student to determine which, if any, pre-reading strategies that participants’ found to be useful in their ability to comprehend the text. The average result of this comprehension assessment was 48%. This activity displayed the least results. The results of this assessment did not surprise me. Results revealed that pre-reading strategies are beneficial to student comprehension. Since this text was void of a pre-reading
strategy, students were unable to make sense of foreign vocabulary, and they were unable to activate prior knowledge of the contents of a mystery genre.

Table 1

Comprehension Results With and Without the Use of Pre-Reading Strategies

<table>
<thead>
<tr>
<th>Text</th>
<th>Assessment</th>
<th>Lesson Order</th>
<th>Student Assessment</th>
<th>Pre-Reading Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alexander Graham Bell</td>
<td>Comprehension</td>
<td>4</td>
<td>81%</td>
<td>Visual/Movie, Pre-Reading T-Chart Organizer</td>
</tr>
<tr>
<td>On the Lake</td>
<td>Comprehension</td>
<td>2</td>
<td>78%</td>
<td>Concept Web Organizer</td>
</tr>
<tr>
<td>Inventions</td>
<td>Comprehension</td>
<td>1</td>
<td>67%</td>
<td>Vocabulary Map Organizer</td>
</tr>
<tr>
<td></td>
<td>Vocabulary Quiz</td>
<td></td>
<td>85%</td>
<td></td>
</tr>
<tr>
<td>Sword &amp; the Stone</td>
<td>Comprehension</td>
<td>3</td>
<td>65%</td>
<td>Visual/Movie,</td>
</tr>
<tr>
<td>Solve It</td>
<td>Comprehension</td>
<td>5</td>
<td>48%</td>
<td>No Strategy</td>
</tr>
</tbody>
</table>

Based on the data analyzed from student comprehension activities, the strategy that made the greatest impact on the participants’ comprehension was the movie and the pre-reading t-chart organizer used together. The activity that did not include a pre-reading strategy showed the least results. The reason that the two strategies that were used together had the best results could be because the more strategies that are utilized, the more background knowledge is activated which may result in increased comprehension. The results from the Sencibaugh (2007) study shared
similar results when the researcher explains that the impact on the effect size was greater when the strategies were combined, especially concerning small group interactive instruction and strategy cueing. The results from this study also reveal that when pre-reading strategies are utilized comprehension is improved. Klinger et al. (2010) agree when they explain that direct instruction, strategy instruction, or a combination of the two, are associated with the highest effect sizes in reading comprehension for students with learning disabilities. Teachers need to be sure that they do not miss opportunities to support student learning. Students will benefit if teachers combine and prioritize various instructional strategies in their classroom to improve student reading comprehension.

**Improved Motivation**

Struggling readers are often frustrated by their limited comprehension skills. New texts are often seen as daunting and overwhelming, and students may lack the strategies necessary to make these texts more accessible. When faced with a challenging text, many students avoid reading and display a lack of motivation toward reading activities instead of practicing the strategies that can help them. My students have difficulty engaging with the text. They also lacked the motivation to stick with a lengthy text that they might find overwhelming. During this research study, a significant theme that emerged was the initial lack of motivation to read amongst the research participants. Prior to this study students were not motivated as indicated by student reading logs, reading attitude surveys, reading interest inventories, classroom observations, and teacher interview responses. Yet, during and after the research study, changes in motivation occurred. This theme is supported by the literature reviewed earlier by researchers such as Guthrie et al. (2006), Logan and Medford (2011), Logan, Medford & Hughes (2011) and Park (2011).
Student reading logs (Appendix A) were reviewed over a two week period and results revealed that three out of five participants were not motivated to read recreationally at their independent reading level. The majority of books that three out of five participants read were assigned readings. Kamiyah engaged in reading her Teen Beat magazine and two other students were documented as reading “easy reader” books that were well below their independent reading levels. Two out of five participants did not any complete reading at home in their free time. This evidence could indicate that students’ reading habits are decreased due to their inability to accurately comprehend text, which often leads to decreased motivation in reading. The research of Park (2011), Logan & Medford (2011), and Guthrie et al (2006) all agree that decoding skills and intrinsic motivation offer one explanation for poor reading habits. These researchers conclude that when students are motivated to read, they will read more, which will make them more proficient when comprehending texts.

By asking the participants about attitudes and habits toward reading the student reading attitude survey (Appendix B) implied that four out of five students do not enjoy reading for fun, yet three out of five participants were comfortable reading in school. All of the participants also revealed that they would rather play than read in their free time. According to the PAWS reading attitude scoring guide, results revealed that all five participants reading attitudes range from mildly upset to very upset when it comes to reading overall. Three out of five participants also shared that they do not like it when the teacher asks them questions about the content that they are reading. Students might feel anxious when answering comprehension questions about a text because they are unsure if their answers are correct. Three out of five participant results also revealed that students prefer to have someone read to them versus reading themselves independently. These results could imply that students relate reading with school and not for
home or recreational purposes. Students may find reading easier at school because they have opportunities to receive help. Results may also reveal that students are not finding the right books in order to find reading enjoyable. Researchers Guthrie et al. (2006) explain that both teachers and parents can create contexts conducive to motivational development. These practices can include providing choices of books for reading instruction. Students could collaborate with their friends in reading activities, such as starting a book club. Teachers should provide interesting texts for instructional activities, for example, reading a cookbook for kids and creating desserts based on recipes. Teachers can also provide hands-on activities or real world interactions connected to a specific book, for instance, reading a book about apples and then visiting a local apple farm. Guthrie et al. (2006) agree that students are not born intrinsically to read, but they are transformed by experiences and by providing such experiences, teachers may help to motivate students to become more involved and active readers.

A Reading Interest Inventory (Appendix C) was also implemented and disclosed that three out of five students preferred fiction over non-fiction reading material. Results also revealed that four out of five participants enjoyed reading a variety of genres yet only one out five participants made regular visits to the library in order to expose themselves different genres. Three out five participants chose to read books about animals and two out of five participants chose books that were humorous. This data could mean that the students are sticking to the same types of books and authors that they are most comfortable with and lack the motivation to seek out more challenging genres that could spark more interest. One reason that students may choose simpler books that they are most comfortable with is because they may lack the background knowledge to make connections with different genres which could lead to decreased comprehension. An alternate reason for students lacking motivation could be that students may have a poor image of
themselves as readers and avoid reading if they do not have a teacher present to assist them when they read at an instructional level. Logan and Medford (2011) explain that if a child finds a task difficult or feels that they lack ability this will affect the level of effort that they put into the task. If a child’s perception of his or her reading ability is low, he or she will display avoidance behaviors.

During Speech class, I was able to observe participants (Classroom Observation June 18, 2012) from a distance as a quiet observer. Students were reading a weekly magazine on summer activities as a group. I observed that the teacher chose not to utilize a pre-reading strategy for this particular activity. As students began to take turns reading aloud I observed Brandon making hand motions in the air and not concentrating on the text. I also saw Michael nudging Victor’s arm and whispering that he was in his personal space, and Victor stopped reading in order to argue with Michael that he was on his own side of the table. I also observed Jonathan looking at the teacher’s aide at his desk. He did not know where to begin reading when it was his turn.

Mrs. M. noted this lack of student participation and asked the students if they would rather do a writing activity instead. Mrs. M redirected the boys and requested that they follow along with their finger or use a bookmark for the remainder of the text. It can be presumed that since three out of the six participants were not concentrating on the reading task that students were uninterested in the material that was introduced without a pre-reading strategy. It could also be surmised that students were unable to make a distinct connection with the text and found the content to be uninteresting. The researchers Logan, Medford & Hughes (2011) found that background knowledge, cognitive strategy use, and intrinsic reading motivation accounted for significant variance in reading comprehension performance and growth. Therefore, if students do not utilize a pre-reading strategy they will likely have difficulty making a connection with the
text. When students lack a connection with the text they may find it difficult to be motivated and they will likely show little advancement in their comprehension abilities.

The utilization of pre-reading strategies can help students by improving their comprehension abilities. Improved comprehension helps students feel more confident as readers which intern will help to encourage and motivate students to read more. Kamiyah’s motivational levels showed the most significant change throughout the study. Prior to the study, she seemed uninterested and unmotivated to read and to increase her reading spectrum to include a variety of genres and text types. Her attitude survey showed that she was not comfortable with her reading abilities, and she disliked when a teacher asked her questions about what she just read. After completing the series of pre-reading strategies that included a vocabulary organizer, a concept web, a motion picture visual, and a pre-reading t-chart, Kamiyah was able to express her feelings regarding the assigned strategies in an interview where Kamiyah explained that, “If I used more than one strategy such as the movie visual and the concept web to help me make connections and understand books better, I would read more kinds of books” (Student Interview June 20, 2012). This response could mean that when students utilize pre-reading strategies it helps them make connections, gives students a purpose for reading and helps them make meaning from the text. Researchers Gersten et al. (2001) explain that motivation and persistence affect performance in all academic areas and are clearly related to students’ developing a sense of failure and frustration in the presence of academic tasks. The accumulation of repeated unsuccessful efforts to solve academic problems decreases their motivation to work hard at learning. When Kamiyah was presented with a variety of pre-reading strategies to choose from she displayed more confidence in her reading abilities. Gersten et al. (2001) confirm that reading is a complex activity that requires the successful selection, application, and monitoring of multiple strategies.
Pre-reading strategies can be beneficial when used as a tool to increase self-motivation, reading and comprehension abilities.

According to teacher interviews (Appendix E), Mrs. M, stated that visualizations were her favorite pre-reading strategy and she found this strategy to be engaging for students. She wrote, “my students love having visuals presented to them when they are about to complete a comprehension task. They enjoy looking at pictures, internet websites, video clips, etc…This fills in gaps from their own life experiences and gives them a reference throughout the reading of the text” (Teacher Interview June 20, 2012). Another teacher, Mrs. S. stated that she wants her” students to be motivated and invested in what they read” (Teacher Interview June 20, 2012). Therefore, before she begins a pre-reading strategy, she tries to pick out books that “may spark an interest in independent reading such as a particular author or series. If students are intrinsically motivated, they will want to learn and want to participate in the lesson” (Teacher Interview June 20, 2012). This response may mean that teachers should not only utilize pre-reading strategies to encourage student participation, but they should also choose a text that inspires them to want to read. Similar results by Guthrie et al. (2006) explain that providing choices of books during reading instruction, providing opportunities for collaboration amongst classmates, providing interesting texts for instructional activities, and providing hands-on activities or real world interactions that connect to specific books are all ways to increase reading motivation amongst students. Students need to make personal connections with a text and see the positive effects that a variety of books can bring to provide interest and motivation.

After examining student reading logs, attitude surveys and interest surveys, the results could mean that students’ lack of pre-reading strategies to elicit motivation may correlate with their inability to comprehend text. During a student interview (Appendix D) with Michael, prior to
applying pre-reading strategies, he stated that, “I didn’t like when you told us we had to read the book about the Sword and the Stone. I don’t like reading about those people in the metal costumes, castles, Kings and Queens. They are all boring love story books.” This quote demonstrates Michael’s preconception based on the limited background knowledge, and prevented him from becoming personally invested in the text. If text has no personal meaning than students would not have the incentive to find out what happens in the text. Once we discussed the book’s content as a legend/fantasy/comedy genre and discussed the heroism and bravery of the men in medieval England, Michael began to initiate more interest. Michael is a big sports fan and was also able to make a connection with hunting and jousting which were popular sports in medieval times. After the class read the book while watching the movie in its entirety, Michael had a new outlook on the text. He explained that “the discussion, the book and, the movie were so helpful and now I know that all books about Kings and Queens are not love stories and they are not as boring as I thought.” Michael also agreed that he would be willing to read more books like this in the future and asked for assistance in finding one that he could take out of the library over the summer. After utilizing pre-reading strategies, Michael displayed the motivation to not only read in his free time but also to get out of his comfort zone and increase his genre base.

The student reading logs, the Reading Attitude Surveys, Reading Interest Inventories, classroom observations and teacher interview responses revealed that students were more motivated to read after being taught pre-reading strategies. Pre-reading strategies activated students’ background knowledge and helped them to become more invested as readers. Student comprehension increased as a result and also helped them to feel more successful as readers.
Activating Prior Knowledge

Another major theme that emerged from my research was increasing prior knowledge. This theme became apparent when reviewing student interviews, teacher interviews, and student work samples including the concept web organizer, pre-reading t-chart and a vocabulary word map. This theme is supported by the research of Shapiro (2004), Tobias (1994), Irvin (2001), Gurlitt and Renkl (2010), Shapiro (2004) and Little and Box (2011).

After completing the student interview (Appendix D) with Kamiyah she chose the concept web as her favorite strategy (Appendix F). Participants were reading a book about a lake and a concept web was used to facilitate the activation of prior knowledge. In her interview, Kamiyah explained that she “chose the web because the class all worked together and thought of ideas that had to do with a lake” (Student Interview June 20, 2012). Initially, Kamiyah stated that she “had never been to a lake before,” but while working on the concept web Kamiyah learned that Charlotte Beach was actually a lake that she had previously visited. She realized that she in fact had been to a lake and was able to activate her prior knowledge of an experience she had at Lake Ontario as a child. It could be presumed that without the use of a pre-reading strategy to assist in activating prior knowledge, a student could have inaccurate prior knowledge which could affect comprehension of a text. When a student uses a pre-reading strategy to activate schema, students are better able to make connections since the pre-reading strategy provides a frame of reference for the readers. This concept web is a specific pre-strategy that helped students brainstorm ideas in order to activate schema by the use of web extensions. Results from the study of Gurlitt and Renkl (2010) reiterate this idea when they explain that mapping tasks can be a beneficial instructional method when it is differentiated according to specific tasks. In a student observation (Classroom observation dated June 18, 2012) Victor was observed discussing the pre-reading t-
chart (Appendix G) and said, “I can’t believe how much we learned before we even read the book.” Students also agreed that pre-reading strategies are a helpful tool in activating prior knowledge before reading.

While reviewing the teacher e-mail interview (Appendix E) about the pre-reading strategies they found to be most beneficial, my research shows that both teachers interviewed favored the use of background knowledge-related strategies. Mrs. S. explained “the pre-reading strategies that I use in my classroom are collecting background knowledge based on a topic, KWL charts, and review of what might be difficult vocabulary.” Before students read they can and should connect information, ideas and experiences to their own schema by utilizing different strategies. In another teacher e-mail interview (Appendix E) Mrs. M. explained that she uses a variety of pre-reading strategies based on her students’ level and abilities. She states,

For my verbal readers, I will use strategies that include KWL charts, pre-teaching of new vocabulary, and background knowledge checks. For my non-verbal readers who are unable to read, I will rely on picture symbols created through the use of Board maker in order to show them new pictures/vocabulary words that they will hear in the story. These strategies give students an opportunity to make predictions and infer what will happen based on the new knowledge they possess after being taught some background knowledge (Teacher Interview, June 20, 2012).

Both verbal and non-verbal readers benefit from establishing background knowledge. Since both teachers in their experience preferred background knowledge strategies, such as KWL or concept webs for example, this preference could mean that this type of strategy provides substantial
benefits to students with learning disabilities. Shapiro’s (2004) data strongly suggests that there is a relationship between readers’ prior knowledge and learning outcomes. She further explains that subjects with better developed schemata will perform better on text comprehension tasks.

Reviewing student work samples also provided me with information as to the effectiveness of activating prior knowledge. The students and I completed a pre-reading t-chart (Appendix G) before reading the book *Alexander Graham Bell*. Students were encouraged to browse through the text prior to reading it in order to activate schema and set a purpose for reading the text. Students examined the title and looked at the pictures to find clues as to what the book might be about. Students also flipped through the pages to find clues as to if the book were fiction or non-fiction material. Through this task, all participants were able to determine that it was a non-fiction book and it had something to do with telephones. Four out of five participants were also able to make a connection that it reminded them of another book that we had previously read about inventions. This connection stimulated interest and curiosity about the book. Two out of five students also suggested that since it was a non-fiction book, they were most likely reading to learn something and not merely reading for entertainment purposes. This knowledge that students gained before reading the text could mean that background knowledge-related pre-reading strategies provide a plethora of support for students’ comprehension needs. Little and Box (2011) support this when they explain that providing students with background information on a topic through the use of specific pre-reading strategies such as advance graphic organizers implemented before reading or studying the topic is likely to assist in schema building and therefore enhance vocabulary and reading comprehension.

Another student work sample that provided me with the activation of prior knowledge information was the vocabulary word map organizer (Appendix H). The researcher explained to
students that they must understand the words in a text in order to activate schema about the topic. In order to do this, students must study the words prior to the reading of the text and the word map organizer would assist them in their understanding. Students were reading the book *Inventions* and the teacher found six vocabulary words that students would need to know prior to the text. In a teacher observation (Observation dated June 13, 2012) the teacher noted that five out of six students were unsure of the meaning of the word “Braille.” Students were asked to define the word using a student dictionary or the Internet. Students were then required to find a synonym and an antonym for the word which was done together as a group. Next, students were asked to sketch the word and use it in a sentence, and the researcher found that students had difficulty completing these tasks. The researcher asked all students to get out of their seats and follow her to the ladies’ room in the hallway. She showed all students the Braille sign for ladies room and asked all students to touch the sign. She also reminded students of the biography of the blind character named Helen Keller that they had read earlier in the year. When students returned to their seats all students were able to make a connection from the visual of the sign along with activating their background knowledge of a previous book. These connections allowed all students to sketch an illustration of the word Braille and use it in a sentence independently. For example, Jon sketched a group of dots as his illustration of Braille and his sentence read, “Helen Keller used Braille to read books.” For the word spelling, the same student students showed a comparison of the misspelled word speling/spelling to demonstrate an illustration. He also created the sentence, “I will improve my spelling” (Student Work, June 22, 2012) The reason that students were able to make this connection may be because previous reading material and a visual helped them to activate background knowledge. This background knowledge helped them to make a connection with the current text. Researcher Irvin (2001) identified three levels of
word knowledge: unknown, acquainted, and established and explains that it takes more than a simple, superficial knowledge of words to make a difference in reading comprehension. It is important for teachers to instruct students’ vocabulary of the text beyond the superficial level and activate background knowledge in order to make an impact on reading comprehension.

After examining student interviews, teacher interviews and student work results, this research explains the importance of incorporating background knowledge pre-reading activities to enhance the text and increase student reading comprehension.

**Using Pre-Reading Strategies as a Tool for Increased Comprehension**

The final major theme that reoccurred and emerged from my data was increased comprehension. This theme became evident when reviewing student interview and student work samples. My data is in support of the findings from Gersten et al. (2001), Sencibaugh (2007) and Klinger et al. (2010).

After examining outcomes from a student interview (Student Interview, June 20, 2012) results revealed that after completing pre-reading strategies, students’ demonstrated that they felt more confident in their comprehension of the text. Kamiyah stated that “when I watch a movie clip first, I can understand a little bit of it, and then when I read the book, it helped me to understand what was going on even better.” Kamiyah’s comments verify that visual representation strategies help to increase comprehension. Michael stated that “the vocabulary strategy helped me to understand the book better. I sometimes don’t know what words mean so I just skip over them. It helped me by learning about invention words before I read the book. I already knew a lot of them but the organizer that you taught us to use helped me with the words I was not sure of or that I just forgot about. Michael’s comments suggest an emerging self-
awareness as a reader and he demonstrated how vocabulary strategies helped to increase his understanding of text. This increase in knowledge could mean that pre-reading strategies are a beneficial tool for increasing reading comprehension. Sencibaugh (2007) echoes this when he explains that when students are taught how to use visually or auditory cognitive strategies to improve their reading comprehension, significant gains are evident. Therefore, students benefit from being taught pre-reading strategies by increasing confidence and comprehension.

Significant results were found in student work samples (See Table 1). All students completed a pre-reading strategy organizer which correlated with a comprehension assignment (Appendix I) except for the last text in which students only completed a comprehension activity (Appendix J). Results revealed that pre-reading strategies are an effective means to activating background knowledge and increasing student comprehension. The outcome of the pre-reading strategy results may signify that without the use of pre-reading strategies, students may only have limited comprehension abilities. Gersten et al. (2001) explain that limited or fragmented knowledge of the topics covered in readings, especially expository readings, has a detrimental effect on students’ comprehension. In order to maximize students’ comprehension, teachers need to spend time building students’ knowledge of the topics before reading.

During my research study I worked with students in a 12:1:1 self-contained classroom. Over a two week period, I introduced five pre-reading strategies and compared student results with the results of a guided reading lesson that included a pre-reading strategy. I utilized student interviews, teacher interviews, student work samples and observations to measure student progress and effectiveness of pre-reading strategies on reading comprehension. Some themes that arose from the research study included self-motivation, increasing the use of prior knowledge as ways of engaging students and improving reading comprehension.
Implications and Conclusions

Prior to this study, I understood the difficulties teachers faced trying to implement reading comprehension instruction in the classroom and the difficulties students faced trying to understand the content. This educational challenge led me to question how pre-reading strategy instruction can benefit comprehension in students with learning disabilities. Results from the study reveal that pre-reading strategies can be useful to students in a variety of ways. The pre-reading strategies encouraged students to successfully activate their prior knowledge and connect it with new material. The study also proved that when students are instructed on how to use a specific strategy, their reading comprehension increased. The participants’ motivation and attitude toward reading made positive improvements with direct instruction of strategies. Students felt more successful and confident when faced with challenging comprehension tasks. These findings relate to the research previously discussed, and also provide implications for classroom teachers.

Incorporating graphic organizers as pre-reading strategies in the classroom are important because they help students to organize their ideas before they begin to read. By using graphic organizers, educators can facilitate the readers’ understanding of the text by displaying connections amongst concepts and assisting readers in connecting their existing knowledge with the text. By providing students with direct instruction and modeling of how to use specific strategies, my study has shown that students with disabilities become more proficient in their comprehension abilities.

Educators should also consider pre-reading strategy instruction to activate students’ prior knowledge. Through the use of pre-reading strategies, educators can ascertain and adjust their
prior knowledge or misconceptions that students may have and help to provide additional knowledge on the specific text topic. Participants in this study have shown that when they are equipped with appropriate prior knowledge, they perform better on comprehension tasks.

This research study on effective pre-reading strategy instruction has also helped me to see how educators need to be better prepared with the skills, perceptions, and knowledge to teach students with learning disabilities. This review of the educational research has shown that learning disabled students’ reading comprehension can benefit from skilled teaching. Students with learning disabilities have shown from this study that they have difficulty knowing which strategies to use when they have difficulty with comprehension, and trouble reflecting on how their reading is progressing. Therefore, educators need to provide explicit instruction in reading comprehension and teach students how to use a variety of comprehension strategies to fit the need of the content. Upon completion of the study, I was able to learn that students benefit from using pre-reading strategies to improve their comprehension abilities. I learned the value of direct instruction and the importance of modeling each individual strategy. Teachers cannot assign a student a strategy and not instruct them on how and when to use it. It is not strategies alone that help a student with learning disabilities to learn; it is also the time spent by the teacher to incorporate those strategies through guided reading instruction and practice.

Educators should consider pre-reading strategies in an effort to increase reading motivation. During my research, I was able to see improvement in students’ efforts and persistence, increasing comprehension. I also saw increased motivation and self-confidence amongst participants. Three out of the six participants in this study showed improvement in their motivation to read more books and genres after completing a series of pre-reading activities. One student who was disinterested in reading material that took place in the medieval era
became inclined to read more books that included medieval characters and interests. When teachers incorporate texts that include student interests and provide assistance to understand the text content, students show more motivation to read and success with comprehension tasks.

In my classroom, I will incorporate explicit pre-reading strategy instruction before reading the text. It is my goal that with scaffolding, guidance, and practice that I will be able to create self-regulated learners. There were a few limitations that came about from this research study. The research was limited due to the time constraints set forth in getting student and parent consent and the end of the school year. If there had been more time allotted, more strategies could have been instructed and compared. Another limitation of the study was that since it was the end of June, the temperature in the classroom was hot and humid. Participants were uncomfortable and ready for their summer vacation to begin. Pre-reading strategy instruction was not a main priority at this time of the school year. I would recommend that teachers begin introducing and implementing pre-reading strategies at the beginning of the school year. One final limitation of the study was the lack of books available in the school library at appropriate participant reading levels. I would like to see our school library incorporate higher interest/lower level books into their collection. Lack of motivation could be evident because of the limited variety of books to choose from. I would be interested in seeing how much student comprehension increased when multiple pre-reading strategies were used with participants. My research also leads me to question what strategies can be implemented during and after the reading process, and how this instruction can continue to benefit student achievement in comprehension.

This research study determined that students with disabilities benefit from pre-reading strategies in reading comprehension. The lens used for this research study was schema theory,
which explains how students bring previous experiences and knowledge to reading, and
disability theory, which argues for equality for all students. Educational researchers proved that
pre-reading strategies such as the selections of interesting texts, graphic organizers, vocabulary
instruction, visual representations, and the activation of prior knowledge are effective in
influencing student motivation and increasing comprehension for students with disabilities. My
own research on the effectiveness of pre-reading strategies for students with disabilities,
although it was brief, mirrored the findings in the research. A question that remains is whether
the use of multiple pre-reading strategies would further increase student reading comprehension.
This research is essential for students with disabilities since it seeks to increase student
achievement in reading comprehension.
References


Cunningham A., Stanovich, K. (2003). Reading can make you smart: The more children read, the greater their vocabulary and the better their cognitive skills. *Principal*, 83 (2)


Walt Disney Studios. *The sword in the stone.*


## Appendix A- Reading Log

### Daily Reading Log

<table>
<thead>
<tr>
<th></th>
<th>Minutes Read:</th>
<th>Pages Read:</th>
<th>Book Read:</th>
<th>Reason for Reading (Homework or Choice)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Monday</strong>&lt;br&gt;Date:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Tuesday</strong>&lt;br&gt;Date:</td>
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<tr>
<td><strong>Wednesday</strong>&lt;br&gt;Date:</td>
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<td><strong>Thursday</strong>&lt;br&gt;Date:</td>
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<td><strong>Friday</strong>&lt;br&gt;Date:</td>
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<tr>
<td><strong>Saturday</strong>&lt;br&gt;Date:</td>
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<td></td>
</tr>
<tr>
<td><strong>Sunday</strong>&lt;br&gt;Date:</td>
<td></td>
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</tr>
</tbody>
</table>
Appendix B- McKenna and Kear’s *Elementary Reading Attitude Survey*

**ELEMENTARY READING ATTITUDE SURVEY**

School_______ Grade____ Name________________

1. How do you feel when you read a book on a rainy Saturday?

2. How do you feel when you read a book in school during free time?

3. How do you feel about reading for fun at home?

4. How do you feel about getting a book for a present?
5. How do you feel about spending free time reading?

6. How do you feel about starting a new book?

7. How do you feel about reading during summer vacation?

8. How do you feel about reading instead of playing?
<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>9. How do you feel about going to a bookstore?</strong></td>
<td>Garfield</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Garfield</td>
<td></td>
</tr>
<tr>
<td><strong>10. How do you feel about reading different kinds of books?</strong></td>
<td>Garfield</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Garfield</td>
<td></td>
</tr>
<tr>
<td><strong>11. How do you feel when the teacher asks you questions about what you read?</strong></td>
<td>Garfield</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Garfield</td>
<td></td>
</tr>
<tr>
<td><strong>12. How do you feel about doing reading workbook pages and worksheets?</strong></td>
<td>Garfield</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Garfield</td>
<td></td>
</tr>
</tbody>
</table>
13. How do you feel about reading in school?

14. How do you feel about reading your school books?

15. How do you feel about learning from a book?

16. How do you feel when it's time for reading class?
17. How do you feel about the stories you read in reading class?

18. How do you feel when you read out loud in class?

19. How do you feel about using a dictionary?

20. How do you feel about taking a reading test?
Elementary Reading Attitude Survey
Scoring sheet

Student name ____________________________
Teacher ____________________________
Grade ____________________________ Administration date ____________________________

Scoring guide
4 points Happiest Garfield
3 points Slightly smiling Garfield
2 points Mildly upset Garfield
1 point Very upset Garfield

Recreational reading
1. _______ 11. _______
2. _______ 12. _______
3. _______ 13. _______
4. _______ 14. _______
5. _______ 15. _______
6. _______ 16. _______
7. _______ 17. _______
8. _______ 18. _______
9. _______ 19. _______
10. _______ 20. _______

Raw score: _______ Raw score: _______

Full scale raw score (Recreational + Academic): _______

Percentile ranks
Recreational
Academic
Full scale

Measuring attitude toward reading 635
Appendix C - Reading Interest Survey

Name __________________________

Reading Interest Inventory

Directions: Please answer each question honestly.

1. List two books that you have enjoyed reading and explain why.
   a. 
   b. 

2. Please put a check on all of your favorite genres.
   - Mystery
   - Science Fiction
   - Romance
   - Biographies/Autobiographies/Memoirs
   - History
   - Science
   - Humorous
   - Action/Adventure
   - Animals
   - Other

3. Do you prefer fiction or non-fiction books? (check one)
   - Fiction
   - Non-Fiction
   - Both

4. What magazines do you like to read?

5. How often do you go to the library?
6. I like to read (check one) _____Yes _____No
   _____Sometimes

7. What sports do you like to play?

8. What is your favorite subject in school?

9. Do you like reading books or being read to?

10. What would make reading easier for you?
Student Interview Questions

1. What are some reasons why you might not read?
2. Do you use pre-reading strategies before you read independently?
3. Do you find pre-reading activities to be helpful?
4. What was your favorite pre-reading strategy?
5. Why did you pick this strategy?
6. Which of these strategies helped you to better understand the text?
7. In what way or how did it help you?
8. Do you think that the teacher explained how to use each strategy?
9. Did the teacher model or show you how to use this strategy?
10. Do you think it would be helpful to use more than one kind of strategy to help you understand the text?
Appendix E - Teacher Interview

Date: June 20, 2012

Teacher E-Mail Interview

1. What are the demographics of your classroom?

2. Do you use pre-reading strategies in your classroom?

3. What different pre-reading strategies do you find conducive for your students?

4. Do you have a favorite strategy to use with your students?

5. Why do you prefer this particular activity?

6. How do you feel that this pre-reading strategy benefits student comprehension?

7. Do your students have a preference as to what strategy they prefer to use?
Pre-Reading T-Chart

Browsing through text prior to reading it can help you activate schema and set purpose. Examining the content and format of the text helps you understand what you’re reading, become aware of the text layout and activates any schema you may have on the topic.

<table>
<thead>
<tr>
<th>Text Feature</th>
<th>My Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Read the title and look at the picture on the cover. What do you think this book will be about?</td>
<td>Alexander Graham Bell interested in flight.</td>
</tr>
<tr>
<td>Flip through the pages. What do you notice? Is this fiction or nonfiction text?</td>
<td>This book is nonfiction.</td>
</tr>
<tr>
<td>If this is fiction, can you tell anything about the characters, setting or plot? If so, what do you notice? If this is nonfiction, what is the central topic? What do you think you will learn reading this book?</td>
<td>Alexander Graham Bell interested in the telephone.</td>
</tr>
<tr>
<td>Does this book remind you of any other books/text you’ve read? If so, what? What is it that reminds you of it?</td>
<td>Invention.</td>
</tr>
<tr>
<td>Does this book grab your interest? Why or why not?</td>
<td>Yes because I want to know more about aviation.</td>
</tr>
<tr>
<td>What is your purpose for reading this book?</td>
<td>To learn some things.</td>
</tr>
</tbody>
</table>
Appendix H - Word Map

Word Map

You must understand the words in a text in order to comprehend what you read. Studying words from the text prior to reading can help you develop schema for the topic. Find key words in the text and use them to complete the "Word Map" organizer.

<table>
<thead>
<tr>
<th>Definition and Synonym:</th>
<th>Antonym:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arsemun of writing for the blind. Letters are represented by dots.</td>
<td></td>
</tr>
<tr>
<td>Writing</td>
<td></td>
</tr>
<tr>
<td>Use It:</td>
<td>Sketch It:</td>
</tr>
<tr>
<td>braille</td>
<td></td>
</tr>
<tr>
<td>Helen Keller taught braille.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Definition and Synonym:</th>
<th>Antonym:</th>
</tr>
</thead>
<tbody>
<tr>
<td>To make better</td>
<td>to make worse</td>
</tr>
<tr>
<td>enhance</td>
<td>deteriorate</td>
</tr>
<tr>
<td>Word: improve</td>
<td></td>
</tr>
<tr>
<td>Use It:</td>
<td></td>
</tr>
<tr>
<td>I will improve my spelling</td>
<td></td>
</tr>
<tr>
<td>*spelling</td>
<td></td>
</tr>
</tbody>
</table>

*Note: The word map includes symbols and handwritten notes.
Appendix I - Comprehension Activity

Alexander Graham Bell
A Famous Inventor

1. Who invented the telephone? __ Alexander Graham Bell

2. If Alexander Graham Bell lived from 1847-1922, how old was he when he died? __ 0075

3. Where and when was Alexander born? (two part question) __ 1878, 1879

4. What did Alexander's father do for a living? __ teacher

5. What did Alexander's mother do to help her hear better? __ She used an ear tube.

6. What did Alexander become fascinated with? __ by sound

7. What did Alexander and his brother build when they were teenagers and what could it do? (two part question) __ talking machine that could say simple words.
8. How did Alexander help deaf people?

They taught deaf people how to speak.

9. Who did Alexander marry? What was her disability? (two part question)

Mabel Hubbard
She was deaf.

10. What significant thing happened to Alexander and Mr. Watson on March 10, 1876?
The invention was working.


12. What did he do with his new invention?
He entered it in a contest.

13. What important people became interested in his invention?
President of the U.S., Queen of England.

14. What happened in 1915?
It was possible to make calls all the way across the country.

15. Name two other things that Alexander invented:
Planes and boats.
Appendix J - Comprehension Activity

1. **Who are the main characters in this mystery?**
   - Ken and Mike

2. **Where is the setting in the beginning of the mystery?**
   - Playing in their house

3. **What were the kids doing when they heard the first noise?**
   - Running outside

4. **What did the kids think the noise was?**
   - A horse was a door

5. **Who did the boys go to see to help them solve the mystery?**
   - Miss Smith

6. **Where did they hear the sound coming from?**
   - They knew the sound was outside

7. **What was Ken nervous about?**
   - Ken was nervous about his mom, who might be outside

8. **What did the sound come from?**
   - There was a bird chirping

9. **What did Ken say to Gail?**
   - Ken said Gail for the chair

10. **Did you like the story? Why or why not?**
    - Yes, I like this story because it was a good book.
Appendix K - Vocabulary Quiz

1. **Problem**
   - Someone who looks to find answers & solutions

2. **Improvements**
   - Things that are added to make something better or more useful

3. **Braille**
   - An alphabet of raised dots invented by Louis Braille

4. **Timeline**
   - A line chart of important events

5. **Scientists**
   - People who study things by observing & experimenting

6. **Experiment**
   - A way to see if an idea works by testing it

7. **Invention**
   - A brand new device or tool

8. **Innovation**
   - Relating to the present time

9. **Observe**
   - To watch something closely

10. **Inventor**
    - A scientist who develops an idea to make something new

11. **Materials**
    - What is used to make something

12. **Develop**
    - To help something grow

13. **Earliest**
    - The first or close to the first of its kind