Effects of graphic organizer usage when used for the literacy instruction of children with disabilities

Lisa J. Brazelton

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The Effects of Graphic Organizer Usage When Used for the Literacy Instruction of Children with Disabilities

By
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Abstract

This case study researched the effects of graphic organizer usage in a literacy intervention. The participant was a fifth grade girl with a speech and language impairment and an intellectual disability. She was referred to the researcher by the elementary school because she struggled with literacy skills. The intervention was created to meet several of the common core standards and was executed in compliance with the state educational laws. The intervention sessions met for sixty minutes at a time for a total of fourteen meetings. During that time the researcher and participant worked in a one on one setting, using grade appropriate textbook and graphic organizers. The results of the intervention suggest that graphic organizers are effective tools to use when teaching literacy skills to students with disabilities.
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Introduction

Graphic organizers are tools that are widely used in education. In fact, they are utilized across the subject areas. A graphic organizer is, by definition, a visual communication tool that uses symbols to express ideas and concepts. It is used to facilitate learning and instruction. Sometimes they are referred to as story maps, concept maps, concepts organizers or even advance organizers. Whatever the name, the theory is the same. Research has shown that providing visual references to a student should assist in instruction. The question becomes, are graphic organizers effective tools for all students? What about students with significant disabilities or multiple disabilities? The research included in this case study investigated the effectiveness of graphic organizers when used in a literacy intervention with a student who has an intellectual disability as well as a speech and language impairment.

Wisconsin Student Disability Qualifications

According to the Wisconsin Administration Code PI 1.36 (1), a cognitive disability, or intellectual disability, means that a student has significantly sub average intellectual functioning that exists concurrently with deficits in adaptive behavior and adversely affects educational performance (Department of Public Instruction, 2009). In other words, in order to qualify as a student with an intellectual disability within the school system, a student must demonstrate a sub average intelligence, generalized adaptive behavior problems, and below average academic performance. Sub average intellectual functioning is measured through standardized IQ tests and the student needs to score approximately seventy to seventy five or below in order to qualify. In addition, adaptive behavior deficits must be documented. Adaptive behaviors are age appropriate behaviors such as social skills or self-care. The final criteria is academic performance, in order for a child to qualify he or she must have a standard score of two or more standard deviations below the mean on standardized or nationally normed measures in at least two of written language, reading or mathematics measures (Berndt, S. & Burmaster, E. 2002).

Also included in the disability definitions, a speech and language impairment means an impairment of speech or sound production, voice, fluency, or language that significantly affects educational performance or social, emotional or vocational development (Department of Public Instruction, 2009). A speech or sound production impairment is identified by a significantly affected conversational intelligibility and a score of 1.75 standard deviations below the mean on a norm-referenced test of articulation or phonology or a demonstrated consistent error in speech
and sound production. In order for a student to qualify as having a language impairment, he or she must score at least 1.75 standard deviations below the mean or their chronological age on a norm-referenced measure. At least two measures are required for determining the impaired forms of language. For example, a student can be impaired in semantics, or the understanding and use of meaning, syntax, which is the understanding or production of correct grammatical forms, or pragmatics, which is the ability to effectively communicate in a variety of contexts. Finally, the disability must significantly affect the child’s educational performance, social, emotional, or vocational development (Freiberg, C., Wicklund, A., & Squier, S., 2003).

Students with qualifying disabilities are covered by Individuals with Disabilities Act (IDEA). According to the Wisconsin Department of Public Instruction, an “IDEA Eligible” student must: be 3-21 years old without a high school diploma, have an impairment that requires special education and related services as determined by a current individualized education program (IEP), and attend and receive all services specified in the IEP (2009). Finally, the student must be given a free and appropriate education (FAPE). FAPE means that special education and related services are provided at public expense and under public supervision and direction. The free educational services must meet the standards of the state educational agency. Essentially, IDEA safeguards a student with a disability and his or her guardians. IDEA mandates that students with disabilities receive FAPE, have the right to request an evaluation, be informed of evaluations, meetings or changes to the child’s educational plan, and be fully informed of all rights provided to student and guardians (U.S. Department of Education, 2004).

IDEA and FAPE also require that a student with a disability be provided instruction in the least restrictive environment possible. Every effort needs to be made to develop a program that provides the student with the services and supports needed to be successful academically. In addition, all efforts need to be made to provide that education in a setting with students who do not have disabilities. This is referred to as ‘least restrictive environment’ or LRE (U.S. Department of Education, 2004).

**Case Study Student**

The student in the case study was chosen from an inner city, mid-western elementary school where she is entering the sixth grade, her birthday is September 22, 2000 and her chronological age at the time of the intervention was eleven years and nine months. The staff at an inner city elementary school nominated Zoe Lock (name changed to protect confidentiality)
as a student in need of literacy intervention. Her fifth grade teacher, the speech pathologist, and the special education teacher all agreed that she might benefit from one on one time in a program focused on literacy. Her teacher reported that Zoe struggled with phoneme awareness, reading fluency, and comprehension. The speech pathologist stated that Zoe has a difficult time with expressive and receptive language. As a result, the special education teacher thought that Zoe would respond well in a small group or one on one intervention with a special education teacher.

All information regarding Zoe’s educational program was extrapolated from her individual education plan (IEP) written in November of 2011 and information from her cumulative files at school, including evaluations and assessments. Beginning in 2004, Zoe’s school began requesting evaluations for special education based on low academic performance and concerns about her receptive and expressive language skills. The schools were unable to obtain parental consent and, therefore, began a series of interventions versus the creation of an IEP. The school paired Zoe with a paraprofessional who worked as a reading tutor, they involved peer tutoring, and requested parent assistance with homework. Teachers modified assignments both in content and in length, provided one on one instruction, small group instruction, and visual support for assignments and directions. In addition, the staff provided Zoe with Title I services for half an hour, three days a week. Title I is a government program through No Child Left Behind legislation that provides funds for academic support in order to assist low-achieving children master curricula and meet state standards in core academic subjects (United States Department of Education, 2011). Zoe was also offered tutoring with a rotary of professionals such as the classroom teacher, the paraprofessional, and the speech pathologist. The tutoring was offered for thirty minutes a day, two days a week. She received one on one instruction with a paraprofessional for forty five minutes a day, four days a week and the teacher engaged her in small group instruction. Finally, a concerted effort was made to provide Zoe with daily front loading of information and post teaching in a one on one setting.

In October of 2011, Zoe’s parents consented to the evaluations. She scored minimal in math and reading on the Wisconsin Knowledge and Concepts Examinations (WKCE)(Department of Public Instruction, 2012) and a running record by the teachers revealed a level I reading level, or late first grade, early second grade level. Her full scale IQ assessment placed her within the extremely low range, more than two standard deviations below the mean. She scored below 1.75 standard deviations on the speech and language assessment and scored
below average on the adaptive skills assessment. As a result, Zoe was diagnosed as having a speech and language impairment and an intellectual disability. The resulting diagnosis qualified her to receive special education services.

Due to the findings of the evaluation and the acceptance into special education, the educational team was able to create a specialized individual learning program for her. Currently, Zoe is scheduled to receive specialized instruction in language skills for thirty minutes, twice a week by a special education teacher and twice a week for thirty minutes by a speech pathologist. She will also be provided with instruction in reading and math by the special education teacher for thirty minutes a day, four times a week. Her instruction will include visual/pictorial prompts for directions and academic procedures. Instructors are directed to rephrase or restate multiple step directions that Zoe must restate or demonstrate to prove understanding. The general curriculum is modified for Zoe to best meet her specific needs. Assignments are modified in content amount and the content is simplified. Zoe continues to be provided with front loading of daily content and post teaching by a trained paraprofessional.

**Intervention**

Zoe’s biggest strength is her willingness to learn. During the initial interview, Zoe stated repeatedly that she was looking forward to the intervention because she loved to learn new things. She eagerly participated in each lesson and worked hard to master concepts. She also read individual words very well. Her pre-test on the standardized assessments showed her reading fluency to be a strong point.

Even though Zoe can read individual words well, she struggles with identifying main ideas, retaining information extrapolated from text, identifying main ideas, and recognizing relational aspects of text. After meeting with Zoe and interviewing her, reading her cumulative file, and speaking with staff at the school, the reading intervention was created with her specific strengths and needs as the motivating factors. Graphic organizers were created to compliment text from a social studies textbook. The intervention and the coordinating tools were used to assist Zoe as she learned how to master her individual needs.

In addition to Zoe’s personal wants and needs, the intervention was built around the Common Core Standards for literacy. Grade five common core reading standards for informational text state that students should be able to “determine two or more main ideas of a text and explain how they are supported by key details; summarize text” and “determine the
meaning of general academic and domain-specific words and phrases in a text relevant to a grade five topic or subject area”. The language standard for grade five that was incorporated into the intervention was “acquire and use accurately grade-appropriate general academic and domain-specific words and phrases, including those that signal contrast, addition, and other logical relationships” (Wisconsin Department of Public Instruction, 2011).

Graphic organizers were created to assist Zoe as she studied the text provided to her. The organizers included different shapes, text box sizes, and incorporated concrete examples, visual supports, and encouraged independent thought. They were made to assist in retention of information, to aid in identifying main and supporting ideas, and to show relational text.

**Summary**

Zoe is a young lady who just finished fifth grade. She was diagnosed as having an intellectual disability and a speech and language impairment, both of which directly affected her academic performance and her literacy ability. She was referred for intervention by the staff at her urban elementary school. An appropriate intervention was created specifically for her, using Zoe’s personal needs and strengths, input from her school, the laws and regulations for special education, and the Wisconsin common core standards for reading. The researcher used this intervention as a means to study if graphic organizer usage was an effective tool for literacy instruction when applied to students with intellectual disabilities and speech and language impairments. Chapter two delves into current research on instructional strategies for students with similar disabilities and graphic organizer use.
Glossary
FAPE- Free and appropriate public education for students with disabilities, guaranteed by the federal government.

Graphic organizer- visual charts and tools, used to represent and organize a student’s knowledge or ideas (Morin, A. 2009).

IDEA- a law ensuring services to children with disabilities throughout the United States. IDEA governs how states and public agencies provide early intervention, special education, and related services to children and youth with disabilities (U.S. Department of Education. 2004)

IEP- Individual education program created for a specific student to provide support and services.

Intellectual Disability- a disability characterized by significant limitations both in intellectual functioning, or intelligence, and in adaptive behaviors (American Association on Intellectual and Developmental Disabilities, 2012)

Speech and Language Impairment- a communication disorder such as stuttering, impaired articulation, oral motor disorders, a language impairment, or a voice impairment, that adversely affects a child’s educational performance (U.S. Department of Education, 2004).

LRE- least restrictive environment. LRE means that a student who has a disability should have the opportunity to be educated with non-disabled peers, to the greatest extent appropriate (U.S. Department of Education, 2004).
Chapter Two
Review of the Literature

The purpose of this study was to investigate the effects that strategic use of graphic organizers may have on literacy instruction and students with disabilities. Research has shown that students with speech and language impairments (SLI) often struggle with phonological awareness, reading comprehension and writing. Research has also shown that some intervention strategies that would be used with typically developing students are not always as effective when used for students with SLI. The first section of this chapter explores research on the intervention needs and strategies for students who struggle with speech. The second section investigates the available research on the use of graphic organizers during instruction and the effects that stem from said usage. Studies on graphic organizers support the hypothesis that organizers are able to help students develop connections between text, increase engagement, and provide pathways to deeper understanding of literature. The third, and final section, of this chapter focuses on instructional strategies and tools for teaching literacy to students with intellectual disabilities. Research suggests that the specific use of graphic organizers, in coordination with a structured reading curriculum, provides the best practices for instruction for students with significant disabilities.

Literature Review of Literacy Intervention Needs and Strategies

In this first section, five research studies are presented. These studies demonstrate many aspects of literacy intervention such as the importance of phonological intervention for struggling students, the use of metacognitive strategies and the importance of tailoring instruction for the child’s needs. For example, the first study focuses on how important it is for an educator to customize intervention strategies to best meet the needs of a student. The second study establishes that phonological intervention is an important aspect of instruction for students with speech and language impairments as it can have a direct impact on a student’s reading, spelling and morphological awareness. The third study in this section reports that language intervention is necessary for many students with speech and language impairments so that they may be better able to access literacy skills. The fourth study is an analysis of what weaknesses children with speech and language impairments may display that would put them at higher risk for reading complications. The study indicates that students with speech and sound disorders exhibit difficulty accessing and expressing their existing phonological knowledge base, as a result instruction and assessment need to be tailored to the individual needs of the child. The fifth
and final study reviews the use of metacognitive strategies during literacy instruction and the impact on student achievement. Since intervention practices for students with disabilities should be tailored for the student’s specific needs and learning ability, these studies illustrate the importance of an educator’s knowledge of a student’s disability, how it affects their access to instruction, and what tools and techniques to use to best instruct students with disabilities. 

*Reading Recovery and Students with Severe Receptive Language Impairments*

Struggling students are often provided with instructional interventions, whether in the form of modified assignments, additional instruction, or in a calculated intercession called response to intervention (RTI). In 2010 Lukin and Estraviz studied the relationship between reading intervention progress and students who exhibit severe receptive language impairments (SRLI). The researchers were looking to discover if students with SRLI would progress in reading if provided with RTI via the Reading Recovery program.

In this study, six students were chosen to participate. The students were involved in a reading intervention program and were all diagnosed as having a Speech Receptive Language Impairment (SRLI). The participants also needed to have an ongoing history of poor performance in speech and language and scores from a standardized assessment reflecting expressive and oral language development at least two standard deviations below the mean. In addition, there must be documentation of educational interventions previously provided by the teachers, support staff, and speech and language pathologists. Students must demonstrate a significant diminution of performance in learning, communication or social interaction. Finally, to meet the study criteria, poor educational functioning must not be because of cognitive ability, socio-cultural factors, hearing impairment, autism, socio-emotional factors, physical impairment or vision impairment. Only students with severe receptive language impairments were included in the study.

This study evaluated the reading intervention called the Reading Recovery program. As a result, the program is the independent variable. The students’ progress through the intervention was measured (dependent variable) by book level attained, and the duration of time in the program. Also, students were assessed on their ability to maintain gains after support was withdrawn. The program books are graded according to complexity. In 2004 the state average time that a student participated in the Reading Recovery program was 17.8 weeks and the average exit book level was 16.
Students participating in the study attended individual sessions four times a week with teachers trained in the Reading Recovery program. Participants read books, wrote stories, and learned about text meaning. In addition, instruction was given on how to self-monitor, predict text meaning, verify text meaning, and how to ensure comprehension.

Upon completion of the study, data was compiled and analyzed. Most of the students in the study ended the program significantly below the mean book level for seven year olds (book 16) and remained in the program for longer than average. Teacher reports also indicated that the participants did not make short term gains in reading. Participants exhibited difficulty obtaining short term goals with the Reading Recovery program and maintaining those goals once support was withdrawn.

The results of the study indicate two important messages. First, the results of this study suggest that students with SRI do not benefit from the Reading Recovery program. Therefore, it is important for educators to be aware of a student’s needs and abilities prior to providing intervention. Student intervention must be created to meet the needs of a child and differing strategies may need to be employed so that a student can benefit. In addition, this study also suggested that students with receptive language impairments may need different strategies or more instruction on language prior to accessing reading skills. A student who is focusing strongly on basic language acquisition, such as a student with severe language impairment, may not be able to acquire reading proficiency without assistance.

The findings by Lukin and Estraviz (2010) suggested that it is important for educators to recognize a student’s unique learning needs and tailor interventions accordingly. In addition, students who struggle with language acquisition or comprehension may need additional or different strategies than a typically developing child. In the next study, Kirk and Gillon (2007) researched the effects of phonological interventions for students with speech and language impairments.

**Phonological Interventions for Students with Speech Disabilities**

Kirk and Gillon (2007) conducted a study on the reading performance of students with speech impairments. The purpose of the study was to investigate the reading performance and morphological awareness development in children with speech disabilities and the effect of preschool interventions. The researchers hypothesized that the reading performance of children at age eight who had received preschool interventions for speech and phonological awareness
would be higher than that of students with speech impairments who did not receive preschool interventions. In addition, it was hypothesized that the phonological awareness skills of the children who had received preschool interventions would be the same or similar to the skills of children without speech impairments.

Kirk and Gillon (2007) used three groups of children in their study. All of the children were between seven years six months and nine years five months of age and their initial language was standard New Zealand English. Twenty seven of the forty one participants were boys and all attended urban schools in the middle to high socioeconomic area. All students were exposed to the same national curriculum and were working towards achieving similar curriculum standards in reading and writing. All children, in order to qualify for participation in the study, were required to demonstrate vocabulary knowledge that was within or above the normal range as evidenced by their scores on a standardized vocabulary test.

The first group consisted of eight children who had been given preschool intervention that taught phonological awareness and letter knowledge in addition to improving the production of speech. These students had participated in a Gillon study in 2005 and were contacted via telephone. All of group one had been assessed at four years of age and were determined to have a speech and language disability, but no sensory, physical, or intellectual disability. Children were assessed using a single word elicitation task and a phonological variability task taken from a standardized assessment. The preschool intervention consisted of phoneme awareness, letter and sound knowledge, and speech production goals in every intervention session. Group one children received twenty six therapy sessions.

The second group was comprised of nine students who had received preschool interventions that focused solely on improving speech intelligibility. Seven of the children were boys and all diagnosed as having a speech and language disability. A retrospective design approach, via a database, was used to select these children, due to the ethical problems associated from withholding phonological awareness intervention to children who are considered at risk. The children in group two were given twenty nine interventions focusing only on speech production as evidenced by teacher reports and treatment notes from speech and language pathologists. In addition, student level of speech and language disability in group two was matched as closely as possible to the children in group one.
The third group was twenty four children who exhibited typical development. Participants were randomly selected from a local elementary school. Fifteen of the children were boys. Six children from five different classes who had achieved grade levels in language curriculum areas were given consent forms and the first twenty four to return the forms were tested. The children in group three had no diagnosed sensory, physical or intellectual disabilities, nor were any of them receiving any specialist interventions. Parents reported that none of the participating children had a history of speech or language impairments.

All three groups of students were given a battery of tests, the data of which served as the dependent variable. All assessments were standardized, norm-referenced tests. Two reading tests were given, one that assessed word recognition and another that assessed non-word decoding. Two tests of morphological awareness were administered; one for spelling of complex words and another that assessed the oral generation of the base form of derived words. The spelling test was administered as a group and all other assessments were administered individually. The independent variable in this study was the preschool intervention. The dependent variable was the difference in reading ability and performance, at 8.5 years old, in the children who had received the preschool phonological interventions versus the children who had received only speech therapy.

The results of the study showed that the children with a history of speech impairment who had been given a preschool phonological intervention performed better on non-word decoding and the spelling of morphologically complex words than children with speech impairments who received preschool intervention for speech only. The typically developing children were not significantly different from the children who received phonological interventions, but outperformed those students who received preschool interventions based on speech improvement. Both groups of children who received speech only interventions and the typically developing children performed lower than the group who received preschool phonological interventions on non-word decoding and in the spelling of complex words. There were no group differences in the ability to orally generate base words.

The authors found that children who are given additional instruction on phonological awareness and letter knowledge during the preschool years are more likely to perform better in reading and spelling and morphological awareness. Knowing this could have implications regarding instruction of preschool children. The successful decoding and early literacy skills that
can be taught at this point will allow children to access more complex text through a greater ability to interpret the morphological structure of words. This study suggests that children with speech and language impairments could see long term benefits from preschool interventions that focus on early phonological awareness and letter-sound knowledge.

In their study, Wellman, Freebairn, Avrich, Hansen, and Stein (2011) also examined literacy skills and potential intervention necessities for children with speech and language impairments. The previous study addressed phonological awareness in addition to speech acquisition. The next study examines speech acquisition and narrative ability and its connection to literacy difficulties.

**Narrative Skills in Children with Speech and Sound Disorders**

In 2011, researchers studied a group of sixty children. The researchers wanted to explore whether or not children with speech and sound disorders only and children with speech and sound disorders and language impairments differ from typically developing children in their narrative skills. In addition, the study explored whether or not narrative ability in early childhood predicted literacy outcomes at school age. The researchers used standardized assessments and narrative retelling activities in early childhood and again in mid-childhood to test their hypotheses (Wellman, Freebairn, Avrich, Hansen, & Stein, 2011).

There were many variables in this study. The oral narrative skill of the children with speech and sound disorders was the independent variable. The dependent variable was the set criteria for measuring and comparing the characteristics. For example, the Goldman-Fristoe Test of Articulation (2000), the Wechsler Preschool and Primary Scale of Intelligence (1989), and the Khan-Lewis Phonological Awareness test (1986) were used to assess participants.

The sample population of this study was recruited from the clinical speech and language pathologists in the local community and private practice clinics in the greater Cleveland area. Children were recruited prior to beginning formal literacy instruction (ages three to six). Twenty children diagnosed with a moderate or severe speech and sound disorder (SSD) and twenty children with speech and sound disorders and language impairments (SSD+LI) were recruited. Finally, twenty siblings of the participants who had no history of speech and/or language disorders were also recruited. These children were referred to as the typically developing group or TD.
Children in the SSD only group were assessed using the Goldman-Fristoe Test of Articulation (2000) and demonstrated a score of 1.25 or more standard deviations below the mean, and had at least three phonological error types. Children in the SSD only group tested within the normal range for overall language ability according to clinical evaluations performed by the speech and language pathologists and demonstrated a normal level of intelligence. Twenty children participated in this group. Children in the SSD+LI group demonstrated the same criteria as the group of children with SSD. In addition to the SSD criteria, the children were diagnosed as having language impairment. Both groups of children were enrolled in therapy for speech and language. Twenty children participated in the SSD+LI group.

The third group of children, or the TD group, was never enrolled in speech or language therapy. Children scored within the normal range for measures of speech. All children were required to have normal intelligence, based on a score of eighty or above on the Wechsler Preschool and Primary Scale of Intelligence, no history of neurological or developmental disorders, and normal hearing. Twenty children participated in this group.

Researchers assessed the speech and sound skill of all the participants in early childhood. Responses were recorded via videotape and then transcribed. The Khan-Lewis Phonological Awareness (KLPA) test was used to analyze the results and identify phonological errors (1986). Findings from the KLPA were used to identify the presence or absence and the quantity of phonological processes used by the participants. In addition, the amount of correct consonants uttered was calculated. The SSD group and the SSD+LI group scored similarly, while both groups performed significantly lower than the group without a speech or language impairment.

Also at the early childhood testing, a narrative was read aloud to each child. The child was then asked to retell the story to the examiner. Following the retelling, the child was asked a series of questions about the story. Three questions assessed the child’s knowledge of facts, and three questions assessed the child’s ability to make inferences based on the story. The children’s narratives were recorded and were later transcribed. The total numbers of words as well as the number of different words were calculated. In order to measure the complexity of articulation, multisyllabic words were also counted. The researchers also calculated the amount of details from the story the children were able to recall. Finally, children’s responses were evaluated by the amount of support needed from the examiners. For example, utterances were counted as
responsive if they followed a question or sentence starter. Spontaneous utterances were ones that were generated independently by the child or followed a neutral prompt from the examiner.

The school age follow up testing was undertaken when the children were eight to twelve years old. The same standardized tests from the previous testing sessions were used to measure each child’s reading and written language levels. Children were tested individually and in their own homes by a licensed speech and language pathologist. The follow up tests were administered between the ages of eight and twelve. Speech production measures were audiotaped and phonetically transcribed.

The results of the study found that children with SSD did not differ in a statistically significantly manner from typically developing children on the narrative measures, including the use of multisyllabic words in narratives. However, children with SSD+LI differed significantly from children with SSD and typically developing children. The children in the SSD+LI group answered fewer comprehension questions correctly and were not as accurate in story retelling. In addition, the number of correct and irrelevant utterances differed significantly between children in the SSD+LI group and both other groups. Children in the SSD+LI group offered fewer content items in their story retelling. All three groups required similar amounts of support from the examiners. The number of requests for assistance by the children did not differ significantly between groups. The study revealed that children in the SSD group did not differ from the typically developing children in narrative performance, syntactic complexity and use of multisyllabic words. Children with SSD were observed to have deficits in phonetic discrimination, phonological recognition, and phonological representations but not in semantic or grammatical representations.

In both testing sessions the children in the SSD+LI group retold weaker narratives than the children in the other two groups. They struggled with story comprehension questions; retells included fewer essential concepts and demonstrated a weaker ability to organize their narratives. In addition, children in the SSD+LI group demonstrated a higher number of irrelevant utterances. Students with LI struggled with both factual and inferential questions. The study suggests that students with SSD+LI demonstrate more receptive language deficits than other children.

The research suggests that narratives may be useful in assessing pre-literacy skills in young children as well as in predicting children who may be at risk for later language problems. Narratives are also a tool for identifying deficits in children with language impairments who are
at risk for language skills. Language intervention involving oral narratives may assist with later written language skills. The test results suggest that narrative skills play an important part in later literacy development and that early narrative skills can predict later scores for writing. As a result, language skills in students with SLI can be seen as a potential predictor for literacy problems and educators need to be aware of potential difficulties and be prepared to supplement literacy instruction as needed.

Literacy can be impacted in many ways in children with speech and language impairments. The previous two studies have examined how phonological awareness and narrative ability can impact literacy ability. The next study assesses what weaknesses educators should be aware of that might put a child with a speech and language disorder at higher risk for reading complications.

*Print Awareness and Phonological Processing Weaknesses in Children*

Many studies have suggested that children with speech and sound disorders are at a higher risk for developing reading complications. Anthony, Aghara, Dunkelberger, Anthony, Williams, and Zhang implemented a study to determine what weaknesses in print awareness and phonological processing place children with speech and sound disorders (SSD) at increased risk for reading difficulties (2011). The study focused on young children who were emergent readers in order to best define specific indicators.

Three groups of children were compared, a group of children with speech and sound disorders (SSD), a group of children who were matched according to language ability to the SSD group (LM), and a group of children who were typically developing (TD). The dependent variable was the specific factors associated with speech and sound disorders that place children at risk for reading problems. The independent variable consisted of a battery of tests that were administered by trained speech and language pathologists to the children in the study.

Children from center-based preschool programs were recruited. In order to be considered for participation, the children had to attend a full day preschool, be a native English speaker, and all classroom instruction was provided in English by a native English speaker. All participants had to be at least four years old. Sixty eight children met the criteria for SSD and were grouped together. In order to qualify children needed to produce fewer than 80% consonants correct on a standardized speech assessment or score less than 86 on the Goldman-Fristoe Test of
Articulation (2000). None of the participants exhibited hearing problems, physical deformities of the mouth, or any sensory impairment.

A second group of children was formed by matching each child with SSD to a child who did not meet the criteria for SSD. The children in this group were the same ethnicity, chronological age, and had the same receptive vocabularies of the first group. Since these children were matched by receptive vocabularies, they were referred to as the language matched (LM) group. Sixty eight children were matched to the original group of children with SSD.

The third and final group of children was also matched to the first group. Children were similar in age and ethnicity. However, these children scored over 100 on receptive vocabulary and expressive phonology tests. This group was labeled the typically developing group (TD). Sixty eight children were in this group as well. In total, 204 children participated in the study.

The children in the study were tested individually in 20 to 60 minute time frames over a two to three week period of time. Children were given verbal praise and stickers for reinforcements. Examiners were all speech and language pathologists who attended a three day training workshop prior to assessing participants. All children were tested on their: expressive phonology, oral language skills, print awareness, phonological awareness, distinctness of phonological representations, accessibility of phonological representations, and word reading ability.

The SSD group and the LM group demonstrated similar scores on letter names and sounds, but both scored lower than the TD group. The SSD group scored significantly lower than the LM or the TD groups on the phonological awareness test, the LM group scored slightly lower than the TD group. Similar results were reported for the phonological representation assessment as well. All three groups scored poorly on the reading scores, but the SSD group read fewer words than either group. The TD group scored higher on expressive phonological awareness than the LM or the SSD groups. However, no significant group differences in expressive phonological awareness remained when articulation correction and accuracy were taken into account. The quality of phonological representations was significantly impaired, however, in the SSD group. Finally, participants in the SSD group exhibited lesser phonological access to highly familiar words. The researchers found that performances of the SSD group could be explained by their weaknesses in quality and accessibility of phonological representations.
This study examined what specific factors associated with SSD place children at risk for reading problems. Participants in this study who were diagnosed as having SSD performed significantly poorer on measures of phonological awareness, speech perception and speech production but performed as well as the LM group on letter knowledge. Therefore, children with speech and sound disorders may benefit from additional instruction or intervention in the areas of phonological awareness, both receptive and expressive. Since students with SSD exhibit difficulty accessing phonological knowledge and expressing their existing knowledge base, instruction and assessment need to be tailored to the individual needs of the child.

According to this study by Anthony, Aghara, Dunkelberger, Anthony, Williams, and Zhang (2011) students with speech and sound disorders exhibit difficulty accessing phonological knowledge and expressing their existing knowledge base, instruction and assessment need to be tailored to the individual needs of the child. The fifth and final study reviewed the use of metacognitive strategies during literacy instruction and the impact on student achievement, this is important because research has so far suggested that students with speech and language impairment often need additional support acquiring literacy instruction.

*Metacognitive Strategies for Literacy Instruction*

Teaching reading comprehension is a multi-faceted activity. In order to be successful students must have an awareness of phonological meaning, print, vocabulary, and metacognitive skills. Comprehension of written text must be taught formally so that students can develop the necessary skills to access the information. In order to determine whether the use of metacognitive strategies is effective in direct and systematic instruction for text comprehension, Boulware-Gooden, Carreker, Thornhill & Joshi studied third grade students in their research experiment (2007).

The independent variable was the effect that the use of metacognitive strategies in reading and vocabulary instruction may have on student achievement. The effectiveness was measured (dependent variable) by employing pre and post-tests to all students to ascertain a beginning level and then to measure student change in level of content knowledge. Students were assessed using a standardized reading comprehension assessment and a criterion referenced vocabulary test. The scores were analyzed upon completion of the study in order to determine if any change occurred.
The study sample consisted of 119 third grade students. The students all attended two urban elementary schools in the southwest United States. One school was selected as the intervention school and the other the comparison school. Both of the schools were matched demographically and academically. There were a total of six third grade classrooms included. All participants were pre-tested using the Woodcock Johnson Test of Achievement subtests, the Word Attack, Letter-Word Identification, and Spelling Subtests (2001). These tests were used to ensure that students demonstrated comparable decoding abilities. The Gray Silent Reading Test (Wiederhold, J., Blalock, G., 2000) and a criterion vocabulary test were used to measure student progress in reading comprehension and vocabulary.

The students in both schools were administered thirty minutes of reading comprehension every day for twenty five days. All of the reading texts were expository passages and contained 300 to 400 words. The passages for the lessons were taken from a reading comprehension curriculum, Six Way Paragraphs, Middle Level (Pauk, 2000). The study used the middle level passages because the readability would be appropriate for the largest number of participating students.

The lessons in the intervention school were enhanced with direct instruction on the metacognitive strategies. Each lesson was comprised of five sections: introduction, vocabulary using vocabulary webs, reading a story with encouragement from the teacher to think aloud as students read, summarizing using numbered cards and direct instruction, and questions about the main idea, conclusions, supporting details and text vocabulary. Each section of the lesson was supplemented with graphic organizers and strategic questioning strategies.

The comparison school had the same lesson plans. However, instead of using vocabulary webs, students were asked to copy the words and definitions off the board and write sentences with them. Students were not encouraged to think out loud as they read and did not summarize text after reading. Students responded orally to teacher questions. The final questioning section of the lesson plan had students write answers to two or three questions written on the board.

After the intervention sessions were concluded, participating students were assessed using the Gray Silent Reading Test and a criterion vocabulary test. The pre and post test scores were then analyzed to see if a difference existed and if so, if it was statistically significant. The findings revealed that the intervention group showed significant improvement over the
comparison group in vocabulary, forty percent higher. The intervention group also scored twenty percent higher than the comparison group in the reading comprehension assessment.

The findings from this study suggest that students will attain higher levels of understanding and vocabulary when provided with metacognitive strategies during reading instruction. These strategies provided a richer and more complex instructional setting, providing oral instruction, visual references, and encouraged conceptual understanding through questioning and writing. Since students in both groups engaged in the same introductory activities, read the same text, and answered the same comprehension questions, the difference in the lessons was only the incorporation of metacognitive strategies. Therefore, students who are provided with these strategies are able to gain deeper and more lasting access to the material.

Conclusion of Section One, Intervention Findings

The research presented in this section suggests that intervention practices for students with disabilities should be tailored for each student’s specific needs and learning ability. These studies illustrate the importance of an educator’s knowledge of a student’s disability, how it affects their access to instruction, and what tools and techniques to use to best instruct students with disabilities. In the first study presented, Lukin and Estraviz (2010) suggested that it is important for educators to recognize a student’s unique learning needs and tailor interventions accordingly. Kirk and Gillon’s study suggested that children with speech and language impairments could see long term benefits from preschool interventions that focus on early phonological awareness and letter-sound knowledge (2007). The research provided by Wellman, Freebairn, Avrich, Hansen, and Stein (2011) demonstrated that language skills in students with SLI can be seen as a potential predictor for literacy problems and educators need to be aware of potential difficulties and be prepared to supplement literacy instruction as needed. Anthony, Aghara, Dunkelberger, Anthony, Williams, and Zhang’s study investigated how students with SSD exhibit difficulty accessing phonological knowledge and expressing their existing knowledge base, and concluded that instruction and assessment should be tailored to the individual needs of the child (2011). Finally, Boulware-Goeden, Carreker, Thornhill, and Joshi’s study indicated that students can attain higher levels of understanding and vocabulary when provided with metacognitive strategies during reading instruction (2007). Students with SLI often struggle with multiple aspects of literacy acquisition and, therefore, it is important for an
educator to be aware of potential problem indicators, effective intervention strategies, and a basic knowledge of the needs inherent in a student with SLI.

**Review Of Literature for Graphic Organizers as Instructional Tools**

The previous section of literature review focused largely on the need for literacy interventions for students who are struggling, especially students with speech and language impairments. The following section demonstrates how the use of graphic organizers, as a metacognitive strategy, can impact the interventions and instruction of students. Culbert, Flood, Windler, and Work’s study is centered on the use of graphic organizers in the classroom. Specifically they wanted to examine how often they were used and the effectiveness of the usage (1998). The second study, by Griffin, Malone, and Kameenui, exhibits how graphic organizers impact student comprehension, retention, and transference of information (2001). Finally, DiCecco and Gleason (2002) examine the use of graphic organizers with students with learning disabilities. The studies demonstrate a correlation between the use of graphic organizers and the improvement of student comprehension, especially in expository text.

*Graphic organizer usage in the classroom*

Culbert, Flood, Windler, and Work researched the use of graphic organizers in classrooms (1998). The researchers wanted to examine if graphic organizers were used, how often, in what capacity, and the effectiveness of such use. In addition, the study was limited to elementary and middle school teachers. The study was qualitative in nature.

This study focused on the information received from respondents versus information received from a given test. Therefore, the dependent variable was the researcher’s method of collecting information from teachers: surveys and interviews with respondents. The independent variable was the teacher’s use and perceived effects of such use of graphic organizers in classroom instruction.

In order to determine how often and when teachers utilize graphic organizers, a survey was created using information from reviews of research and recommendations from colleagues. The survey was randomly distributed to three participating school districts. One hundred and seven surveys were returned and were included in the study. The respondents were teachers from kindergarten to eighth grade. The teachers taught in rural, suburban and urban districts in New York. Both regular and special education teachers were included. The teachers were grouped into primary (K-2), intermediate (3-5), and middle (6-8). Teaching experience ranged from one year
to thirty six years. The survey rated questions on a one to five scale, from ‘strongly disagree or never’ to ‘strongly agree or most of the time’. There were a total of twenty questions in the survey. Respondents were asked to identify the subject taught, grade level, and the teacher’s years of experience.

Based on the results from the survey, the researchers developed a list of interview questions. Additional questions were added, asking interviewees to define graphic organizers and to provide options for clarifying responses. Six educators who had previously completed the survey were randomly chosen to be individually interviewed. The answers provided during the interview process were analyzed and added to the results from the survey.

Information from the survey was tallied and graphed, then analyzed according to a specific rating scale. The surveys were divided into primary, intermediate, and middle school categories prior to analysis. The results showed that there was not a significant difference in graphic organizer use between grade levels and that fourteen percent of the respondents rarely or never use them.

Of the classroom teachers who did use graphic organizers, eighty six percent of them reported an increase in short-term reading comprehension. Sixty seven percent of teachers indicated long-term gains in comprehension when using graphic organizers. The teachers reported using the organizers twenty eight percent of the time before reading instruction, forty nine percent during reading, and sixty five percent after reading. Finally, ninety percent of respondent teachers reported that their instruction was improved through the use of graphic organizers. The interviewees elaborated that point, and described how graphic organizers assist them in organization and that the students found the material more interesting.

Both the survey and the interviews were used when compiling results. Teachers reported that graphic organizers were used to condense information and visually present it. In addition, the respondents wrote that graphic organizers were tools used to reinforce, enhance learning, and to assist students in focusing on main ideas. The study also found that many teachers use graphic organizers with expository text because it increases student comprehension. Most teachers indicated that students displayed an increase in short term comprehension, as opposed to long term comprehension, when using graphic organizers.

Many teachers use graphic organizers in their classrooms. The organizers are being used to increase student involvement, to provide visual representation of information, and to assist
with understanding expository text. The teachers report positive experiences with using the graphic organizers. However, since teachers are reporting short term gains in comprehension, perhaps additional tools need to be utilized in conjunction with graphic organizers to support retention of information.

The previous study suggests that graphic organizer usage is a prevalent classroom strategy. Teachers use the organizers for a variety of reasons and report predominately positive results. Culbert, Flood, Windler, and Work’s study briefly alludes to the negative aspects of graphic organizer usage in information retention (1998). The following study further examines the effects that graphic organizers have on student comprehension, information recall, and transference of information.

*Use of graphic organizers to aid in comprehension, recall, and transference*

Graphic organizers are visual tools used to provide students with additional support for obtaining and retaining information. Griffin, Malone, and Kameenui studied the effects of graphic organizers in fifth grade classrooms (2001). Specifically, the researchers wanted to investigate the extent to which graphic organizers aid in the comprehension, recall and transference of instruction and to what extent instruction needs to be explicit and direct to enable students to utilize the organizers efficiently and effectively.

Five dependent variables in this study were measured through a series of assessments: immediate and delayed posttests, immediate and delayed recall, transfer of content. First, immediate and delayed recall was measured. A written free recall test was given the day that instruction concluded and, again, twelve days after instruction was finished. Students were given the same prompts and ten minutes to write. Immediately after the free writing test, students were administered a posttest made of twenty short answer items. Finally, the day after the other tests were administered, students were asked to read a short essay on South America and write a free recall paper on the passage. The independent variable, or what the dependent variables were measuring, was the effect of treatment on combined comprehension, recall and transfer of information.

Five fifth grade classrooms from three homogenously grouped classrooms (n=61) from one elementary school (School A) and two homogenously grouped classrooms (n=38) from another elementary school (School B) in a midwestern city in the United States participated in the study. Participants had to correctly answer no more than forty percent correct on a test
designed by the researcher and score between the fourth and ninth stanines on the Comprehensive Test of Basic Skills (CTB/McGraw–Hill, 1984). Participants were not to be enrolled in any special education program. After participation selection was complete, students were randomly assigned to experimental and control classrooms.

All students were administered a sixteen item, short answer pre-test to determine the equivalence of the groups and to identify the students who had any prior knowledge of the information to be presented. The pre-test surveyed a chapter on Canada taken from the social studies textbook. Classroom teachers reported that students had not read the chapter prior to taking the pre-test. Results of the assessment revealed no statistically significant differences between the experimental or control groups.

The five classrooms of ninety nine participants were randomly assigned to one of five treatment conditions. One group of twenty students was assigned to receive explicit graphic organizer instruction (Ex GO). These students were given detailed instructions on how to identify important textual information and on how to construct graphic organizers. The next group was comprised of twenty one students. This group was assigned to receive explicit instruction without graphic organizers (Ex No-GO). The Ex No-GO group was given the same instruction as the previous group, however, the graphic organizer was omitted. The third group had twenty one students who received implicit graphic organizer instruction (Im GO). Participants were instructed through investigator-created examples of organizers and demonstrations but attention was not given to specific features or structures of graphic organizers. The fourth group, twenty students, received implicit instruction without graphic organizers (Im No-GO). This group was given the same instruction as the Im GO group, but without a graphic organizer. The final group of seventeen students received traditional basal instruction (Trad). Students in the traditional group were provided instruction as outlined in the teacher’s manual of the textbook.

The researchers created nine graphic organizers, one for each subsection of the chapter, plus two final review graphic organizers. The purpose of each graphic organizer was to highlight important information within the text and not to provide extensive coverage of textual information. Wording in organizer cells was restricted to single words, phrases or single sentences and no more than ten cells were included within any of the organizers. Each graphic organizer differed in visual configuration and in content.
Teachers were given scripts to follow when communicating textual information to participants. The scripts were developed by the researchers. All wording that appeared in the graphic organizers was included in the teacher scripts. Additionally, the wording in the scripts requested students to focus their attention on the graphic organizer or the list of ideas that drew attention to the relational links described in the graphic organizer. The first two days of instruction, teacher scripts were explicit and instructors were expected to follow the script word for word. By the third day of instruction, scripts were reduced to only the critical features of the procedures.

Students participated in a ten day instructional program. All sessions were forty five minutes in length and occurred in the students’ classrooms. The tenth day of instruction was reserved for a cumulative review session. Two teachers taught the instructional sessions. In order to counterbalance for effects resulting from instructional style, one teacher taught all of the groups at school A and the other teacher taught all the groups at school B. Teachers then alternated between schools every other session. All students were taught the same content. The three domains assessed were: acquisition, retention, and transference. The students who received explicit instruction with graphic organizers had the highest mean scores on both the immediate posttest and the immediate recall measure. The retention assessments revealed that students who received traditional instruction recalled significantly more information than the students in the implicit graphic organizer group, while the other three groups scored comparably to each other. The assessments on student ability to transfer information revealed that students participating in the Ex GO, Ex No-GO, and the Im GO groups recalled more idea units than students in the traditional instruction group did.

The results of this study suggest that graphic organizers assist with information recall. However, they did not assist with retention of information. Therefore, complimenting detailed instruction with graphic organizers may be beneficial to students as the organizers encourage more interaction with text. In addition, instruction on the use of graphic organizers might best be given prior to content instruction so students may fully invest themselves in the text as opposed to attempting to master two topics at once.

The study by Griffin, Malone, and Kameenui (2001) investigated organizers and the impact that their usage had on students. The organizers facilitated information recall in students, but did not improve content retention. The students in this study were typically developed and
did not receive any special education services. The next study investigated the use of graphic organizers when used in instruction of students with learning disabilities.

*Graphic organizer use and students with learning disabilities*

Graphic organizers are a common sight in many classrooms. They are tools used to increase comprehension, encourage student engagement, and support student learning. However, few studies have been done to validate the usage of these tools. DiCecco and Gleason wanted to test to see if explicit instruction with graphic organizers resulted in higher student performance on domain knowledge measures (2002). The researchers wanted to examine the effects of graphic organizer use and learn if they are necessary tools in a classroom.

The independent variable was the effect that graphic organizers would have when used strategically in instruction of expository text. The study wanted to find if the graphic organizers would or would not affect student achievement and did so by creating an intervention setting for a total of twenty lessons. The dependent variable was the measurement scales that were used by the researchers. Researchers used a content knowledge, multiple choice, test, eight content knowledge fact quizzes, a pre-test writing sample, and two written essays.

Twenty four students with learning disabilities were chosen to participate in the study. They were enrolled in one of two urban middle schools in Oregon. One school was located in an area of low socioeconomic status and one was located in an area with a middle socioeconomic status. Participants were chosen from three resource rooms. In order to qualify for the study, students needed to be identified as having a learning disability, be participating in a special education program, have an active individual learning plan (IEP) in reading, and have parent and personal permission to participate.

Students were randomly assigned to one of six instructional groups. Three of the groups were assigned graphic organizers, and were named the graphic organizer treatment group (GO). The GO group consisted of twelve students, one eighth grader, three seventh graders and eight sixth graders with a mean age of thirteen and a half. All of the participants were Caucasian. Two students were girls and ten were boys. The other three groups were not given graphic organizers and were known as the control group (CG). This group included twelve students. Two of the students were eighth graders, five were seventh graders and five were sixth graders, with a mean age of thirteen and a half. Two of the participants were girls and ten were boys. One student was African American and the remaining eleven were Caucasian.
Participants were all tested with the Woodcock Reading Mastery Test (1987). They were assessed for word reading skills and to ascertain comparability of the two test groups. Students were then all tested, using a criterion referenced assessment, on prior knowledge of the information to be covered in the treatment. Finally, all participants were asked to complete a pretest writing sample (twenty five words or less) in order to assess general writing ability and specific relational knowledge. None of the students in either group demonstrated prior knowledge of the content to be studied. The assessments found that the two groups were not significantly different in knowledge or ability and, therefore, group equivalency was determined.

Participants received instruction for a period of four weeks, five days a week, for forty minutes a lesson. Sessions were held during regular reading periods, in the special education resource rooms. The GO and the CG were taught separately in familiar classrooms.

Six teachers provided instruction. All six were given instruction on direct instruction methodology and four of them had several years of teaching experience. Two of the teachers had one year of teaching experience. Teachers were rotated between the groups each time a new graphic organizer was introduced, or a total of five times. Instructors were trained to use teaching scripts and the only difference in the scripts between the groups was the specific wording for teaching the graphic organizer.

The expository text used was taken from two chapters of a middle school social studies textbook. The chapters were divided into focal ideas and each lesson was limited to facts, concepts and relationships for one unit of thought. Graphic organizers were then designed for each theme in order to make implied relationships more explicit and to cue relational knowledge. A total of five graphic organizers were introduced. In order to maintain ethical standards, every effort was made to maintain instructional integrity with the control group. Both groups were provided instruction on the content and the relational knowledge.

Students were also taught how to summarize information and then write the information down. Summary writing was taught for a twenty minute segment during lessons two through seven. Students were taught using a model, prompt, and check lesson design. Every lesson, after the oral reading section, students were asked to write a summary about the lesson and were asked to use the same writing design that they had been taught.

Every lesson focused on literacy. Students were provided intensive instruction on vocabulary, vocabulary meanings, and word decoding. Students were also taught how to orally
summarize information and write it in a cohesive manner. Students also focused on oral reading and reading comprehension. Lessons were structured and scaffolded for all students.

The GO group received direct instruction on using graphic organizers that focused specifically on the daily concept. Graphic organizers were used as a post-reading activity. The organizers were shown on an overhead projector and the instructors pointed to specific cells on the organizer as they spoke. Instructors first modeled and then guided students through each cell. After presenting every cell, the instructor provided a cumulative review. Each lesson reviewed the organizer from the lesson prior.

Students in the CG group were provided with the same instruction as the GO group. During the times that the other group was taught the graphic organizers, the CG group was provided with instruction via guided instruction. The same relational knowledge statements were given to the control group, but without visual support. Students were encouraged to take notes and participated in hands on activities.

In an effort to maintain fidelity, the study used four observers in the classrooms. The observers were trained to monitor lessons and to record omitted or additional wording from the instructors. No observer monitored the same teacher more than twice. Each instructor was observed four times. Observations were random and unannounced. After each observation, instructors were given immediate feedback. No significant deviations were observed.

At the end of the study, participants were assessed using three measures. Content knowledge was tested using a twenty question multiple choice test. Eight content knowledge fact quizzes assessed student knowledge and retention of facts. Each quiz was five multiple choice questions administered on the day following the relevant reading. Two domain knowledge essays were administered to ascertain the level to which participants retained, recalled and used domain knowledge. One essay was given after seven days of instruction and the other after day twenty. Each essay was content centered and required an explanatory response.

Both groups scored significantly higher in the post test scores on the content knowledge tests. The GO group mean score went from 22% to 63% and the CG group improved from 30% to a mean score of 67%. The fact quiz scores showed no significant difference in scores for either group. In the final analysis of quiz scores, the scores seemed to vary by difficulty and not by time of test or group participation.
In the essay portion of the assessments, all written measures were first scored for the number of words written and the counting of words served as a means for measuring general writing ability. The post-test, compared to the pre-test, indicated that students benefited from summary writing instruction. Both groups wrote significantly more words than on the pre-test. However, both groups scored similarly.

Also in the essay assessment, relational knowledge statements were assessed to determine concept understanding as well as the relationships between concepts. The GO group scored significantly higher on the relational knowledge assessment than the CG group. In the pre-test writing sample, only one of the twenty four students made any relational statements. The CG group made a total of thirty four relational statements in essay one. The GO group made a total of forty seven. Seven of the twelve students in the CG group provided three or four relational statements, while, in the GO group, nine of the twelve wrote three or more. On essay two, the GO group made a total of fifty seven statements, with a mean of 4.75, and the CG group made a total of twenty seven relational statements, with a mean of 2.25. The CG group had four of the twelve students write three to six relational statements and the GO group had eleven of the twelve students include three or more statements.

Students who received explicit instruction using graphic organizers recalled more relationships than the students who received explicit instruction only. The positive impact of graphic organizers on recalling relational information was uniform throughout as all but one participant in the GO group used three or more relational statements in their essays. The study did not show any difference in the recall of factual information.

Two ideas can be extrapolated from this study. First of all, graphic organizers can be very valuable when a teacher is instructing on the relationships between concepts. In order to assist students in building connections between ideas and the creation of new lines of thought, a graphic organizer can be a helpful tool. For example, they can be useful tools when teaching sentence structure or understanding how supporting sentences build on a main idea in a text. However, a teacher needs to be clear on the focus of each lesson and use the appropriate tools for the task. According to the findings from this study, a graphic organizer may not be the best tool for teaching facts that need to be recalled apart from other concepts. An educator needs to ensure that he or she is using the right tools for the task at all times so that the students can acquire the most amount of information possible.
Conclusion of Section Two, Graphic Organizer Findings

The literature included in this section investigated the available research on the use of graphic organizers during instruction and the effects from said usage. Additionally, the research demonstrated how the use of graphic organizers, as a metacognitive strategy, can impact the interventions and instruction of students. Culbert, Flood, Windler, and Work’s study is centered on the use of graphic organizers in the classroom (1998). Their study evaluated the frequency of graphic organizer usage the effectiveness of the usage. Their work suggested that graphic organizer usage is a prevalent classroom strategy. Teachers use the organizers for a variety of reasons and report predominately positive results. In addition, Culbert, Flood, Windler, and Work’s study briefly alludes to the negative aspects of graphic organizer usage in information retention (1998). The second study, by Griffin, Malone, and Kameenui, exhibits how graphic organizers impact student comprehension, retention, and transference of information (2001). In the study, the organizers facilitated information recall in students, but did not improve content retention. Finally, DiCecco and Gleason (2002) examined the use of graphic organizers with students with learning disabilities. The studies demonstrate a correlation between the use of graphic organizers and the improvement of student comprehension, especially in expository text. Studies on graphic organizers support the hypothesis that organizers are able to help students develop connections between text, increase engagement, and provide pathways to deeper understanding of literature. However, a teacher needs to be clear on the focus of each lesson and use the appropriate tools for the task. According to the findings from this study, a graphic organizer may not be the best tool for teaching facts that need to be recalled separately from other concepts. An educator needs to ensure that he or she is using the right tools for the task at all times so that students are able to acquire the most amount of information possible.

So far the research in this chapter has examined literacy instruction practices for students with speech and language impairments and the use of graphic organizers as a tool for reading instruction. The following section delves into research and practices of literacy instruction for students with intellectual disabilities. While many of the tools are similar in nature, such as graphic organizers, the form and function may change in order to best meet the learning needs of students with this level of disability. Reading instruction is not a privilege to be awarded to students who will be the most successful; it is a responsibility of all educators to provide to all students.
Literacy Instruction for Students with Intellectual Disabilities

Literacy instruction can be a difficult task for teachers of students with significant disabilities. Unfortunately there is not a lot of research on appropriate practices or even the effectiveness of traditional educational approaches. However, this does not mean that students with intellectual disabilities should not be provided with quality literacy instruction. The studies presented in this section demonstrate the necessity and the results from using the correct tools and programs to provide reading instruction for this population of students. For example, Ozmen studied the use of graphic organizers when teaching literacy to intellectually disabled students (2011). Alfassi, Weiss, and Lifshitz studied the effectiveness of reciprocal teaching and literacy instruction of students with intellectual disabilities (2009). Allor, Mathes, Roberts, Cheatham, and Champlin’s study examined how students with low IQs responded to comprehensive reading instruction (2010). Finally, Taylor, Ahlgrim-Delzell, and Flowers studied the perceptions that teachers of students with significant developmental disabilities have when using explicit reading curriculum (2010).

All of these studies imply that a comprehensive reading curriculum is necessary for the literacy success of students in this population. Teachers have used many of these same strategies and tools to effectively educate non-disabled students and research is now suggesting that similar strategies, when adapted accordingly, can be useful in educating students with disabilities as well. The graphic organizer, for example, is a tool used by many teachers. The following study investigated the usefulness of the graphic organizer with students with disabilities.

Graphic Organizer Usage with Intellectually Disabled Students

Graphic organizers can be a key tool in an educator’s toolbox. However, just because a teacher has access to graphic organizers, he or she has not necessarily used them with the greatest amount of efficacy. Ruya Ozmen studied the effects that two strategic types of graphic organizer usage would have when teaching expository text with comparisons and contrasts to students with intellectual disabilities (2011). Ozmen wanted to examine if it was more effective to provide a student who has an intellectual disability with a graphic organizer before reading a text or after reading a text.

The dependent variable in the study was the rate of recalling similarities and differences found in expository text. The independent variables of the study were the presentation of graphic
organizers before reading and completing graphic organizers after reading. The graphic organizers and expository text selections were created by the researcher.

Participants for the study were chosen from a middle school special education classroom for students with mild intellectual disabilities. Each student needed to be able to read without having to break words down into syllables, must be attending sixth through eighth grade classes, and be able to recall, at most, one similarity and one difference after reading a compare/contrast text.

Five students met the criteria and were chosen to participate. All five students were male. The first participant was fourteen years, two months old, read sixty five words per minute with only one error. Participant two was twelve years, 8 months old, attended a seventh grade classroom, and read fifty seven words per minute with six errors. The third participant was fourteen years and three months old, read forty three words per minute without any errors. The fourth student was eleven years, eleven months old and read twenty five words per minute with one error. The fifth, and final, participant was twelve years and eleven months, attended seventh grade and read sixty words in one minute with three errors. All five boys scored between a fifty seven and seventy one the Wechsler Intelligence Scale for Children (WISC)(Wecshler, 2003).

The study procedures were undertaken in a room specifically used for tutoring. The room had one table, two chairs and a video camera. The video camera recorded all treatments in order to maintain research integrity. Each of the students worked individually with the researcher for five school days a week, two sessions a day, for four weeks.

Thirteen expository texts were created by the researchers and the concepts chosen from the lessons taught in the fourth and fifth grade social studies and science textbooks in the student’s classrooms. Students were tested prior to the onset of the intervention with an eight to ten question assessment. The test was designed so that all students would score between twenty and thirty percent on the pre-test. A baseline rate of retell for similarities and differences found in text was determined by having the student read a text silently and then orally retell the concepts. The data was collected three times in order to determine a baseline rate per student.

The study compared two interventions in an attempt to determine efficacy of graphic organizer strategies. In the first strategy, the student was presented with the organizer first. The participant was asked to read the contents of the organizer and examine its contents. Afterwards the student was prompted to read a pre-selected expository text. After the reading, the student
would orally retell the similarities and differences to the researcher. The second strategy was providing the graphic organizer after the reading and asking the student to fill them out. If the student was not able to remember any similarities or differences from the text, they were allowed to have a single look back. Both strategies ended every session with the questions “what are the similarities of the concepts?” and “what are the differences of the concepts?” The percentage of correct answers were calculated and recorded.

The study revealed that all five students responded best when the graphic organizer was completed after the reading. The researcher surmises that the removal of the oral component was an important factor in the increased rate of comparison/contrast retell. Two main ideas are learned from the results of this study. First of all, providing a student with a graphic organizer may allow them to focus on the key ideas of the text, therefore reducing unnecessary information processing and increasing understanding of the important information. At the same time, this study asserted that all students learn differently and that it is important for educators to attempt a variety of strategies, even when using the same tools, in order to increase efficacy of instruction.

This study examined the efficacy of graphic organizers as a tool for literacy instruction and students with intellectual disabilities. Graphic organizers can be an important tool for educators when used appropriately. Visual supports assist a student with reading comprehension, fluency, and a variety of skills necessary for literacy. The next study explored the outcome reciprocal teaching has when instructing students with intellectual disabilities.

*Reciprocal Teaching Methods*

This study investigated the efficacy of the reciprocal teaching method when teaching literacy to students with moderate to mild intellectual disabilities. Alfassi, Weiss, and Lifshitz studied the effectiveness of this form of instruction versus the traditional methods of teaching this student population (2009). The traditional model involves remedial reading and basic skill acquisition. The reciprocal reading method uses a four step process of summarizing, questioning, prediction, and clarification. The reciprocal method is used to increase a student’s ability to self-monitor reading comprehension.

This study involved one independent variable and three dependent variables. The independent variable was the efficacy of the reciprocal teaching method. The dependent variables were a standardized reading measure, two literacy assessments, and a strategy use assessment of questioning and summarization. The standardized reading measure and two
literacy assessments were used as pre and post-tests. The strategy use assessment of questioning and summarizing was administered prior to training, after training, and after the maintenance period was concluded.

The participants were thirty five students with mild and moderate intellectual disabilities. All participants had IQ’s in the forty to sixty nine range and were enrolled in a school that served students in that population. Forty eight percent of the participants were male and fifty two were female. None of the participants had a history of maladaptive behavior. The students were all between the ages of fifteen and twenty one, with an average age of eighteen years, nine months. Finally, the group composition with respect to gender, ethnic origin and age was considered similar.

The study procedures were a four step process. In the first step, students were pre-tested and the teachers were trained in the methods that they were to use for instruction during the intervention. Students were assessed using the Ortar Reading Test (1987). The test showed that all students were similar in their reading comprehension performance prior to the onset of the intervention. The teachers were all given a four hour workshop that focused on pedagogical and theoretical issues regarding each intervention. Four of the eight teachers were exposed to a reciprocal teaching method, using summaries, questioning, prediction, and clarification. The other four teachers were taught the importance of teaching reading comprehension skills.

The second step in this intervention was the intervention itself. All students participated in a twelve week intervention in which they met twice a week for forty five minutes in groups of four. The students were all exposed to expository texts from a wide range of topics. Half of the group received instruction using the reciprocal method (experimental group) and the remaining participants were instructed using traditional reading comprehension strategies (control group).

The students receiving the reciprocal method were explicitly taught the method for the first six sessions. The text used for this group was a collection of expository passages chosen from text written for adults and were one hundred to five hundred words in length. Signs stating the four strategies were put on tables for student reference. During the beginning of each session the teacher read aloud the passage and modeled the strategies and, through a gradual learning process, the instructor taught the students how to become the experts. The students were taught how to question the text in the manner of the teacher, how to generate independent questions,
through scaffolding of instruction and gradual weaning of teacher intervention. The same strategy was employed for summarizing of the text and for clarifying reading.

The other group of participants continued with their regular curriculum of skill acquisition remedial reading. Students were provided instruction of basic reading comprehension skills such as “wh” questions, giving a title, completion of sentences, and identification of difficult words. The skills were taught using expository passages that were twenty to thirty words long and chosen from a workbook geared for young children. The texts were simple sentences followed by worksheet pages. The participants of this group were also given the same text as the reciprocal method group, but the text was read aloud by the instructor in segments and then summarized by the teacher. Each student was asked to print out pictures on the topic and explain his or her choice.

The third step of the study included post-intervention maintenance. All students entered a maintenance phase upon the completion of the intervention. During this time all students were assessed using the Ortar Reading Test (1987). In addition, students were given two literacy assessment passages in order to evaluate the student’s use of questioning and summarization strategies.

Finally, the students were post-tested. After the intervention, all students entered a twelve week maintenance schedule. Directly following the maintenance timeframe all students were assessed on their strategy usage of questioning and summarization.

The findings of the study revealed that the experimental group participants significantly improved on the post-test scores and the control group did not demonstrate any improvement. The standardized reading measure and the literacy assessments both showed increases in ability for the experimental group. The assessments at the end of the maintenance time frame continued to illustrate significant differences in ability between the two groups, with the experimental group scoring considerably higher scores.

The results of this study suggest that students with intellectual disabilities can learn on a deeper level if provided with a reciprocal reading program. Text that is meaningful and age appropriate as well as repeated and shared dialogues can provide a student with the strategies necessary for making broad and meaningful connections to reading. In addition, the study demonstrates that instruction that focuses on enhancing a student’s ability to monitor their own understanding is more effective than basic reading skill acquisition. Therefore, instructors who
work with students with intellectual disabilities need to offer quality, comprehension based instruction to students in addition to skill acquisition so that students can gain meaning from the text in addition to the ability to read individual words.

Comprehensive reading programs are just as necessary for reaching literacy goals with students who have intellectual disabilities as they are for teaching non-disabled students. Often times it is assumed that, since a student has a low IQ he or she is unable to learn how to read. The following study is a longitudinal study evaluating comprehensive reading instruction for students with intellectual disabilities.

*Comprehensive literacy intervention and students with intellectual disabilities*

Allor, Mathes, Roberts, Cheatham, and Champlin, through Southern Methodist University, studied a group of students with intellectual disabilities in order to investigate their literacy progress when provided with a comprehensive literacy intervention program (2010). Over the span of three years, the researchers examined literacy strategies and compared them to the traditional special education services that are typically provided to students within this population. Fifty nine elementary students with IQ's between forty and sixty nine and six teachers participated in this longitudinal study.

The dependent variable in this study was the difference in reading ability in students with intellectual abilities. The study utilized six independent variables. First, progress monitoring data through Dynamic Indicators of Basic Early Literacy Skills (DIBELS; Good, Kaminski, 2002) was collected monthly. All students were pretested and post-tested twice a year using the Comprehensive Test of Phonological Processing (Wagner, Torgesen, & Rashotte, 1999), the Expressive Vocabulary Test (Williams, 1997), the Peabody Picture Vocabulary Test III (Dunn & Dunn, 1997), the Test of Word Reading Efficiency (Torgeson, Wagner, and Rashotte, 1999), and the Woodcock Language Proficiency Battery (Woodcock, R., 1991).

The schools that participated in the study were located in a large, southwestern, urban public school district and one private school for students with special needs. All schools were elementary grade levels. In year one thirteen schools participated, the second year thirteen schools and twelve schools in year three. The schools were chosen by district personnel and the researchers in order to select the schools with the largest populations of students with intellectual disabilities.
Six teachers were jointly hired by the school district and the research team to provide instruction to students in the intervention group. Five of the teachers taught at two to three different schools every day, one teacher taught exclusively at the private school. All six teachers were certified special educators. Five were female, one was male. Five of the teachers had bachelor’s degrees and one had a master’s degree.

Participants had IQ scores between forty and sixty nine. All participants were in grades one to four and were verbal. All qualified students were included regardless of the cause or comorbid conditions. Students were randomly assigned within each school into either the intervention group or the contrast group. Seventy five students joined the study the first year and seventeen more joined the second year. Thirty one students moved before they had participated for two years and another two were removed due to severe medical problems. The final sample included fifty nine students, thirty four who were placed into the intervention group and twenty five who were placed in the contrast group. The mean age of the participants was 7.94 years.

Prior to the onset of the study, all participants were administered the pre-test battery of assessments. Students were tested between October and February and then again in August and September. In addition, students were tested at the end of each academic year. Continuous progress monitoring data was collected throughout the year. No statistically significant differences were found between the treatment and contrast groups.

The teachers who were retained to teach the students participating in the study were given professional development throughout the study. Several days of training prior to the onset of the intervention taught them specific teaching strategies to be used throughout. The teachers were also observed at least twice a semester by reading coaches who had previously taught the intervention. Finally, all teachers were required to attend monthly meetings with the research team to develop plans for individualizing instruction and for modifying behavior.

Participants were randomly assigned into either the intervention group or the contrast group. Students in the contrast group received typical special education instruction provided by their own school. Fourteen of the students in the contrast group received instruction using a structured curriculum provided by the school district. The remaining eleven students participated in a variety of literacy learning opportunities such as writing their names, naming letters, and listening activities. Three of the eleven students were taught using a sight word approach.
The students in the intervention group received forty to fifty minutes of daily instruction. The students were taught in groups of one to four by individual teachers. Instruction was provided for print concepts, phonological and phonemic awareness, oral language, letter knowledge, word recognition, vocabulary, fluency, and comprehension. The content was designed to focus on big ideas and key reading strategies within a systematic scope and sequence while reducing student confusion. In addition, the lessons were designed with a behavioral approach, providing frequent reinforcement, carefully specified wait times between presentation of information and prompting for responses, and repeated opportunities to practice each skill.

On average, all of the participants made educationally meaningful, statistically relevant progress after the third year of instruction. However, the students in the treatment group made significant gains over the students in the contrast group. This finding was extrapolated from the results of the cumulative assessments, both standardized and curriculum based.

The results of this study suggest that students with mild to moderate intellectual disabilities can make statistically significant progress when provided with instruction using a comprehensive reading intervention. Students can benefit in the areas of phonics instruction, reading ability, comprehension and overall language acquisition. As a result of this study, instructors should examine the reading instruction practices being offered to students in this population and adjust accordingly so that they may meet the specific needs of these children.

The previous studies provide strong arguments in favor of comprehensive reading instruction for students with intellectual disabilities. Instruction that is all encompassing, research-based, and provided with fidelity can result in educationally significant gains. The final study in this section addresses the use of a comprehensive reading curriculum; however, it focuses on teacher perceptions and beliefs as they educate students with significant developmental disabilities.

Teacher perceptions on an explicit reading program

Qualitative research is descriptive and focuses on meaning from the point of view of the participants. As a result, a qualitative research study examines perceptions and thoughts. Taylor, Ahlgrim-Dezell, and Flowers used a qualitative design to investigate the perceptions and beliefs of teachers of students with significant developmental disabilities about the effects of using an explicit reading instruction program (2010). Reading instruction is provided to traditional students in five components: comprehension, phonemic awareness, phonics, fluency, and
vocabulary. The researchers wanted to examine, with teachers, if students with an alternative curriculum could learn to read if provided with those same components.

This study, although qualitative in nature, still involved variables. The independent variables were the teacher observations, interviews, and a group panel review. The dependent variable was the teacher perceptions of a specific reading instruction program.

Six teachers were chosen to participate in the study. The teachers taught in one of three programs offered by an urban school district in the southeastern United States. Two teachers were chosen from classrooms with students who had severe and multiple disabilities. Two teachers were chosen from classrooms for students with autism and two teachers were chosen from classrooms that served students with moderate cognitive disabilities. All teachers served students in the kindergarten through fifth grades.

The chosen teachers were provided with an experimental curriculum to use over the course of two years. In addition, they attended five training sessions each year, received frequent in-class monitoring and feedback on the implementation fidelity. The experimental curriculum was comprised of two components: phonemic awareness and phonics skills and increasing student participation in reading out loud.

At the end of the second year of instruction using the experimental curriculum, the teachers met with the researchers for data collection. The teachers were all interviewed individually. In addition, all teachers were observed as they taught one or more students using the curriculum with a structured interview immediately following the observation. Finally, the teachers met as a group to view a video with vignettes of teachers using the curriculum. Teachers were, again, interviewed after watching the video to provide additional source of data on the perceptions of the curriculum.

Teachers in all three instructional programs reported that the curriculum had an impact on student learning. Across all of the interviews and panel interview, twelve instances of student challenges were identified and fifty one student successes. Specifically, teachers reported seeing a positive impact on student knowledge of print concepts, phonics and phonemic awareness and word recognition. Four teachers reported observing student progress in learning concepts of print due to the consistent lessons in tracking of print and text pointing. Three teachers said that students were learning beginning sounds better because the curriculum provided pictures with the beginning sounds. Finally, four teachers observed evidence of sight word learning as a result
of the curriculum. The curriculum introduced a few words at a time and then provided repeated exposure for students. In fact, all of the teachers reported that the sight word portion of the curriculum was the preferred portion by the students.

Teachers also shared the impact that having a structured reading curriculum had on their ability to provide instruction. The results were unanimous in that they all felt that planning for reading instruction was much more efficient. Also reported was that a complete curriculum addressed student needs and changing state standards in a comprehensive manner. The curriculum provided teachers with a guideline to follow and removed the necessity of creating additional instructional tools that would be necessary in a traditional model. The use of picture cards, visual symbols, manipulatives, and a slower pace helped students with developmental disorders become more effective learners.

A comprehensive reading curriculum that is created for the specific learning needs of students with significant disabilities can be effective in teaching literacy skills. Teacher effectiveness can be increased, student engagement can be improved, and overall student learning bettered when provided with the correct tools. Most importantly, it is integral that educators continue to look for new and better ways to provide instruction as new research and new tools are becoming available that may allow students better access to the knowledge base that they need.

Conclusion of literacy instruction for students with intellectual disabilities

The studies presented in this section demonstrate the necessity and the results from using the correct tools and programs to provide reading instruction for this population of students. In Ozmen’s 2011 study on graphic organizer usage, the findings suggested that graphic organizers can be an important tool for educators when used appropriately. Visual supports assist a student with reading comprehension, fluency, and a variety of skills necessary for literacy acquisition. Alfassi, Weiss, and Lifshitz studied the effectiveness of reciprocal teaching and literacy instruction of students with intellectual disabilities and the results were that text that is meaningful and age appropriate as well as repeated and shared dialogues can provide a student with the strategies necessary for making broad and meaningful connections to reading. Allor, Mathes, Roberts, Cheatham, and Champlin’s study examined how students with low IQs responded to comprehensive reading instruction and Taylor, Ahlgrim-Delzell, and Flowers studied the perceptions that teachers of students with significant developmental disabilities have
when using explicit reading curriculum. Teaching literacy skills to students with intellectual disabilities can be done. The students who comprise this population are just as deserving of a quality, comprehensive curriculum as non-disabled children are. An educator with the correct tools, mindset and curriculum can provide an educational program that will provide students with the necessary skills.

**Conclusion**

The research studies included in this chapter consistently reinforce the importance of instructional practices and interventions. These studies illustrate the importance of an educator’s knowledge of a student’s disability, how it affects their access to instruction, and what tools and techniques to use to best instruct students with disabilities. Lukin and Estraviz suggest that it is important for educators to recognize a student’s unique learning needs and tailor interventions accordingly (2010). Kirk and Gillon’s study suggest that children with speech and language impairments could see long term benefits from preschool interventions that focus on early phonological awareness and letter-sound knowledge (2007). The research provided by Wellman, Freebairn, Avrich, Hansen, and Stein demonstrates that language skills in students with SLI can be seen as a potential predictor for literacy problems and educators need to be aware of potential difficulties and be prepared to supplement literacy instruction as needed (2011). Anthony, Aghara, Dunkelberger, Anthony, Williams, and Zhang’s study investigates how students with SSD exhibit difficulty accessing phonological knowledge and expressing their existing knowledge base, and concluded that instruction and assessment should be tailored to the individual needs of the child (2011). Finally, Boulware-Goode, Carreker, Thornhill, and Joshi’s study indicates that students can attain higher levels of understanding and vocabulary when provided with metacognitive strategies during reading instruction (2007). Students with speech and language impairments often struggle with multiple aspects of literacy acquisition and, therefore, it is important for an educator to be aware of potential problem indicators, effective intervention strategies, and a basic knowledge of the needs inherent in a student.

In addition to an awareness of risk factors and specific supports required by students with disabilities, the literature investigates the available research on the use of graphic organizers during instruction and the effects from said usage. The research demonstrates how the use of graphic organizers, as a metacognitive strategy, can impact the interventions and instruction of students. Culbert, Flood, Windler, and Work’s study is centered on the use of graphic organizers
in the classroom (1998). Their work suggests that graphic organizer usage is a prevalent classroom strategy. Teachers use the organizers for a variety of reasons and report predominately positive results. In addition, Culbert, Flood, Windler, and Work’s study briefly alludes to the negative aspects of graphic organizer usage in information retention (1998). The second study, by Griffin, Malone, and Kameenui, exhibits how graphic organizers impact student comprehension, retention, and transference of information (2001). In the study, the organizers facilitated information recall in students, but did not improve content retention. Finally, DiCecco and Gleason (2002) examine the use of graphic organizers with students with learning disabilities. The studies demonstrate a correlation between the use of graphic organizers and the improvement of student comprehension, especially in expository text. Studies on graphic organizers support the hypothesis that organizers are able to help students develop connections between text, increase engagement, and provide pathways to deeper understanding of literature. However, a teacher needs to be clear on the focus of each lesson and use the appropriate tools for the task. According to the research, a graphic organizer may not be the best tool for teaching facts that need to be recalled separately from other concepts. An educator needs to ensure that he or she is aware of risk factors that a student with disabilities may exhibit, develop an understanding of the specific needs that a student may have, and learn how to use the right tools for the task at all times in order to provide a quality education for all students regardless of disability.

The remaining reviews of literature focus on the best education practices for students with intellectual disabilities. Ozmen’s study explores graphic organizer usage when used to teach reading to students with low IQs (2011). The study findings support the idea that visual supports assist a student with reading comprehension, fluency, and a variety of skills necessary for literacy acquisition. Alfassi, Weiss, and Lifshitz study the effectiveness of reciprocal teaching and literacy instruction of students with intellectual disabilities (2009). The study results show that text that is meaningful and age appropriate as well as repeated and shared dialogues can provide a student with the strategies necessary for making broad and meaningful connections to reading. Allor, Mathes, Roberts, Cheatham, and Champlin’s study examines how students with low IQs respond to comprehensive reading instruction (2010) and Taylor, Ahlgrim-Delzell, and Flowers study the perceptions that teachers of students with significant developmental disabilities have when using explicit reading curriculum (2010). The available research strongly
suggests that students with intellectual disabilities are capable of obtaining certain levels of literacy if provided with a consistent and comprehensive curriculum.

The next chapter incorporates the research in this review of literature and applies it to a case study on a child requiring a literacy intervention. The child is diagnosed with a speech and language disability and an intellectual disability. Chapter three details the sample and procedures for this research and intervention.
Chapter Three
Introduction

The purpose of this study is to examine the effects that graphic organizers may have when used in a literacy intervention setting. The student in the case study was chosen from an inner city elementary school where she is entering the sixth grade. This chapter provides background information on the research participant as well as her personal and educational history. Details are included on the student’s current educational program as the current observations, strategies, and educational content being provided to this student was relevant to the creation of the intervention strategies. Procedures for the intervention are also shared in detail. Assessments were administered before the onset of the intervention as well as on the final day in order to assess prior knowledge, reading fluency, comprehension, and retention levels and to act as a gauge upon which to measure the efficacy of the intervention strategies.

The staff at an inner city elementary school nominated Zoe Lock (name changed to protect confidentiality) as a student in need of literacy intervention. Her fifth grade teacher, the speech pathologist, and the special education teacher all agreed that she might benefit from one on one time in a program focused on literacy. Her teacher reported that Zoe struggled with phoneme awareness, reading fluency, and comprehension. The speech pathologist stated that Zoe has a difficult time with expressive and receptive language. Meanwhile, the special education teacher wrote that Zoe is sensitive to her learning disabilities, hides her lack of understanding using a variety of strategies such as pretending not to hear a question, fidgeting, or leaving a room. As a result, the special education teacher thought that Zoe would respond well in a small group or one on one intervention with a special education teacher.

Personal History

Zoe Lock is a student in an inner city elementary school in a midwestern city. She just finished fifth grade and is excited to be a middle school student. Her birthday is September 22, 2000, and her chronological age at the time of intervention was eleven years and nine months. She is the youngest of three children, she has two older brothers and a dog named Daisy. Interviews with Zoe revealed that she is excited to work with the researcher because she likes to learn new things. Her favorite subject is science because those classes utilize hands-on activities. She reported being happy in her social situation, she easily named a best friend, and listed several preferred social activities outside of school. She asked the researcher if she could please refer to her as ‘Diva’ instead of her own name. At the initial interview, Zoe was well dressed,
clean, and easily conversed with the examiner. She laughed and smiled during interactions, although was physically a little fidgety. Zoe demonstrated a high desire to please the researcher and responded well to the attention.

_Educational History_

Zoe attended an inner city elementary school from pre-kindergarten to third grade. She transferred to her current school, an urban charter school serving grades kindergarten through eighth grade, in fourth grade. Both schools reported that Zoe had good attendance and a positive attitude. Teachers stated that Zoe exhibited strong effort, a friendly countenance, and that she was well accepted by her peers. However, both schools consistently reported that Zoe struggled academically and failed to make adequate progress despite support and interventions. All information regarding Zoe’s educational program was extrapolated from her individual education plan (IEP) written in November of 2011 and information from her cumulative files at school, including evaluations and assessments.

Zoe’s initial elementary school was unable to obtain parental consent to evaluate her for special education services. An initial referral was made in April of 2004 for orthopedic impairment (OI), significant developmental delay (SDD), and speech and language (SPL). In November of 2004, Zoe qualified for speech and language services, but could not be provided with formal services as her parents refused to provide consent. Again in June of 2008 a partial evaluation was performed. A thorough evaluation was not possible without parental consent, however, the teachers and administration met to address Zoe’s significant academic delay. As a result, they tried a variety of interventions. The school paired Zoe with a paraprofessional who worked as a reading tutor, they involved peer tutoring, and requested parent assistance with homework. Teachers modified assignments both in content and in length, provided one on one instruction, small group instruction, and visual support for assignments and directions.

The current school also encountered similar difficulties obtaining parental consent for evaluation and implemented similar intervention strategies in an effort to meet Zoe’s specific academic needs. The staff provided Zoe with Title I services for half an hour, three days a week. Title I is a government program through No Child Left Behind legislation that provides funds for academic support in order to assist low-achieving children master curricula and meet state standards in core academic subjects (United States Department of Education, 2011). In addition, the staff began to offer Zoe tutoring with a rotary of professionals such as the classroom teacher,
the paraprofessional, and the speech pathologist. The tutoring was offered for thirty minutes a day, two days a week. Zoe received one on one instruction with a paraprofessional for forty five minutes a day, four days a week and the teacher engaged her in small group instruction. Finally, a concerted effort was made to provide Zoe with daily front loading of information and post teaching in a one on one setting.

Finally, in October of 2011, Zoe’s parents provided consent for evaluation. She was assessed using the Woodcock Johnson III Tests of Achievement (WJIII) (Woodcock, McGrew, Mather, 2001), the Wechsler Individual Achievement Test (WIAT II) (Wechsler, 2001), the Clinical Evaluation of Language Fundamentals Fourth Edition (CELF-4)(Semel, Wiig, & Secord, 2003), the Wechsler Intelligence Scale for Children Four (WISC-4)(Wechsler, 2003), the Adaptive Behavior Assessment System II (ABAS II)(Harrison, Oakland, 2003), and a pure tone hearing screening. She scored minimal in math and reading on the Wisconsin Knowledge and Concepts Examinations (WKCE)(Department of Public Instruction, 2012) and a running record by the teachers reveal a level I reading level, or late first grade, early second grade level. The results of the formal assessments were:

<table>
<thead>
<tr>
<th>WISC-IV</th>
<th>Composite Score</th>
<th>Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full Scale IQ</td>
<td>60</td>
<td>56-66</td>
</tr>
<tr>
<td>Verbal Comprehension</td>
<td>57</td>
<td>53-66</td>
</tr>
<tr>
<td>Perceptual Reasoning</td>
<td>73</td>
<td>66-83</td>
</tr>
<tr>
<td>Working Memory</td>
<td>65</td>
<td>60-75</td>
</tr>
<tr>
<td>Processing Speed</td>
<td>75</td>
<td>69-87</td>
</tr>
</tbody>
</table>

Zoe’s full scale IQ assessment is in the ‘extremely low range’ as the score is more than two standard deviations from the mean. Her Woodcock Johnson III assessment scored her academic knowledge at a standard score of thirty.

She scored below 1.75 standard deviations on the speech and language assessment. Her expressive language demonstrated average sentences typical of a six to seven year old level. She
utilized sentences with six to eight morphemes and often omitted pronouns, verbs, and prepositions. She displayed a limited vocabulary for conversation. Her assessment indicated trouble following multiple step directions, difficulty with understanding sentence structure, and low access to age level vocabulary.

In addition, she was tested on the WIAT II and her scores were:

<table>
<thead>
<tr>
<th>Wechsler Individual Achievement Test (WIAT II)</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Reading</td>
<td>48</td>
</tr>
<tr>
<td>Reading Comprehension</td>
<td>48</td>
</tr>
<tr>
<td>Math Reasoning</td>
<td>57</td>
</tr>
</tbody>
</table>

Zoe did not exhibit any educationally relevant medical findings. She passed the bilateral pure tone hearing screening. Finally, her parents were asked to complete the ABAS II. Her mother reported answering the questions. Zoe’s scores were:

<table>
<thead>
<tr>
<th>Adaptive Behavior Assessment System II</th>
<th>Score</th>
<th>Standard Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Functional Academics</td>
<td>70</td>
<td>70</td>
</tr>
<tr>
<td>Home Living</td>
<td>55</td>
<td>70</td>
</tr>
<tr>
<td>Self Direction</td>
<td>60</td>
<td>70</td>
</tr>
</tbody>
</table>

The results of Zoe’s evaluations provided information for the educational staff. Based on the scores from the WISC assessment, she was diagnosed as having a cognitive disability (CD). Her scores on the CELF-4 indicated that Zoe had a delay in oral communication that significantly affected her ability to perform academically; as a result, her secondary diagnosis was a speech and language impairment (SPL). Both her receptive and expressive language skills are significantly delayed. The teachers also used peer comparisons and work samples as additional avenues of information and Zoe consistently compared as low-average in broad written language, written expression, and in brief writing exercises. As a result, Zoe was provided with special education services for speech and language and for support with her intellectual disability.
Current Educational Program

Zoe’s evaluation qualified her for special education services. The educational team met with the parents and support staff in November of 2011 and created an individual education plan (IEP) for her. Her IEP goals cover all academic areas and speech and language. For example, a few of her literacy goals are to ask and answer ‘who, what, when, where, and why’ questions with complete sentences and accuracy, to identify sequence of events, setting, characters, and problem/solutions in text, and to identify the main topic in a multiple paragraph text. Some of her language goals are: understand and use adjectives, produce complex sentences, and to use strategies to cross check for meaning of words. Many other goals are included in her IEP that cover reading comprehension, fluency, and writing ability.

Procedure

The intervention was a total of fifteen one hour sessions. Zoe and the researcher worked one on one for one hour per session. The researcher was examining the connection between the use of graphic organizers and student reading comprehension. The content was taken from a social studies textbook not used in Zoe’s school, titled Making A Difference (Boehm, Hoone, McGowan, McKinney-Browning, Miramontes, & Porter, 2000). In order to determine the efficacy of literacy intervention and strategic use of graphic organizers, the researcher administered reading passages from the Qualitative Reading Inventory Fifth Edition (Leslie & Caldwell, 2011). The passages chosen ranged from primer level, first, second, and third reading level. One narrative passage and one expository passage were chosen from each reading level (see index one). In addition, a fifteen question, criterion referenced assessment was administered in order to verify Zoe’s lack of content familiarity (index two). All assessments were administered during the first session.

The criterion referenced test was used to determine any familiarity that Zoe might have had with the instructional content. The first section of the assessment was made of seven ‘yes or no’ questions. Of the seven, Zoe answered four correctly. Section two consisted of five multiple choice questions. Zoe answered zero of the five correctly. The third section of the test was three short answer questions. Zoe was able to answer one of the questions, but needed to provide the answers orally while the researcher recorded her answer.

The QRI-5 revealed noteworthy information about Zoe’s reading ability. Her familiarity level with the information from the passages was below thirty three percent in all readings with
the exception of one, where she scored a sixty seven percent. She was able to read the passages with fluency. Her total accuracy level was ninety six percent on her lowest scoring assessment. Her total acceptability ratio, or her ability to read without making a mistake that would change the meaning of the text, was ninety nine percent or higher in all passages. However, Zoe’s ability to retell a story scored dramatically lower. Her lowest scoring passage on the retell assessment was a twenty three percent on the primer level narrative passage. Her highest score was thirty nine percent on the level one narrative reading.

QRI-5 Results:

<table>
<thead>
<tr>
<th>Passage Name</th>
<th>Fox &amp; Mouse</th>
<th>Lakes</th>
<th>Surprise</th>
<th>Senses</th>
<th>1st Trip</th>
<th>Seasons</th>
<th>Friend</th>
<th>Ppl Live</th>
</tr>
</thead>
<tbody>
<tr>
<td>Readability level</td>
<td>Primer</td>
<td>Primer</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Passage Type (narrative/expository)</td>
<td>E</td>
<td>N</td>
<td>E</td>
<td>N</td>
<td>E</td>
<td>N</td>
<td>E</td>
<td></td>
</tr>
<tr>
<td>Concepts Familiar/Unfamiliar %</td>
<td>0</td>
<td>22</td>
<td>67</td>
<td>33</td>
<td>50</td>
<td>22</td>
<td>66</td>
<td>50</td>
</tr>
<tr>
<td>Level Total Accuracy %</td>
<td>98</td>
<td>96</td>
<td>97</td>
<td>99</td>
<td>97</td>
<td>98</td>
<td>98</td>
<td>98</td>
</tr>
<tr>
<td>Level Total Acceptability %</td>
<td>100</td>
<td>100</td>
<td>99</td>
<td>99</td>
<td>93</td>
<td>99</td>
<td>97</td>
<td>97</td>
</tr>
<tr>
<td>Retelling % Number of Ideas</td>
<td>23</td>
<td>39</td>
<td>39</td>
<td>32</td>
<td>21</td>
<td>38</td>
<td>15</td>
<td>20</td>
</tr>
<tr>
<td># Explicit questions correct</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>0</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td># Implicit questions correct</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Level % Total Comprehension</td>
<td>50</td>
<td>67</td>
<td>67</td>
<td>83</td>
<td>62</td>
<td>33</td>
<td>37</td>
<td>50</td>
</tr>
</tbody>
</table>

The assessment results indicated that Zoe struggled with reading comprehension, retention of information, expressive language, and receptive language. As a result, the researcher modified the daily lesson plans and the graphic organizers to best meet the student’s needs. For example, the graphic organizers were configured so that the information could be provided in a pictorial format versus written words. Multiple choices were given so Zoe could choose from a contrived set of answers, and text coding was taught and then the information transferred to graphic organizers to assist with the location of main ideas, to enhance reading comprehension, and to provide additional reading strategies.

The daily lesson began with a review of the previous day’s learning. The student and teacher would jointly review the graphic organizers completed the previous day and discuss any lingering questions and predict the connections to the text that would be covered during the present lesson. Following the discussion, the new graphic organizers would be introduced as well as the daily vocabulary and the corresponding graphic organizers (see index). Zoe would be introduced to the text for the day. She was encouraged to make predictions regarding the content, if the text was fiction or nonfiction, and to think about any previous knowledge she may or may not have about the topic and record them onto a graphic organizer (see index). The day’s
readings were typically two to three pages long and Zoe would read them independently and orally. The teacher stopped Zoe at the end of every paragraph and asked comprehension questions. Zoe would be encouraged to mark areas of information that she found important, information that she wondered about, and information that she thought might be a main idea. After the reading she transferred the marked information to the same graphic organizer that she had recorded her initial thoughts about the text prior to reading. Finally, she would record what she had learned from the text, whether or not her initial predictions were correct, and if there were any lingering questions that she had about the content. The daily lesson concluded with Zoe writing a summary of the reading.

On the final day of the intervention Zoe was reassessed using the QRI-5 and the criterion referenced tests. The QRI-5 post test was a sample of passages. One narrative and one expository passage from levels primer to level three were chosen. The criterion referenced test was the same test as the pre-test. The researchers were looking to see if using the graphic organizers would assist Zoe in her reading ability, her comprehension, and her retention of information.

**Summary**

Zoe is a fifth grader who is excited to learn. She was identified by the staff at her school as someone who may benefit from participating in a reading intervention as she has an intellectual disability, a speech and language impairment, and is reading below grade level. She struggles with receptive and expressive language and focuses on word identification to the point where it affects her reading comprehension levels.

A reading intervention was created for Zoe’s individual needs. Graphic organizers were created and utilized to assist her with defining main ideas, retaining information, and for learning new vocabulary words. Zoe and the researcher met four days a week for an hour a day over the course of four weeks. The intervention occurred with just the researcher and the participant in order to provide instruction that would have the most amount of lasting impact.

The intervention was created specifically for Zoe’s needs, taking into account her individual learning styles and requirements. The intervention was based on current research that will be discussed in the next chapter. The research used to create the curriculum was focused on students with intellectual disabilities, students with speech and language impairments, and the use of graphic organizers in literacy education.
Chapter Four
Introduction

The literacy intervention undertaken for this case study lasted fifteen days. Within the span of that time, the student and the researcher met fourteen of those days, each session lasting one hour. The meetings were private, one on one sessions with a planned daily lesson and a goal of increasing literacy skills for the child by using graphic organizers. The information in this chapter details the daily interactions between the researcher and the participant, Zoe, providing an in-depth view of the interventions themselves and how the results came to be. The results of the assessments are provided in detail, exhibiting the changes in Zoe’s ability as a result from the intervention itself. Finally, a discussion on the meaning behind the results is provided, delving into the recommendations and considerations of the researcher.

Daily Intervention

The case study included fourteen days of intense one on one literacy intervention. The student left the sessions, hopefully, with stronger skills for accessing information and the researcher left with a greater understanding of how to effectively create graphic organizers for students with disabilities. Overall, both parties worked diligently and acquired new knowledge.

The first day and a half and the last day and a half of the intervention was assessment. Since Zoe struggles to read and relay knowledge, it took longer to assess her. She was initially surprised to be chosen from her classmates and pulled into the intervention; however, she adjusted quickly and eagerly participated in the assessment process. She was full of smiles and giggles, clearly a little nervous at first, but as the hour progressed she felt more and more comfortable. She remained fidgety the entire hour. She stated that she thought it was “cool” to be paired with a high school teacher. Overall, Zoe displayed a high desire to please the researcher throughout the entire assessment process. She was able to orally read the words well, struggled with comprehension, and retention of information. Being thought of as smart was a constant concern of hers and she repeatedly asked the researcher if she was smart and, if so, how smart. The concern over her intelligence was a consistent theme throughout the entire assessment process.

The third day of the intervention; was when the instruction truly began. The researcher taught Zoe how to properly use the graphic organizers that she would be utilizing, introduced the daily vocabulary words, and presented her with the textbook that would be the source of the daily lessons. When provided with text that was at a frustrational level, Zoe began acting very
silly, laughing and giggling, tipping the tables, standing up, and falling on the floor. She responded well to gentle redirection and to being given a clear outline of events. (i.e. we only have three more questions to go and then we’ll be done, etc.). She and I looked at some of the graphic organizers that we would be using. We discussed how to use them and why using them can be helpful. We were able to begin working on the first vocabulary graphic organizer. Zoe focuses strongly on word identification and, as a result, loses comprehension. One goal of this intervention is that she learns to focus more on the text meaning versus decoding the individual word. She is goal oriented and using the graphic organizer may assist her in reaching those literacy goals.

The second week of the intervention began a series of learning opportunities for both the researcher and for Zoe. The KWL chart was introduced as one of the reading strategies. The KWL chart is a three column graphic organizer; the first column has a K written on it and asks students to write down what information they already know about a topic. The second column in the W and students write down what they learned as they read through the text. The third column is the L and children write down questions that they may have or what they might want to learn more about the subject. Also introduced was a vocabulary graphic organizer. However, what soon became apparent was that the graphic organizers were too open ended for Zoe. The vocabulary graphic organizer required her to provide synonyms, antonyms and related words. The KWL required a lot of independent thought and writing. Overall, the work was clearly not appropriate for Zoe’s ability level or respectful of her specific disabilities. She was frustrated and required concrete examples and clear expectations. The researcher needed to make changes and make them quickly.

The schedule for the daily sessions remained, predominantly, the same throughout the intervention. The day began with a review of the previous day’s graphic organizers, followed by predictions of the current day’s topic and strategies for connecting the two topics. As the daily content was read, the KWL organizer was filled out, or a similar organizer, as well as the daily vocabulary organizers (see index). The session ended with a short activity and Zoe wrote a paragraph summary of the lesson (see index). In order to increase effectiveness and reduce frustration, the researcher had to make changes to the organizers and how they were used. Zoe responded well to close-ended questions, cloze activities, and creative opportunities. As a result, the graphic organizers were adapted to include her strengths and to offer her opportunities to
improve her limitations. The “L” section of the KWL chart was removed as Zoe struggled with the ability to put lessons into her own words. The vocabulary organizer was changed so that the word was provided, an opportunity to find the word’s definition in the text was added, a section for using the word in a sentence was inserted to increase her independent thought and provide text to self references. Finally, the researcher provided Zoe with six pictures per vocabulary word. Zoe needed to match three of the pictures to the daily word and glue them onto the organizer. This new layout worked wonderfully. It was a nice mixture of explicit and implicit comprehension prompts, provided visual support and engaged Zoe in the lesson.

The resulting graphic organizers proved to be a tool that Zoe utilized throughout the intervention. She often used the completed graphic organizers to remind herself about information. She also used them as spelling references. She enjoyed the artistic activity of creating them and even became frustrated if the glue took too long to dry and, therefore, the organizer could not be hung on the wall. The agitation of creating the organizers and learning dissipated.

One session included a different type of graphic organizer, a web organizer. Using the organizer, the researcher provided a concrete example of how the text was directly applicable to Zoe’s daily life. The concept was difficult for her at first. However, the web graphic organizer facilitated her awareness beyond the reading with gentle prompting from the researcher. Once the organizer was completed Zoe looked up at the researcher with a big smile on her face and announced “this included (our city) too!” She was very excited to match the text content to her daily life.

Every day Zoe was asked to write a paragraph about what she had learned that day. She was asked to do this in order to ascertain her comprehension of the material, assist her with putting knowledge into her own words, and to provide writing practice. Zoe really struggled with this aspect of the intervention. She had difficulty retaining information and creating original thought. In the beginning she would often simply copy from the textbook. However, in an effort to increase her skills, the researcher removed the book after the reading portion of the lesson, forcing Zoe to rely on her knowledge of the lesson and the information on the daily graphic organizer. In doing so, the temptation was removed to simply copy text and forced her to think critically. The first day she simply wrote down words that were connected to the text. The second day she wrote two sentences. By the end of the intervention she was able to write several
sentences on the topic of the day. She still needed to refer to the graphic organizers, and it helped if she discussed what she wanted to write with the researcher, but she was able to get some ideas down on paper.

Zoe’s language impairment plays a significant role in her ability to perform academically. She struggles with comprehension as her word knowledge is limited. In addition, she has a hard time sequencing her thoughts before writing them. Her ability to write clear sentences is low, however, with prompting, she can express herself orally. She is able to orally represent her thoughts better as she can ‘think out loud’ and make changes as needed whereas she is not confident doing that in writing. Therefore, with respect to the limited time and focus of this intervention, Zoe was allowed to answer long, open-ended questions in an oral format. In doing so, Zoe built confidence of her knowledge base without the frustration of attempting a task that was problematic for her.

The literacy intervention was an educational journey for both parties. Zoe learned new skills that will assist her in language acquisition and in achieving success with reading. The researcher learned how to create graphic organizers that work well for students with disabilities, taking into account the multiple skills that are necessary for literary success. The researcher worked hard to match text that was appropriate in content and reading level and Zoe worked hard to master her goals. Overall, the intervention was a fun and comprehensive pursuit of learning for all involved.

**Intervention Data**

Zoe was assessed prior to the beginning of the intervention and upon the conclusion of the intervention. She was administered a criterion referenced test, or a test of her content knowledge. The researcher wanted to be sure that Zoe had limited prior knowledge of the subject matter as extensive knowledge might skew the results of the intervention. In addition, she was assessed on her ability to read, retell, and comprehend text. Although Zoe is entering the sixth grade, the reading assessment only tested her up to the third grade reading level as she reached her frustration level at that point. Zoe showed improvement across all testing measures after the intervention was completed.

The criterion referenced test was comprised of three sections. The first section was solely yes or no questions. The second section was multiple choice and the third section was made of open ended questions that a student needed to answer using original thought sentences. It quickly
became apparent that Zoe struggled with the third section and so she was allowed to answer verbally for both the pre and the post test. Her raw scores were:

<table>
<thead>
<tr>
<th>Criterion Referenced Test</th>
<th>Section 1</th>
<th>Section 2</th>
<th>Section 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-test</td>
<td>57</td>
<td>0</td>
<td>33</td>
</tr>
<tr>
<td>Post Test</td>
<td>100</td>
<td>60</td>
<td>83</td>
</tr>
</tbody>
</table>

As evidenced by her scores, she improved significantly across all three sections of the test.

Clearly her strongest area was in the ‘yes or no’ answer format, which is much more concrete. Students with disabilities tend to think in concrete patterns and, therefore, it stands to reason that she would be most successful in that area.

The reading assessment results had similar findings. While she continues to struggle in her reading ability, she made progress throughout the intervention. Her pre-test scores were:

<table>
<thead>
<tr>
<th>Readability level</th>
<th>Primer</th>
<th>Primer</th>
<th>1</th>
<th>1</th>
<th>2</th>
<th>2</th>
<th>3</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Passage Type (narrative/expository)</td>
<td>E</td>
<td>N</td>
<td>E</td>
<td>N</td>
<td>E</td>
<td>N</td>
<td>E</td>
<td>N</td>
</tr>
<tr>
<td>Concepts Familiar/Unfamiliar %</td>
<td>0</td>
<td>22</td>
<td>67</td>
<td>33</td>
<td>50</td>
<td>22</td>
<td>66</td>
<td>50</td>
</tr>
<tr>
<td>Level Total Accuracy %</td>
<td>98</td>
<td>96</td>
<td>97</td>
<td>99</td>
<td>97</td>
<td>98</td>
<td>98</td>
<td>98</td>
</tr>
<tr>
<td>Level Total Acceptability %</td>
<td>100</td>
<td>100</td>
<td>99</td>
<td>99</td>
<td>93</td>
<td>99</td>
<td>97</td>
<td>97</td>
</tr>
<tr>
<td>Retelling % Number of Ideas</td>
<td>23</td>
<td>39</td>
<td>39</td>
<td>32</td>
<td>21</td>
<td>38</td>
<td>15</td>
<td>20</td>
</tr>
<tr>
<td># Explicit questions correct</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td># Implicit questions correct</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Level % Total Comprehension</td>
<td>50</td>
<td>67</td>
<td>67</td>
<td>83</td>
<td>62</td>
<td>33</td>
<td>37</td>
<td>50</td>
</tr>
</tbody>
</table>
The ‘concepts familiar’ section only assessed her prior knowledge of the passage to be read. The total accuracy and acceptability sections scored her ability to read a passage correctly. This particular assessment requires the person being tested to read the passage and retell it to the person administering the test and then asks a variety of comprehension questions about the passage. Zoe had the most difficulty with the retelling and the comprehension sections of this assessment.

Upon the completion of the intervention, Zoe was assessed using the same test but different passages. The different passages were used to reduce possible correct comprehension questions simply due to prior knowledge. Her post-test scores were:

<table>
<thead>
<tr>
<th>Readability level</th>
<th>Primer</th>
<th>Primer</th>
<th>1</th>
<th>1</th>
<th>2</th>
<th>2</th>
<th>3</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Passage Type (narrative/expository)</td>
<td>E</td>
<td>N</td>
<td>E</td>
<td>N</td>
<td>E</td>
<td>N</td>
<td>E</td>
<td></td>
</tr>
<tr>
<td>Concepts Familiar/Unfamiliar %</td>
<td>47</td>
<td>65</td>
<td>58</td>
<td>66</td>
<td>60</td>
<td>55</td>
<td>52</td>
<td>58</td>
</tr>
<tr>
<td>Level Total Accuracy %</td>
<td>95</td>
<td>96</td>
<td>98</td>
<td>100</td>
<td>97</td>
<td>98</td>
<td>95</td>
<td>96</td>
</tr>
<tr>
<td>Level Total Acceptability %</td>
<td>96</td>
<td>97</td>
<td>99</td>
<td>100</td>
<td>98</td>
<td>96</td>
<td>97</td>
<td>97</td>
</tr>
<tr>
<td>Retelling % Number of Ideas</td>
<td>75</td>
<td>61</td>
<td>60</td>
<td>60</td>
<td>55</td>
<td>36</td>
<td>29</td>
<td>27</td>
</tr>
<tr>
<td># Explicit questions correct</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td># Implicit questions correct</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Level % Total Comprehension</td>
<td>83</td>
<td>66</td>
<td>83</td>
<td>83</td>
<td>87</td>
<td>62</td>
<td>72</td>
<td>75</td>
</tr>
</tbody>
</table>

Her scores show a definite increase in the post-test from the pre-test. Her levels of total accuracy and acceptability remained pretty stable across both assessments. The changes are seen in the retelling scores, the explicit and implicit questions, and in her level of total comprehension. Her retelling scores, when compared, are reflected here:

<table>
<thead>
<tr>
<th>Retelling Scores Pre-Test</th>
<th>Primer Narr.</th>
<th>Primer</th>
<th>1N</th>
<th>1E</th>
<th>2N</th>
<th>2E</th>
<th>3N</th>
<th>3E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retelling Scores Post Test</td>
<td>75</td>
<td>61</td>
<td>60</td>
<td>60</td>
<td>55</td>
<td>36</td>
<td>29</td>
<td>27</td>
</tr>
</tbody>
</table>

Side by side, in the post-test she scored higher in all measures of retelling. The scores decrease as the passage difficulty increases, however, she remained consistently higher in the post-test scores.
In addition to higher retelling scores, Zoe also scored higher in her comprehension measures. Much like the retelling scores, her scores decreased as the difficulty level of the passage increased. However, in all but one passage, the level one expository, her comprehension score was higher than in the pre-test.

<table>
<thead>
<tr>
<th></th>
<th>Primer Nar.</th>
<th>Primer E.</th>
<th>1N</th>
<th>1E</th>
<th>2N</th>
<th>2E</th>
<th>3N</th>
<th>3E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comprehension Pre-Test Scores</td>
<td>50</td>
<td>67</td>
<td>67</td>
<td>83</td>
<td>62</td>
<td>33</td>
<td>37</td>
<td>50</td>
</tr>
<tr>
<td>Comprehension Post Test Scores</td>
<td>83</td>
<td>66</td>
<td>83</td>
<td>83</td>
<td>87</td>
<td>62</td>
<td>72</td>
<td>75</td>
</tr>
</tbody>
</table>

The explicit comprehension questions asked specific questions about events in the passages. For example, in a passage about whales the explicit question was ‘where on a whale’s body is the fin?’ Consistently, Zoe scored higher on the explicit questions than she did on the pre-test, with
the exception being the level one expository passage. Her score decreased by one point in that particular measure.

| Explicit Comprehension Pre-T | 2 | 1 | 3 | 3 | 3 | 0 | 2 | 2 |
| Explicit Comprehension Post  | 3 | 2 | 2 | 4 | 4 | 3 | 3 | 3 |

The final assessment measure was a collection of implicit questions. At the end of each passage the person being tested is asked a series of questions that require a person to share indirect knowledge gleaned from the passage. For example, one passage wrote about a tornado moving a house and the implicit question wanted to know how the reader knew that a tornado could move a car. While Zoe had a hard time answering these questions, she showed improvement in half of the post-test scores. She scored lower in the primer expository passage, the level one expository passage, and the same in the level two expository passage.

<table>
<thead>
<tr>
<th>Implicit Comprehension Pre-T</th>
<th>Primer Nar.</th>
<th>Primer 1N</th>
<th>Primer 1E</th>
<th>Primer 2N</th>
<th>Primer 2E</th>
<th>Primer 3N</th>
<th>Primer 3E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Implicit Comprehension Post</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

![Bar chart showing comprehension scores for different passages and test times.](chart.png)
Findings

The results of the assessments suggest that the use of graphic organizers during a literacy intervention is effective. The student increased all of her scores on the criterion referenced test, which suggests that she was able to retain the content information. Her ability to retell a story increased in all measures, with the exception of one measure in which she scored the same. Her scores on the explicit questions were higher on all measures except the level one expository passage; in that one she scored one point less than on the pre-test. The implicit questions were more difficult for Zoe. She scored lower on the post-test in the primer expository passage and the level one expository passage and scored the same on the level two expository passage. A similar result was seen with the overall comprehension measure. She scored higher in all measures with the exception of the primer expository passage, in which she scored one percent lower. The narrative measures all showed gains in scores, while the expository passages showed fluctuations in score.

Summary

The research undertaken in this intervention spanned across fourteen sessions. The goal of the intervention was to improve the literacy skills of a young lady with an intellectual disability and a speech and language impairment. Furthermore the intervention examined the effectiveness of graphic organizer usage with students in this population. The researcher and the participant were able to work together to create organizers that utilized the strengths of the student while providing opportunities for learning. After the intervention, Zoe continued to
struggle with expository text, however, her overall ability to retell the information and to read with accuracy showed positive results. The findings suggest that further research into this topic is warranted.

The next chapter will incorporate the previous chapters of this case study. The reviews of supporting literature and the procedures will be discussed. A discussion will ensue with the final review of the participant and the intervention itself. Chapter five will integrate the study in its entirety.
Chapter Five
Introduction

Graphic organizers are tools that are widely used in education. It is, by definition, a visual communication tool that uses symbols to express ideas and concepts. It is used to facilitate learning and instruction. Sometimes they are referred to as story maps, concept maps, concepts organizers or even advance organizers. Whatever the name, the theory is the same. Research has shown that providing visual references to a student should assist in instruction. This case study researched the effectiveness of graphic organizers as educational tools for students with intellectual disabilities and speech impairments.

Twelve research studies were covered earlier in this case study. Those research studies provided a strong basis on which the current study was built. Existing research detailed the appropriate teaching strategies and implications for teaching students with disabilities and for graphic organizer use. The intervention was created using the current research as a guideline, with an emphasis on the specific learning needs of the participant and the associated common core standards. Recommendations for continuing education for the participant will be offered. The case study incorporated a myriad of variables in order to offer a comprehensive literacy intervention and research study.

Existing Research

Chapter two detailed specific research that was directly applicable to this case study. The first set of studies discussed how intervention practices for students with disabilities should be tailored for each student’s specific needs and learning ability. The studies illustrated the importance of an educator’s knowledge of a student’s disability, how it affects their access to instruction, and what tools and techniques to use to best instruct students with disabilities. In the first study presented, Lukin and Estraviz suggested that it is important for educators to recognize a student’s unique learning needs and tailor interventions accordingly (2010). Kirk and Gillon’s study suggested that children with speech and language impairments could see long term benefits from preschool interventions that focus on early phonological awareness and letter-sound knowledge (2007). The research provided by Wellman, Freebairn, Avrich, Hansen, and Stein demonstrated that language skills in students with SLI can be seen as a potential predictor for literacy problems and educators need to be aware of potential difficulties and be prepared to supplement literacy instruction as needed (2011). Anthony, Aghara, Dunkelberger, Anthony, Williams, and Zhang’s study investigated how students with speech and sound disorders exhibit
difficulty accessing phonological knowledge and expressing their existing knowledge base, and concluded that instruction and assessment should be tailored to the individual needs of the child (2011). Finally, Boulware-Gooden, Carreker, Thornhill, and Joshi’s study indicated that students can attain higher levels of understanding and vocabulary when provided with metacognitive strategies during reading instruction (2007). Students with speech and language impairments often struggle with multiple aspects of literacy acquisition and, therefore, it is important for an educator to be aware of potential problem indicators, effective intervention strategies, and a basic knowledge of the needs inherent in a student with speech impairments.

The next section of chapter two presented studies that provided the primary impetus for the current study. The research demonstrated how the use of graphic organizers, as a metacognitive strategy, can impact the interventions and instruction of students. Culbert, Flood, Windler, and Work’s study is centered on the use of graphic organizers in the classroom. Specifically they examined how often they were used and the effectiveness of the usage (1998). The second study, by Griffin, Malone, and Kameenui, exhibits how graphic organizers impact student comprehension, retention, and transference of information (2001). Finally, DiCecco and Gleason (2002) studied the use of graphic organizers with students with learning disabilities. The studies demonstrate a correlation between the use of graphic organizers and the improvement of student comprehension, especially in expository text.

The third section of research behind supporting this case study centered on teaching strategies for students with intellectual disabilities. The studies demonstrated the potential positive results that come from using the correct tools and programs to provide reading instruction for this population of students. For example, Ozmen studied the use of graphic organizers when teaching literacy to intellectually disabled students (2011). Alfassi, Weiss, and Lifshitz studied the effectiveness of reciprocal teaching and literacy instruction of students with intellectual disabilities (2009). Allor, Mathes, Roberts, Cheatham, and Champlin’s study examined how students with low IQs responded to comprehensive reading instruction (2010). Finally, Taylor, Ahlgrim-Delzell, and Flowers studied the perceptions that teachers of students with significant developmental disabilities have when using explicit reading curriculum. All of these studies imply that a comprehensive reading curriculum is necessary for the literacy success of students in this population. Teachers have used many of these same strategies and tools to effectively educate non-disabled students and research is now suggesting that similar strategies,
when adapted accordingly, can be useful in educating students with disabilities as well. The graphic organizer, for example, is a tool used by many teachers.

All of the presented studies provided a background for the current study. Effective instruction of students with speech and language impairments means that specific teaching strategies must be utilized. Students in this population may already struggle with language deficits or have a difficult time reading due to personal pronunciation issues. The instructor should have an understanding of the disability itself as well as a thorough knowledge of the student prior to creating tools or curriculum for instruction. The graphic organizer section demonstrated how the use of graphic organizers can be beneficial to students with disabilities. According to the research, literacy instruction can be enhanced through the use of graphic organizers, specifically in the areas of comprehension, retention, and transference of information, which is exactly the kind of instruction the participant in the case study needed.

Finally, the third section of research literature focused on students with cognitive disabilities. These particular studies were chosen as Zoe, the case study participant, was diagnosed as having a cognitive, or intellectual, disability. The research demonstrated the positive benefits of a comprehensive literacy curriculum, that students in this population are capable of achieving success with reading if provided with the correct tools and the correct instructional strategy. The research also implied that the use of graphic organizers with students with intellectual disabilities can be a beneficial tool to reading instruction.

After having read the supporting research the researcher used those findings to create the intervention. The student presented with a speech and language impairment, an intellectual disability, and a literacy impediment. In addition, the researcher wanted to examine the effects of graphic organizer usage. The research provided a basis for the intervention and, the result a comprehensive literacy instruction created specifically for a student involving the use of graphic organizers.

**Explanation of Results**

The findings from this study strongly indicate a positive connection between the strategic use of graphic organizers in literacy instruction and student achievement. Ozmen’s study focused on student’s with intellectual disabilities and graphic organizer use as a teaching tool (2010). Boulware-Goeden, Carreker, Thornhill, and Joshi’s study on the use of organizers with students with speech and language impairments also showed improvement in student retention levels.
Zoe’s retention, or her ability to remember key aspects of the content, increased across the intervention. She scored significantly higher on the criterion referenced assessment. In addition, her retention was assessed with the standardized reading assessment via a retelling exercise. After the completion of the study, Zoe scored higher in every measure for retelling. Previous research results indicated that the researcher might find similar results and the prediction proved valid.

In addition to retention, previous research from Allor, Mathes, Roberts, Cheatham, and Champlin’s study averred that strategic use of graphic organizers would assist a student with a disability with his or her reading comprehension (2010). The results from this case study uphold that claim. Comprehension measures test the student’s ability to understand and draw meaning from text. In all but one passage, the level one expository, Zoe’s overall comprehension scores were higher than in the pre-test.

The comprehension measures also calculated Zoe’s ability to answer explicit questions about a passage that she read. The explicit section checks her ability to remember ideas that were fully and clearly expressed in the text. Consistently, Zoe scored higher on the explicit questions than she did on the pre-test, with the exception being the level one expository passage. Her score decreased by one point in that particular measure.

Implicit understanding was also measured as a faction of comprehension. The implicit questions measure Zoe’s ability to ascertain implied meaning from text. For example, the statement “Sarah sobbed into her pillow” would imply that Sarah was sad. While Zoe had a hard time answering these questions, she showed improvement in half of the post-test scores. She scored lower in the primer expository passage, the level one expository passage, and at the same level on the level two expository passage.

Current neuropsychological studies suggest insufficient development of the memory function in students with intellectual disabilities, multiple deficits have been identified in short term memory functioning. The ability to repeat back directions or newly learned knowledge as well as the ability to process information appear to be deficient in people with this disability. Due to this impairment of memory abilities, students with intellectual disabilities should demonstrate a reduced ability to preserve information, particularly implicit information (Vicari, S., Albertini, G. & Caltagirone, C., 1992).
Overall, with respect to Zoe’s individual learning needs, she improved significantly and validated the researcher’s hypothesis. She learned the content that was being taught. Her complete comprehension scores were higher in all post-test measures. Contrary to the findings in previous research, Zoe did not demonstrate general increase in scores with expository text. She did score higher on most of the measures, but struggled with levels one and two expository text comprehension, both explicit and implicit. However, she did score higher on all measures of comprehension with narrative passages.

**Strengths and Limitations**

This case study exhibited many positive components. For example, the participant was referred to the researcher as she was having difficulty with her literacy skills. The student was able to benefit from one on one instruction, where the teacher was focused solely on her specific needs and wants. In addition, the participant was provided with a specially tailored comprehensive intervention centered on the common core standards and the special education laws set forth in IDEA.

The intervention focused on fifth grade common core standards in language, fluency, and key ideas and details. The language standard was L.5.4 “determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade five reading and content, choosing flexibly from a range of strategies” and “use context as a clue to the meaning of a word or phrase”. The fluency standard was RF.5.4 “read with sufficient accuracy and fluency to support comprehension” and “use context to confirm or self-correct word recognition and understanding, rereading as necessary”. Finally, key ideas and details were specifically created to meet standard RI.5.1, which reads “quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.” Also addressing key ideas and details is standard RI.5.3 “explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text based on specific information in the text” (Common Core State Standards Initiative, 2012). Due to the integration of the state standards, the intervention was research based, and academically centered.

The law requires that students with disabilities be treated without discrimination and receive a free and appropriate education. In Zoe’s case, the staff at her school met and created an individualized education plan (IEP) for her. That IEP required that she be provided with adapted
instruction, created so that she would be best able to access the information. The methodology and the tools used were both specially designed to meet her unique needs, yet to maintain academic rigor and work towards an age appropriate state standard.

Despite the various strengths of this intervention, the research itself has numerous weak points. The researcher and the participant only met a total of fourteen times for sixty minutes a session. Within that time frame pre and post tests were also administered. The time frame was simply not long enough to create a lasting or substantial difference in the student’s skill set. In addition, with only one student researched, the data is not statistically significant. More research must be compiled in order to prove or disprove the research question. Finally, while every effort was made to create an intervention specifically tailored to the participant, there was no history with the student. The researcher did not know Zoe prior to the onset of the sessions. Zoe’s IEP had been read, discussions had been held with her parents, and the researcher had prior experience working with students with similar disabilities; however, Zoe’s personal preferences and learning styles were difficult to initially ascertain.

As a result, the researcher acknowledges the positive and negative aspects of this case study. The manner of the intervention, the content, and the adherence to the law were all beneficial to the student and the research. However, the small sample size, the lack of long term investment, and the absence of a preexisting relationship with the participant detract from the validity of the study.

**Student Recommendations**

The results of the study indicate potential for this type of instruction with Zoe. The researcher recommends that the school continue with small group or one on one instruction in literacy. Graphic organizer usage appeared to assist Zoe in comprehension and retention of information. However, it is recommended that Zoe’s particular learning needs and styles be taken into account when creating the organizer. A good mixture of concrete examples and text-to-self connections seem to work well. Further work in extrapolating implicit meaning from text would be beneficial to Zoe as she continues in her academic career.

The existing research strongly indicates that a comprehensive curriculum is the most effective for students with intellectual disabilities. Since Zoe was diagnosed as such, it may benefit her to be provided access to an all-inclusive literacy curriculum. The common core standards provide a wide range of skills and essential requirements for literacy success and the
researcher would suggest utilizing a curriculum that incorporates all of the grade level standards while strengthening her ability to utilize the instruction by supporting instruction with graphic organizers.

Students are most successful when provided with support at home as well as at school. I would highly recommend that Zoe’s family continue to read with her every night. Fluency and vocabulary will both expand with exposure and practice. Her parents should read out loud with her to encourage her to take the risks of reading and then discuss the content of the text. She wants to be noticed as smart and capable, praise her efforts!

Parents and school can both build a positive relationship with literacy for Zoe. Obtaining knowledge from the written word doesn’t always have to be work. She is a fun young lady, encourage her to read and write. Create interactive lessons that are standards based and fashioned with her unique learning needs in mind. Reading and writing are important for success in today’s world, if Zoe is taught the skills to be able to accurately access the written word, she will be in a far better position to be successful throughout her life.

Conclusion

This case study examined the effects of graphic organizer usage with students who have speech and language impairments and intellectual disabilities. The case study was implemented in the form of a literacy intervention with a young lady who just finished the fifth grade in an urban elementary school. The intervention was fashioned using current research on the particular disabilities in question and on graphic organizer usage. In addition, the intervention was based on the common core standards and implemented with respect to the laws surrounding special education in our state.

The resulting data supported the researcher’s hypothesis. The findings suggest that graphic organizers are effective tools for students with disabilities. The participant showed improvement in retention of content and in overall comprehension. Extrapolating implicit information from a text continued to prove difficult for her, however, additional research suggests that the difficulty may stem from the participant’s intellectual disability.

In conclusion the researcher provided practical steps that may assist the participant in continuing her literacy success. A comprehensive, standards based literacy curriculum may prove to be an essential tool. In addition, small group sizes during instruction and strategically
created graphic organizers might be helpful. Finally, her family can solidify Zoe’s success by providing her with practice, praise, and continued exposure to print.
References


Berndt, S., Burmaster, E. (2002). *Cognitive disability evaluation and decision-making guide*. Wisconsin Department of Public Instruction. Madison, WI.


http://dpi.wi.gov/oea/wkce.html


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


Wisconsin Department of Public Instruction. (2011). *Common core state standards for literacy in all subjects*. Wisconsin Department of Public Instruction. Madison, WI.


Index
Example of Visual Representations Given for Second Version of Vocabulary Graphic Organizer

A SHELTER is a place people live.  
A SHELTER is a place where people drop off their garbage. 
A SHELTER is a place where people go to learn.  
A SHELTER is a place to go exercise.
Picture of Completed Graphic Organizer Display
<table>
<thead>
<tr>
<th>SESSION</th>
<th>INSTRUCTIONAL PLAN</th>
<th>SPECIFIC OBSERVATIONS FROM LESSON</th>
<th>CONCERNS/CHANGES WARRANTED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tuesday</td>
<td>Pre-Assessment</td>
<td>Lots of smiles and laughs, a little nervous at first, but as we got working she felt more and more comfortable. She was a little “fidgety” during the entire hour. Z. presented as clean and well dressed, she adjusted quickly to being surprised with a pull-out from the classroom. She thought it was “cool” to be paired with a high school teacher. Z. displayed a high desire to please the researcher during the entire time frame. She was able to read well, struggled with comprehension and retention of information. Being thought of as smart is very important to her and she repeatedly asked me if I thought she was smart and, if so, how smart. Z. struggled with the idea of pretend when asked to create a fictitious name for this research project.</td>
<td>Z. shows a large discrepancy in her reading fluency and her reading comprehension. She is able to read many words well, however, she is unable to retell a story or remember many details for answering comprehension questions.</td>
</tr>
<tr>
<td>July 3, 2012</td>
<td>Administer criterion referenced test and QRI-5</td>
<td></td>
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<tr>
<td>Thursday</td>
<td></td>
<td></td>
<td>Same findings as Tuesday.</td>
</tr>
<tr>
<td>July 5, 2012</td>
<td>Administer QRI-5</td>
<td>Now that Zoe knows what is expected of her, she breezed through the remainder of the tests. She kept asking if I thought she was smart and what her grade was.</td>
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<tr>
<td>Monday</td>
<td>1. Complete QRI-5</td>
<td>Today we finished the one level two reading for the QRI-5 and the two level three readings. Clearly the level three is a frustrational level for Z. She got very silly, laughing and giggling, tipping the tables, standing up, and falling on the floor. She responded well to gentle redirection and to being given a clear outline of events. (i.e. we only have three more questions to go and then we’ll be done, etc). Finishing the assessment took thirty five minutes of our allotted hour. We did take a quick break and walked to the water fountain just to give her a couple minutes to de-stress and refocus. Returning to the lesson, she and I looked at some of the graphic organizers that we will be using. We discussed how to use them and why using them can be helpful. We were able to begin working on the first vocabulary</td>
<td>Z. focuses strongly on word identification and loses comprehension. My hope is, as we begin the reading and using the GOs, that she will be able to focus more on what the text is conveying versus what each word is. She seems to be goal oriented, I will be creating an incentive chart for her to start working with tomorrow. Perhaps having visual cues will help her access the information needed.</td>
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<tr>
<td>July 9, 2012</td>
<td>2. Instruct on use of graphic organizers</td>
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<td></td>
<td>3. Daily vocabulary (history and settler)</td>
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<td>4. Begin unit one, reading pp. 142-146 of textbook, while completing accompanying G.O.</td>
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<td>5. Write short summary using G.O.’s as guides</td>
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<tr>
<td>Date</td>
<td>Activity</td>
<td>Issues</td>
<td>Notes</td>
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<td>--------------------------------------------------------------------------</td>
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<tr>
<td>Tuesday, July 10, 2012</td>
<td>1. Review yesterday’s information</td>
<td>Frustrated student today. The vocabulary graphic organizer requires her to think of three synonyms and three antonyms and a word that will remind her of the vocabulary word. She is really struggling with all the independent creation of ideas. In addition, the KWL chart is a lot of writing and the combination of GOs is too much?</td>
<td>Zoe is frustrated today by the graphic organizers, they are too open-ended. She requires concrete examples and clear expectations in order for her to be successful. I will change the organizer and add pictures versus making her think of words to add as synonyms and antonyms.</td>
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<td>2. Introduce KWL and do first section (what we already know) and do together, explain that a KWL chart is a way of predicting, summarizing, and expanding lessons</td>
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<td>3. Introduce vocabulary graphic organizer</td>
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<td>4. Read daily text and complete the “W” section of KWL (what we learned) and the vocabulary organizers</td>
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<td>5. Complete the “L” of the KWL (what we would like to know more about)</td>
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<td>6. Summarize in a paragraph the information covered today.</td>
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<tr>
<td>Wednesday, July 11, 2012</td>
<td>1. Review graphic organizers from yesterday</td>
<td>Great mood, went over yesterday’s GO’s. She retained the information from the pictoral GO’s for vocabulary. Zoe really enjoys cutting and gluing the pictures. She cannot pronounce the word “settler” which is making the word very frustrating for her. Responds great to cloze questions, and close-ended questions for comprehension. Used look backs consistently. Zoe could not independently create ideas about what she might like to learn about. She becomes very agitated when asked to create original thoughts.</td>
<td>Graphic organizer went much better. I still need to tweak it a little, provide avenues for her to think independently, yet remain concrete and usable for her. The KWL might be too much as well. Maybe I will remove the third section.</td>
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<td>2. Predict today’s text, make connections to yesterday’s text.</td>
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<td>3. Begin KWL chart and introduce vocabulary graphic organizers</td>
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<td></td>
<td>4. Read text, complete middle of KWL and 2 vocabulary organizers</td>
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<td></td>
<td>5. Finish KWL</td>
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<td>6. Summarize in a paragraph what was learned about today.</td>
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<td>Thursday, July 12, 2012</td>
<td>1. Review of yesterday’s information and graphic organizers</td>
<td>Today we used the graphic organizers to connect text to self. The concept was difficult for her at first. However, the web graphic organizer was able to facilitate her awareness beyond the reading. She was excited to know that “this included (our city) too!” She continues to enjoy and retain information from graphic organizers with the pictures versus text based. She struggles to remember the text based graphic organizer information. She has a difficult time creating original thought, can copy from text but is unable to independently summarize information in writing.</td>
<td>I need to find more ways to make the text applicable to her daily life. She was excited to match the text to self.</td>
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<tr>
<td></td>
<td>2. Read daily text</td>
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<td></td>
<td>3. Complete “web” graphic organizer</td>
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<tr>
<td></td>
<td>4. Vocabulary graphic organizers</td>
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<td></td>
<td>5. Review discussion</td>
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<td></td>
<td>6. Summarize in paragraph</td>
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<tr>
<td>Monday, July 16, 2012</td>
<td>1. Review information from last week</td>
<td>Returned to KWL chart after every paragraph. The word ‘lawmaker’ was difficult for her to pronounce and she became very frustrated at that point. She</td>
<td>Antonyms and synonyms are words too high for her new graphic organizer. However, ‘related words’ might be more appropriate versus</td>
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<td></td>
<td>2. Introduce new graphic organizer and KWL chart</td>
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<td>3. Read first paragraph, filled out</td>
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<tr>
<td>Day</td>
<td>1.</td>
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<td>3.</td>
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<tr>
<td>Tuesday</td>
<td>Review yesterday’s lesson</td>
<td>Read p. 152 and compile first graphic organizer</td>
<td>Complete vocabulary graphic organizer for the remainder of the text</td>
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<td>July 17, 2012</td>
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<tr>
<td>Wednesday</td>
<td>Review all previous lessons</td>
<td>Read about important people in American history</td>
<td>Unit Review test</td>
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<td>July 18, 2012</td>
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<tr>
<td>Thursday</td>
<td>Review of yesterday, discuss what worked/didn’t work</td>
<td>KWL chart for today’s reading</td>
<td>Read pages 192-193 and complete vocabulary graphic organizer</td>
</tr>
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<td>July 19, 2012</td>
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</tbody>
</table>
Lisa Brazelton

<table>
<thead>
<tr>
<th>Date</th>
<th>Activity Description</th>
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<tbody>
<tr>
<td><strong>Monday</strong></td>
<td><strong>July 23, 2012</strong></td>
</tr>
<tr>
<td></td>
<td>1. Review last week’s lessons through the completed graphic organizers.</td>
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<tr>
<td></td>
<td>2. KWL</td>
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<td></td>
<td>3. Daily reading</td>
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<tr>
<td></td>
<td>4. Vocabulary graphic organizer</td>
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<td></td>
<td>Reviewed last week’s lessons through the completed graphic organizers. “K” of the KWL, what do we already know about American government. She continues to use the completed graphic organizers for look backs and spell checks. She is concerned that she writes too big. When she thinks that she may be coming up to a task that may be too difficult she starts to make lots of noises and gets fidgety. She wants to learn cursive writing. Today we focused on learning how to find word meaning in text context. She refused to write in sentence form, instead jotted down connected words for her summary.</td>
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<tr>
<td></td>
<td>She is easily distracted when she sees me writing. Different graphic organizers are overwhelming as she focuses on learning the organizer versus the content. We tried drawing pictures today on the organizer instead of cutting out pictures, and she liked the activity but struggled to come up with ideas to draw that would signify her vocabulary words. Today she got very frazzled with all the new words. Readibility was a little too high for her, might want to adapt text.</td>
</tr>
<tr>
<td><strong>Tuesday</strong></td>
<td><strong>July 24, 2012</strong></td>
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<tr>
<td></td>
<td>1. Review of yesterday’s information</td>
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<tr>
<td></td>
<td>2. Make predictions about upcoming lesson</td>
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<td>3. Read daily lesson p. 198-201</td>
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<td></td>
<td>4. Complete daily graphic organizers</td>
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<td>5. Write summary of the day’s information in paragraph form.</td>
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<td></td>
<td>Zoe came in angry and not wanting to work. She laid on the floor and complained of being tired. After a discussion, it became clear that she is angry and scared because her mother got a job in Chicago and they may have to move. We found WI on a map, discussed how reading can give us information about our lives and the area around us. As we continued to read she found words that she had learned during the intervention and we discussed how the words we learned helped us build our understanding of more difficult text.</td>
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<tr>
<td><strong>Wednesday</strong></td>
<td><strong>July 25, 2012</strong></td>
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<td></td>
<td>Post testing with QRI-5 and criterion referenced assessment</td>
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<td>Zoe is fussy today. Says she is tired. However, with lots of verbal prompting she did complete the CRA and begin the QRI.</td>
</tr>
<tr>
<td><strong>Thursday</strong></td>
<td><strong>July 26</strong></td>
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<tr>
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<td>Post testing with QRI-5</td>
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<td>Today is our last day; I will miss working with her as she is a delightful kid. She is really doing well on the QRI and I am interested in scoring these and verifying if I truly am seeing the improvement that I think I am.</td>
</tr>
</tbody>
</table>
Summary
Lesson 2  P. 148-152
We Remember The Past
I remember in the past, I
learn about the people I
don't know there names,
They make newspapers and make
a circle or wood to play.

First Summary Written
I learn about the city called San Diego and they showed in the book the pictures and they wrote about Mexico and San Diego too at page 158 159. They showed the houses, and on page 158 they showed a picture with a little of houses and on 159 they showed a lot of houses but on page 157 they showed a lot of the blinding and stuff like that and will love to read more about long time ago.

Final Summary Written
**First KWL Chart**

**BEFORE reading:**
- What predictions can you make at this point?
- Is this text fiction or non-fiction? How do you know?
- What do you already know about this topic?
- What questions do you have right now?

- Indians are important to America's history.
- Pilgrims taught the Indians how to build houses.

**DURING reading:**
- What has happened so far?
- What are you wondering now?
- Can you summarize what has happened?
- What is the most important idea so far?
- What new facts have you discovered?

- I knew that Pilgrims taught the Indians how to build houses. I also knew that they made clothes.

**AFTER reading:**
- Were any of your predictions correct?
- What were the main ideas or themes of this text?
- What connections did you make while reading?
- What are you still wondering about?
- Will you recommend this text to someone else?

- I really liked learning about the Pilgrims and the Indians.
- The story was about the Indians and Pilgrims.
**Subject:** American Leadership

<table>
<thead>
<tr>
<th>Prior knowledge about</th>
<th>New knowledge about</th>
</tr>
</thead>
<tbody>
<tr>
<td>Police officer</td>
<td>I learn about the capital that is Washington D.C.</td>
</tr>
<tr>
<td>President</td>
<td>presidents that live in the Capitol and when did they build the White House.</td>
</tr>
<tr>
<td>He lives in a White House</td>
<td>I learn that lawmakers make laws, they work as a group to work in the Capitol.</td>
</tr>
<tr>
<td>Obama</td>
<td></td>
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<tr>
<td>Martin Luther King</td>
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</tr>
<tr>
<td>All boys</td>
<td></td>
</tr>
<tr>
<td>A lot of people make law.</td>
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</tbody>
</table>
Word Web, Text-to-Self Graphic Organizer

- Turn CRT
- Park
- Landmark in Milwaukee
- Food town
- Gas station
- Wallgreens
First Vocabulary Graphic Organizer

**VOCABULARY WORD MAP**

**DEFINITION of SYNONYMS**
Are people who make laws of our country.

**VOCABULARY WORD**
Lawmakers

**WRITE A SENTENCE USING IT MEANINGFULLY**
The lawmakers make the law.

**DRAW a PICTURE of IT**
Second Vocabulary Graphic Organizer

What is it?

Definition: past

Examples
- First people came to live in America.
- Soldiers went to war.
- My brothers were born.

Non-Examples
- School
- Park
- Graduate high school

I will probably find this word: Museum
I will remember this word by connecting it: past

Context
Word-to-Self Connection
Third Vocabulary Graphic Organizer

(notice the inclusion of pictures)
Web Style Graphic Organizer

Word
Congress

Synonym(s)

Used in a Sentence
The Congress is like a group that work and build.

Definition(s)
Is the group of lawmakers who work in the Capitol building.
word
President

definition
Is the leader of the United States.

picture

sentence
The president tells a speech to people in the world or the other presidents.

synonym
Leader

antonym
people

suffixes
presidency

part of speech
Noun

related words
United States
Word: Government

Definition: People who make laws and lead our country.

Use the word in a sentence: The people lead the country and be in charge of people that is a president.
Seventh, and Most Successful, Vocabulary Graphic Organizer

Word: Vote

Definition: To choose

Examples:

Ex. 1: Voting box

Ex. 2: Ballot

Ex. 3: Yes/No

Use the word in a sentence: I vote for something like cookies, chocolate, and cinnamon.