TEACHING SOCIAL STUDIES CONTENT TO STUDENTS WITH AUTISM USING A GRAPHIC ORGANIZER INTERVENTION

by

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ABSTRACT

TRACIE-LYNN ZAKAS. Teaching social studies content to students with autism using a graphic organizer intervention. (Under the direction of DR. DIANE BROWDER)

The National Council for the Social Studies (NCSS) emphasizes the teaching of social studies to provide students with information, critical thinking skills, and experiences to allow them to grow into responsible and effective citizens. In the past more attention was given to creating central standards in the area of social studies (National Curriculum Standards for Social Studies, 2010). There has been very little research in academic skill acquisition for students with developmental disabilities (Browder et al., 2006). There were no studies found that addressed social studies instruction for student with developmental disabilities. One of the barriers to teaching social studies to students without and with disabilities is students' ability to read and understand written expository text. This current study investigated the use of specific vocabulary of social studies instruction to teach middle school students with autism to use a modified graphic organizer procedure to promote improved expository text comprehension in social studies topic area of United States History. Three students were instructed to use a modified graphic organizer intervention to answer nine items from self-read history passages. Results indicated that each of the three students increased their ability to independently respond to the nine items on the graphic organizer.

DEDICATION

I dedicate this dissertation to the three most important people in my life. First, to my mother, Delores Anderson: You were my first teacher. Your love of knowledge inspired me and taught me to believe in myself. Next, to my son, Maxwell Glen: Your sense of humor and willingness to pick up the slack helped carry me through these years. Finally, to my husband, Richard Zakas: Thank you for selflessly allowing me the time to compete this dream. Your patience has been inspiring. I am most grateful to you and for you.

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CHAPTER 1: INTRODUCTION

The National Council for the Social Studies (NCSS) emphasizes the teaching of social studies to provide students with information, critical thinking skills, and experiences to allow them to grow into responsible and effective citizens. Within the American education system, the current federal policy requires that schools are accountable for teaching and assessing the content areas of reading, mathematics, and science (No Child Left Behind, 2002). Social studies is another content area that while not federally mandated is included in most state and local curricula.

In the past three decades, there has been more attention given to creating central standards in the area of social studies (National Curriculum Standards for Social Studies, 2010). Several organizations have worked through the Education Commission of the States and with the Interstate New Teacher Assessment and Support Consortium (INTASC) to draft examples of the ways that individual states can apply the principles into specific subjects to create rigorous standards that any teacher would need to know in order to teach social studies. The nature of social studies, as defined by the National Council for the Social Studies (NCSS) in 1995, is viewed as a broad interdisciplinary field of standards integrating separate disciplines, such as history, geography and the social sciences. Unlike the math standards that were developed as inter-connected steps to teach broader concepts social studies standards were developed by the NCSS to be learned without depending upon gaining proficiency in one area prior to attempting

knowledge in another (NSSS, 2010). Each of the content standards is under the umbrella of social studies.

According to Parker (2010), throughout the United States, social studies is often thought of in one of two ways. The first is as a series of "social science" courses (e.g. history, geography, psychology) and the term social studies serves as an amalgamation these courses. Another way to view social studies is as less of a series of disciplinary standards and as more of a "social education," meaning that students are taught the content to become more enlightened citizens, for a higher civic purpose (Parker, 2010). The second philosophical approach pairs neatly with the concept of historical thinking, a method of teaching students to think critically about history and historical events (Wineburg, 2001).

Overall, there has been very little research in academic skill acquisition for students with severe disabilities. In a comprehensive literature review for students with autism and significant intellectual disability, a review of 128 experimental reading studies was compiled by Browder, Wakeman, Spooner, Ahlgrim-Delzell, and Algozzine (2006). They found that most of the studies focused on sight word acquisition, fluency, and picture identification. Only 13 studies focused on reading comprehension from an academic perspective and none of the studies investigated expository text comprehension for students with autism and significant intellectual disability. In a meta-analysis that focused on teaching math to students with severe disabilities, the authors found that most of the studies focused on numbers and operations (n= 37) and measurement (n=36) with the majority of studies focused on teaching money skills to students with significant cognitive disabilities (Browder, Spooner, Ahlgrim-Delzell, Harris, & Wakeman, 2008).

Only 11 studies were found that explored the area of science and most of these did not focus on science knowledge acquisition, but on sight word acquisition and systematic response prompts (Courtade, Spooner, & Browder, 2007). More recently, Spooner, Knight, Browder, Jimenez, and DiBiase (in press) found that in 17 studies, 14 studies were determined to be high quality and that systematic instruction frequently used as an evidence-based practice. There is only one study that has addressed social studies for students with autism. In this study, students with and without autism used cooperative learning groups to learn key words and facts for social studies (Dugan et al., 1995). There were no studies found that addressed social studies instruction for student with severe disabilities. The deficit of published research in the area of social studies and students with severe disabilities gives justification for study in this area. As more is learned about the learning processes of students with severe disabilities and autism, educators can use these strategies and methods to teach the content of social studies to this student population. Prior learning in the field of severe disabilities can strengthen and encourage future education for students with intellectual disability and autism.

According to the NCSS in the past, social studies education was often associated with memorizing locations on a map or historical dates. While developed in 1992 and published in 1994 in the *Expectations of Excellence: Curriculum Standards for Social Studies* by the NCSS, the council still uses this as the operational definition of social studies:

> the integrated study of the social sciences and humanities to promote civic competence. Within the school program, social studies provides coordinated, systematic study drawing upon such disciplines as anthropology, archeology,

> economics, geography, history, law, philosophy, political science, psychology, religion, and sociology, as well as appropriate content from the humanities, mathematic, and natural sciences. The primary purpose of social studies is to help young people make informed and reasoned decisions for the public good as citizens of a culturally diverse, democratic society in an interdependent world. (National Council for the Social Studies, http://www.socialstudies.org/standards/introduction , downloaded on October 16, 2010).

The National Council for the Social Studies has named 10 themes that address the instruction of social studies. These include culture; time, continuity, and change; people, places, and environments; individual development and identity; individuals, groups, and institutions; power, authority, and governance; production, distribution, and consumption; science, technology, and society; global connections; and civic ideals and practices. Throughout the instruction of social studies, these ten themes are addressed by teachers in the five disciplinary standards.

There are five disciplinary standards identified to complete a social studies curriculum: history, geography, civics and government, economics, and psychology. (NCSS, 2002). *History* is defined as the study of the past that allows students to comprehend the time and location of specific events. History supports student learning in utilizing chronological thinking so they can distinguish past, present, and future, and allows students to define the history of their nation and world. History is commonly taught to students at all grade levels. The following strategies are often used to teach social studies: the use of timelines and other graphic organizers; use of visual, literary, or

musical resources; and reconstruction of literal historical passages. *Geography* is described as the development of spatial contexts of people, places, and environments. Within the context of geography, students learn about the Earth's physical and human systems. Geography is commonly instructed using maps and geographical representations. Another familiar strand in social studies is *civics and government*. The central theme of civics and government and students learn to be informed and responsible participants in politics, and to be competent citizens committed to the furtherance of American constitutional democracy. This is often instructed by teaching relationships between individuals and their government by using analogies of authority from families, schools, communities, and larger political systems. During *economics* students learn the basic principles of satisfying their wants and needs through the practice of supply and demand. This is taught by creating economic situations that focus on resources, wants and needs, supply and demand, goods and services, and opportunities. Finally, *psychology* is the study of human behavior that address thinking, learning, memory, development, personality, and behavior. This topic area is typically addressed only in high school and college level classes by providing opportunities for students to comprehend and apply specific concepts and theories that relate to individual and group behaviors.

While there is some research on social studies for students with mild disabilities, as noted earlier, there is only one study for students with severe disabilities (Dugan et al. 2005). Browder, Wakeman, Flowers, Rickelman, Pugalee, and Karvonen (2007) enumerated four strong reasons to teach academic content to this population of students. The first is to construct educational opportunities to create competent adults. A second

reason is to promote the educational expectations for students with severe disabilities that has increased in the past two decades. The third reason is to enhance educational equality. Finally, teaching this population academics increases their opportunities for self-determination. These reasons also are applicable to the area of social studies. Teaching social studies helps *all* students develop the ability to make informed and reasoned decisions for the public good as citizens of a culturally diverse, democratic society in an interdependent world.

One of the barriers to teaching social studies to students without and with disabilities is students' ability to read and understand written narrative and expository text, also referred to as text comprehension. Garjria, Jitendra, Sood, and Sacks (2007) in a comprehensive literature review on text comprehension found there are several strategies in the literature that expand on ways to assist students in gaining comprehension of content knowledge. Some skills include story-mapping strategies, with and without the use of graphic organizers and study guides. Others include using adapted text with and without embedded graphic, pictures and photographs and having students apply mnemonic strategies to assist in fact retention. Some of these approaches that have been used to teach expository- based reading comprehension to students. While all of the listed methods showed strong promise, graphic organizers have been found to produce the greatest effect sizes on comprehension of expository text for students with learning disabilities (Garjria et al., 2007). Using graphic organizers can decrease the intellectual demands on students by reducing the amount of semantic information that the learner will have to process (Ellis, 1994).

Graphic organizers are organizational tools that utilize visual and spatial displays that facilitate the comprehension of text through “the use of lines, arrows, and a spatial arrangement that describe text content, structure, and key conceptual relationships” (Darch & Eaves, 1986, p. 310). Historically, graphic organizers, originally known as advanced organizers were developed to provide a way for teachers to increase the skills of their students when engaging in cognitive tasks by using visual-spatial formats to organize the information gleaned from text (Griffin, Malone, & Kameenui, 1995). These formats may include hierarchies, flow charts, picture charts, or web-based maps. In a comprehensive review of research literature on the use of graphic organizers for comprehension of expository and narrative text by students with mild disabilities, Kim, Vaughn, Wanzek, and Wei (2004) found 21 studies that employed cognitive maps, semantic organizers, and framed outlines. They found that overall graphic organizers did promote the comprehension of expository content for the students in the varying studies, despite three studies results with contradictory results. The graphic organizers that provided the greatest supports to students were semantic organizers and cognitive maps with and without mnemonics. This literature review did not include students with severe disabilities.

For students with severe disabilities, other strategies may be needed to prepare students to use the graphic organizer. Students may need to systematically learn the "language of social studies." When this process is followed in the curricular area of English-language arts, it is commonly called story-grammar instruction. Story grammar instruction is defined as "an attempt to construct a set of rules that can generate a structure for any story" (Rayner & Pollatsek, 1989). Terms commonly used for story-

grammar, especially in its simplest form are characters, setting, plot, resolution, and theme. Story-grammar can vary depending on the scope or theme of the story being read (Dymock, 2007). It is imperative that students can identify, understand, and relate the different components of story grammar, or content-specific common vocabulary, to comprehend the passage's meaning. Boulineau, Fore, Hagen-Burke, and Burke (2004) found that students with learning disabilities who used the story-grammar strategy to complete a story map showed marked improvement in text comprehension, and these skills were maintained. Additional studies support the concept of teaching story-grammar to students with and without disabilities to improve the comprehension of expository and narrative text (Fagella-Luby, Schumaker, & Deshler, 2008; Westerveld, & Gillon, 2008; Xin, Wiles, & Lin, 2008) in a variety of curricular areas, including math. Once again, no research exists in the area of story grammar acquisition for students with severe disabilities.

Students with moderate to severe developmental disabilities including autism may not comprehend the expository text that is commonly used in social studies. Although comprehension has been found to be especially challenging for students with autism, there are surprisingly few studies focused on how to teach this component of reading. In a comprehensive literature review focusing specifically on reading comprehension and students with autism, Chiang and Lin (2007) found that the majority of articles reviewed focused on sight word comprehension. Only four of the 11 studies reviewed in this article addressed text comprehension (Kamps, Barbetta, Leonard, & Delquadri, 1994; Kamps, Leonard, Potucek, & Garrison-Harrell, 1995; Kamps, Locke, Delquadri, & Hall, 1989; O’Connor & Klein, 2004).

While there is a wide selection of studies that investigate the use of graphic organizers to teach academic content, concepts, and information to students who are considered typically developing, and studies that address the use of graphic organizers for students with mild disabilities, specifically students with specific learning disabilities (Garjria et al., 2007), there are a lack of studies that address the instruction of social studies to students with severe intellectual disability and autism. Although there have been no studies using graphic organizers with students with autism or severe developmental delays and expository text, there have been applications to other types of skills.

In contrast, to apply graphic organizer strategies to students with significant intellectual disability or autism, some changes in procedures may be needed. The amount of text presented and writing required may need to be reduced. Questions on the graphic organizer activity sheet may be presented with the use of picture-symbols coupled with text, instead of text only. Specific, salient vocabulary will need to be explicitly instructed using systematic and direct instruction approaches.

The purpose of this study is to investigate the use of specific vocabulary of social studies instruction to teach middle school students with severe developmental disabilities to use a modified graphic organizer procedure to promote improved expository text comprehension in social studies topic area of United States History. The goal of this study is to impart authentic history curriculum by following four criteria described by Browder et al. (2007): (a) ensuring academic content; (b) using the student's assigned grade level as the point of reference; (c) working with curriculum experts to guarantee that the achievement level is linked to the grade-level content standards, though the

content may differ in breadth or depth; and (d) allowing for differentiation in achievement across grade levels or grade bands. This study will address the following research questions:

1. What effect does graphic organizer instruction have on the comprehension of students with autism of adapted text in the area of US History?
2. What is the effect of graphic organizer instruction on students' comprehension of untrained expository social studies text?

This study will contribute to existing studies in social studies and graphic organizers and may be the first of its kind to address the use of graphic organizers with students with a developmental disability. This may also be the first study that addresses social studies, particularly content instruction in the curricular area of history, to students with severe disabilities. Quality research in the area of general curriculum access will add to the growing body of studies that address academic instruction with students with severe disabilities, but may also create a foundation for future research in the instruction of social studies for this population of students.

Delimitations

This study will demonstrate a functional relationship between the independent and dependent variables by showing that the intervention will change the student behavior instead of establishing statistical significance (Kennedy, 2005). There may be limited generalizability due to the small population of student participants and the choice to complete the majority of the intervention in a self-contained setting. There is also no way to measure if the participants in this study will generalize the skills taught as the intervention beyond the scope of this study or to other curriculum areas.

Definitions

In the course of this study there will be several educational terms that will be frequently used. There may be several definitions for those words or terms depending on their educational context. The following terms will be used with these specific definitions to support the intent and purpose of this study.

Academic Content: the knowledge, skill, and understanding that students should attain in academic subjects (Turnbull, Turnbull, and Weymeyer, 2007). In this dissertation, this refers to the core areas of language arts, mathematics, science, and social studies.

Autism Spectrum Disorders (ASD): Persons who experience or demonstrate qualitative impairment in social interaction and communication. They may have restricted, repetitive, and stereotypic behaviors, and delayed or abnormal functioning (DSM IV-TR Diagnostic Criteria for the Pervasive Developmental Disorders, 2000).

Graphic Organizer: Graphic organizers are organizational tools that utilize visual and spatial displays that facilitate the comprehension of text through "the use of lines, arrows, and a spatial arrangement that describe text content, structure, and key conceptual relationships" (Darch & Eaves, 1986, p. 310).

Historical Thinking: a set of reasoning skills that students of history should learn as a result of studying history, including chronological thinking, historical comprehension, historical analysis, historical research capabilities, and historical issues-analysis and decision-making (Wineburg, 2001).

History: History is defined as the study of the past that allows students to comprehend the time and location of specific events. History supports student learning in utilizing chronological thinking so they can distinguish past, present, and future, and allows

students to define the history of their nation and world (NCSS, 2001).

Intellectual Disability: Intellectual disability is a disability characterized by significant limitations both in intellectual functioning and in adaptive behavior, which covers many everyday social and practical skills. This disability originates before the age of 18. (AAIDD, 2010).

Severe Disabilities: includes student with significant disabilities in intellectual, physical, and/or social functioning, including autism (Heward, 2003). These students because of the intensity of their physical, mental, or emotional problems may need highly specialized education, social, psychological, and medical services in order to maximize their full potential (Turnbull et al., 2007). The Association for Persons with Severe Disabilities (TASH, 2000) defines this a persons “who require ongoing support in one or more major life activities in order to participate in an integrated community and and enjoy a quality of life similar to that available to all citizens. Support may be required for life activities such as mobility, communication, self-care, and learning as necessary for community living, employment, and self-sufficiency.”

Significant Cognitive Disabilities: "Students with significant cognitive disabilities experience difficulty in the following areas: attending to the salient features of stimuli, remembering new information, generalizing learned skills to appropriate contexts, self-regulating behavior, meta-cognition, and skill synthesis. Some of these students may have limited motor response repertories, sensory deficits in both hearing and vision, and special health care needs which may limit participation in school activities" (National Alternate Assessment Center, 2005, p. 5).

Social Studies: The National Council for the Social Studies operational definition of social studies is “the integrated study of the social sciences and humanities to promote civic competence” (National Council for the Social Studies, downloaded 5-14-09, http://www.socialstudies.org/toolkit). The more comprehensive definition would be:

> the integrated study of the social sciences and humanities to promote civic competence. Within the school program, social studies provides coordinated, systematic study drawing upon such disciplines as anthropology, archeology, economics, geography, history, law, philosophy, political science, psychology, religion, and sociology, as well as appropriate content from the humanities, mathematic, and natural sciences. The primary purpose of social studies is to help young people make informed and reasoned decisions for the public good as citizens of a culturally diverse, democratic society in an interdependent world. (National Council for the Social Studies, http://www.socialstudies.org/standards/introduction , downloaded on October 16, 2010).

Story Grammar: Story grammar instruction is defined as "an attempt to construct a set of rules that can generate a structure for any story." Terms commonly used for story-grammar, especially in its simplest form are characters, setting, plot, resolution, and theme (Rayner & Pollatsek, 1989).

Story Map: A story map consists of questions that spotlight common story elements, implied information, and details and sequence of the story or passage (Boulineau, Fore, Hagan-Burke, & Burke, 2004; Carnine, Silbert, & Kameenui, 1997; Murfett, Powell, & Snow, 2008).

CHAPTER 2: LITERATURE REVIEW

Social Studies as General Curriculum Content

Social studies has been a core content area in American education since the inception of this country. The writings of Thomas Jefferson affirm the importance of educating one citizenry and promoting democratic ideals and civic engagement. Following Jefferson's declarations, The Committee of Ten, a panel of 10 educational experts, recommended that students in the United States receive 12 years of schooling in the areas of English, mathematics, and history and civics. The committee also recommended teaching differing strands from the sciences throughout these 12 years (Hertzberg, 1998). In more recent times, educators have maintained the importance of social studies through teaching students: (a) to have the ability to connect networks of knowledge, skills, and beliefs; (b) to discover that social studies content matter is taught, learned, and used across all content areas, and throughout life; (c) to assimilate information on controversial issues, as well as can interpret policy-based matters on a personal and global basis; (d) to work alone and within groups to accomplish instructional goals; and (e) to engage in reflective thinking to make personal and instructional decisions (NCSS, 2010). While these goals are asserted by the NCSS, they are also affirmed by the Partnership for the 21st Century Skills (P21), an organization that advocates for each student to be ready to compete in the global economy (The

Partnership for 21st Century Skills, http://www.p21.org/index.php?option=com_content&task=view&id=195&Itemid=183 uploaded on October 17,2010). The council's definition of social studies in the integrated study of the social sciences and humanities to promote civic competence. Within the school program, social studies provides coordinated, systematic study drawing upon such disciplines as anthropology, archeology, economics, geography, history, law, philosophy, political science, psychology, religion, and sociology, as well as appropriate content from the humanities, mathematic, and natural sciences. The primary purpose of social studies is to help young people make informed and reasoned decisions for the public good as citizens of a culturally diverse, democratic society in an interdependent world. (National Council for the Social Studies, http://www.socialstudies.org/standards/introduction , downloaded on October 16, 2010).

Echoing Jefferson's sentiments, each of these comprehensive skills fuels the true purpose of teaching social studies which is to help young people develop the ability to make informed and reasoned decisions for the public good as citizens of a culturally diverse, democratic society in an interdependent world (NCSS, 2002).Through the themes and standards, social studies curricula help students to connect their pasts, and to the pasts of their ancestors, to the present and the future. Students also learn that there are many historical, geographical, and cultural perspectives shaping these experiences. Finally, students learn to work together to analyze and solve social problems (NCSS, 2002; 21st Century Skills, 2010).

Social studies content can be taught using an inductive method and/or a deductive

Method (Taba, 1967). With the inductive method, social studies content is typically taught using textbooks that focus on expository text. Students then focus on identifying key points during questions and discussions allowing them to draw conclusions from the data. The deductive method, students may be presented with a hypothesis or a generalization, and students use materials and assistance to verify the hypothesis (McCormick, 2008).

According to Beyer (2008), teaching history, one of the most trained areas within the social studies content continuum, requires the instructor to teach "thinking skills." He asserts that educators impart the course content through multiple strategies like cause and effect charts. These processes require multifaceted intellectual functions, commonly called "thinking skills" (Beyer, 2001). Several guidelines are suggested to increase the thinking skills of students learning social studies. Teachers need to teach thinking skills by: (a) making the information explicit, (b) introducing each skill in a lesson that focuses on that skill, and (c) guiding and supporting the skill practice (Beyer, 2008). For students with mild disabilities, McCoy (2005) recommends the use of cooperative group activities; whole class and large group activities; inclusion; and collaboration. While there appears to be professional consensus that teaching social studies to students with disabilities requires special strategies, there is very little discussion on the best way to teach social studies to students with severe disabilities.

Related to, but different from thinking skill, is *historical thinking*. One of the overarching philosophies aligned with teaching social studies is teaching history content using principles from *historical thinking*. Historical thinking is briefly defined by Wineburg (2001) as a set of reasoning skills that students of history should learn as a

result of studying history, including chronological thinking, historical comprehension, historical analysis, historical research capabilities, and historical issues-analysis and decision-making. In essence, this process teaches students ways to make choices, balance opinions, and tell stories from the context and content of history.

Social studies and general curriculum access. While these goals are applicable to all children, students with severe disabilities have rarely had social studies instruction because teaching age and grade appropriate academic content is a relatively new concept for this student population. Recently there has been new interest in students with severe disabilities learning general curriculum content.

With the enactment of No Child Left Behind (NCLB, 2002), it was mandated that all children have access to the general education curriculum content areas of reading, math, and science. Students were also to be assessed in those three curricular areas and were to demonstrate annual yearly progress. At the inception of NCLB (2002), social studies was not included as one of the curricular area to be assessed. As a result, social studies instruction has actually declined and is not considered an area of primary instruction. Through this, elementary education teachers have persisted in teaching social studies during supplemental instructional time although, instructional time in the area of social studies has statistically declined in comparison with other core content areas (Fitchett, & Heafner, 2010).

Included in NCLB(2002) were students with moderate to severe intellectual disability and autism who might show proficiency through alternate assessments based on alternate achievement standards. The act also mandated that specific content curriculums

should be research-based, and mentions using "scientific-based research" over 100 times in the document.

The enactment of NCLB has been both a godsend and a challenge to those working with students with severe intellectual disability and autism. The major advantage is that these students can finally receive instruction in academic curriculum, that curriculum that is based on the current state standards, and can be assessed on their progress in the core content areas of reading, mathematics, and science. The conundrum is that relatively few studies exist to support teaching specific academic content to this population of students. Of these existing studies, the majority of the research in the academic content area is in reading, but these studies are restricted primarily to sight word instruction (Browder et al., 2006). Next, math has a number of research studies, but again, the focus has been limited primarily to measurement in the form of time and money skills (Browder et al., 2008). The core content area of science has a few studies (Courtade et al., 2007), but social studies has only one study (Dugan et al., 2005). Even though there are numerous studies for students with disabilities, there are relatively few studies that focus on academic content, as outlined in grade appropriate curriculum, for students with severe disabilities.

Reading Comprehension for Students with Intellectual Disability and Autism

One of the challenges in social studies is that much of the format of instruction (e.g., history text; current events website) requires reading comprehension (Brophy & Alleman, 2009). Even strong readers may find comprehending social studies text challenging because of the format of this text. Issues with social studies expository text may provide additional challenges because the different text structures, including

sequence, description, compare-contrast, problem-solution, and cause-effect, may be difficult to interpret (Meyer & Poon, 2001).

Students with intellectual disability and autism spectrum disorder often demonstrate difficulty with reading comprehension. If the primary processes of reading are dependent on two skills, decoding and comprehending (Nation et al., 2005), then reading instruction should focus on using evidence-based comprehension strategies to teach text comprehension to these students. Text comprehension is defined as a conscious set of plans that allow the reader to make sense of and connect to the text (National Institute for Literacy, 2001).

Nearly all of the research on reading comprehension has been with students with milder disabilities. In a comprehensive literature review regarding text comprehension and students with disabilities, many experimental studies focus on text comprehension instruction for students with milder disabilities, primarily, learning disabilities (Gersten, Fuchs, Williams, & Baker, 2001). Gersten et al. (2001) identify the factors that lead to poor text comprehension in expository and narrative text including weaknesses in their knowledge base, lack of relevant background knowledge, lack of knowledge of story structure, lack of knowledge of expository text structures, and problems with strategic processing. They also investigated research-based strategies for improving text comprehension as well as current issues in the field of reading including the use of task monitoring, graphic organizers, story retelling procedures, mnemonics, peer tutoring, and story maps.

None of the studies reviewed by Gersten et al. (2001) addressed students with autism spectrum disorders and/ or students with moderate to severe intellectual disability

although text comprehension has been identified as a measurable weakness for students with autism. Two current studies provide evidence of this weakness in comprehension. In the first study, Nation, Clark, Wright, and Williams (2006) evaluated four areas of reading: word recognition, nonword decoding, text reading accuracy, and text comprehension for students with autism spectrum disorder. During the text comprehension portion of the assessment, students read passages and answered literal and inferential questions. They found that 78% of students with some form of autism had measurable reading skills, yet 22% of those students assessed had difficulty demonstrating proficiency in the area of decoding. However, the majority of the students in the study (65%) had very poor reading comprehension, even when they demonstrated adequate decoding skills. Myles et al., (2000) assessed the reading skills of students with Asperger syndrome (i.e., high functioning autism) and found students who listened to the text being read aloud had higher levels of comprehension than when those students read the material silently. These same students performed at a much higher level on literal comprehension questions than on the inferential questions, but still evidenced overall deficits in the area of text comprehension.

Although comprehension has been found to be especially challenging for students with autism, there are surprisingly few studies focused on how to teach this component of reading. In their review of 128 experimental reading studies Browder et al. (2006) found only 23 studies that addressed comprehension. Of these 23, only 11 qualified as high-quality research and all studies either focused on picture to word matching or using a sight word in context to demonstrate comprehension. None of the studies investigated expository text comprehension, such as that used in social studies, for students with

autism and significant intellectual disability, even though comprehension should be the ultimate goal of reading (Browder et al. 2006).

In a second comprehensive literature review focusing specifically on reading comprehension and students with autism, Chiang and Lin (2007) found that the majority of studies reviewed focused on sight word comprehension. Only four of the eleven studies reviewed in this article addressed text comprehension (Kamps et al., 1994; Kamps et al., 1995; Kamps et al., 1989; O'Connor & Klein, 2004). Three of the studies utilized peer tutoring and/or cooperative learning groups to improve reading comprehension for students with autism. Students read a timed passage and successfully answered questions asked by their peer tutors.

One alternative to help students develop comprehension even while decoding skills are developing is to use adapted text. In a single subject study with teachers of students with severe disabilities, Browder, Trela, and Jimenez (2007) developed a method for conducting read alouds of adapted text with older students who have emergent literacy skills. The researchers selected novels from the middle school context that were frequently used in general education (e.g., *Call of the Wild,* London, 1903). Next, they created chapter summaries for the novels that could be used in to adapt the text. To promote text tracking, they added picture symbols to key words in the text (e.g., a dog symbol for the main character Buck). They also created a repeated story line for each page that summarized the main idea of the chapter (e.g., "Buck loved his home."). The researchers then developed a task analysis of steps teachers could follow in reading the adapted chapters that incorporated a variety of early literacy engagement skills. During baseline teachers received the adapted novels, but no training in the use of the task

analysis. While they all read aloud the chapter summaries, they gave few opportunities for the students to actively engage with the reading or demonstrate listening comprehension. The teachers then received individual training in using the task analysis to engage students in the adapted passages. The teachers increased the number of opportunities for the students to respond by implementing the steps of the task analysis. The students not only increased their prompted responses, but also independent responses such as finding the title, filling in the repeated story line, and answering literal, inferential, and summative comprehension questions.

The use of task analytic instruction and specific prompting procedures are methods based on the principles applied behavior analysis and are frequently referred as systematic instruction (Collins, 2007). The use of a task analysis involves following or teaching students to follow a series of specific and sequential steps to complete a task. Prompting strategies teaches students to respond to certain requests with the use of trained cues (Collins, 2007). Many research studies on academic content instruction for students with severe intellectual disability and autism have employed systematic instruction (Browder et al., 2008; Browder et al., 2006; Courtade, Spooner, & Browder, 2007).

One strategy in the area of systematic instruction is to use a system of least prompts (Snell & Brown, 2011). This process is employed by presenting a series of steps in a task analysis while using a systematic cuing process to assist the student through each of the steps. If a student errs in his response or does not respond, a least intrusive prompt is presented. For each request or error, the procedure is repeated, working through a series of prompts, scaled from least to most intrusive, until the student can give the

correct or desired response. The process allows the student to perform each step independently or as close to independently as possible and may help to deter "overprompting" (Billingsley, 2003).

Social studies instruction for students with autism. There is only one study that has addressed social studies for students with autism. In this study, students with and without autism used cooperative learning groups to learn key words and facts for social studies (Dugan et al., 1995). Both student participants with autism were considered to be higher functioning and were no more than one grade level below their typically developing peers and both students exhibited comprehension difficulties. The intervention, employing an alternating treatment design, consisted of teacher led introduction and cooperative learning groups that included tutoring on vocabulary and key facts, a team activity, and a whole class review. The students with autism displayed increases in their overall performance on weekly posttests and their academic engagement during class lessons. There were no studies found that addressed social studies instruction for student with severe disabilities indicating a paucity in this specific area of educational research.

Given the lack of research on social studies, there are two options to developing an intervention in this area. One is to apply research on related skills like the use of adapted grade and age appropriate literature used by Browder et al. (2007). The other is to modify methods used to teach students with mild disabilities such as graphic organizers and story grammar instruction.

Graphic Organizers

Many content subject textbooks can be difficult for student to negotiate. (Armburster & Anderson, 1988; Williams, 2005). Students with mild disabilities may struggle with content area instruction and expository texts (Coyne, Kame'enui, & Carnine, 2010; Williams, 2005) as the structure of these texts and curriculum may be inconsistently organized, and the language level may prove too challenging for every student to read and comprehend its material (Frase-Blunt, 2000). One of the reasons that students may struggle with the task of comprehending content related text is that only one in ten content-area teachers is taught strategies for teaching for comprehending expository text in the content areas (Dowhower, 1999). Students with disabilities are particularly at risk for experiencing difficulty learning from content area texts (De La Paz & McArthur, 2003) due to lost time in the general education classroom because they are receiving services to address teaching basic skills, or these students may not receive the effective accommodations needed to provide access to the curriculum prescribed. It is imperative to find ways to employ effective strategies to support the learning of students with disabilities because the content area text is sometimes difficult for the struggling learner to negotiate (Garjria et al., 2007; Gersten, Fuchs, Williams, & Baker, 2001). There are several strategies in the literature that expand on ways to assist students in gaining comprehension of content knowledge. Story-mapping strategies, computer assisted instruction, adapted text with and without embedded graphics, study guides, mnemonic materials, and graphic organizers are some of the approaches that have been used to teach expository- based reading comprehension to students. While all of the listed methods showed strong promise, graphic organizers were found to present the greatest effect sizes in a comprehensive literature review on comprehension of expository text for

students with learning disabilities (Garjria et al., 2007). Students with severe disabilities who are beginning readers will need more help to comprehend the expository text of social studies.

There is a wide selection of studies that investigate the use of graphic organizers to teach academic content, concepts, and information to students who are considered typically developing (Armbuster & Anderson, 1988; Dowhower, 1999; Fraise-Blunt, 2000; Williams, 2005). Many of these studies also address the use of graphic organizers for students with mild disabilities, specifically students with learning disabilities (Bos & Anders, 1990; Darch & Carnine, 1986; Darch & Eaves, 1986; Griffin, Simmons, & Kame'enui, 1991).

Graphic organizers are organizational tools that utilize visual and spatial displays that facilitate the comprehension of text through "the use of lines, arrows, and a spatial arrangement that describe text content, structure, and key conceptual relationships" (Darch & Eaves, 1986, p. 310). Historically, graphic organizers, originally known as advanced organizers were developed to provide a way for teachers to increase the skills of their students when engaging in cognitive tasks by using visual-spatial formats to organize the information gleaned from text (Griffin, Malone, & Kameenui, 1995). These formats may include hierarchies, flow charts, picture charts, or web-based maps.

In a comprehensive review of research literature on the use of graphic organizers for students with learning disabilities and other mild disabilities in the area of reading comprehension for expository and narrative text, Kim, Vaughn, Wanzek, and Wei (2004) reviewed 21 studies using group designs that investigated graphic organizers. Five criteria were used for inclusion of an article for this review. The first criterion required

independent variable to specifically include graphic organizer use. The graphic organizers used in the study needed to align with the following definition operationalized and defined www.cast.org (2009)

> A graphic organizer is a visual and graphic display that depicts the relationships between facts, terms, and or ideas within a learning task. Graphic organizers are also sometimes referred to as knowledge maps, concept maps, story maps, cognitive organizers, advance organizers, or concept diagrams."

Second, the research design of the study had to be experimental. Third, the study needed to focus on the acquisition of science or social studies content. Next, the article needed to be published in a peer reviewed journal. Finally, all studies had to incorporate students who were school-aged and had a learning disability. Specifically, they examined cognitive maps, semantic organizers, and framed outlines. They found that overall graphic organizers did promote the comprehension of expository content for the students in the varying studies, despite three studies result finding contradictory results. Graphic organizers that provided the greatest supports to students were semantic organizers and cognitive maps with and without mnemonics.

Boyle (1996) examined whether students with learning disabilities could use cognitive mapping strategies to identify the important components of reading passages to improve their literal and inferential comprehension skills. There were 30 student participants and each participant was identified as having a specific learning disability or a mild intellectual disability. All students were taught in self-contained classrooms with a teacher and a paraprofessional. Students in the intervention were taught the TRAVEL mapping strategy (topic, read, ask, verify, examine, link) while students in the control

group independently took notes. The students who participated in the TRAVEL strategy did show an increase in their literal and inferential comprehension skills on the posttest.

In a study by Darch and Carnine (1986), students with learning disabilities learned to effectively use visual spatial displays when learning disabilities science and social studies material using a pretest, probe-test, posttest design. Students in the treatment condition received the Visual Display intervention, while the control group received content instruction. The students who were in the intervention group outperformed the control group on every probe and posttest measure.

A similar study (Darch & Eaves, 1986) sought to replicate and extend the findings of Darch and Carnine (1986) by examining the use of visual spatial displays to enhance the comprehension of content information with 22 high school students with identified reading comprehension learning disabilities. Students who received the Visual Display strategy performed better on the probe-tests and post tests than the students in the control group.

DiCecco and Gleason (2002) examined graphic organizer strategies to determine if 24 middle school students with learning disabilities would acquire and retain relational knowledge if graphic organizers were used in social studies content. Students who received the graphic organizer strategy performed better on their recall of relational knowledge and showed a positive difference in the completion of essay tasks.

Griffin et al., (2001) investigated if graphic organizers facilitated comprehension to determine to what degree explicit instruction was necessary for independent generation and use of graphic organizers with 87 fifth grade students without identified learning disabilities and 12 students with learning disabilities. Students were randomly assigned to

one of five instructional groups: explicit graphic organizer instruction, explicit instruction without the use of graphic organizers, implicit graphic organizer instruction, implicit instruction without the use of graphic organizers, and traditional basal instruction. Students who received the explicit graphic organizer instruction scored significantly higher in comprehension, recall, acquisition, and transfer.

Horton, Lovitt, and Bergerud (1990) compared three treatment conditions with 419 middle and high school students, including 12 students with identified learning disabilities. The interventions included teacher directed graphic organizer instruction, student directed graphic organizer instruction, and student directed graphic organizer instruction with embedded clues. Overall, students with and without identified learning disabilities in the explicit graphic organizer instruction group scored higher than their peers in the two remaining groups.

Simmons, Griffin, and Kameenui (1988) evaluated the effects of graphic organizers on students' comprehension and retention of content area text when used as a teacher-constructed expository reading aid with 47 sixth grade students who tested in the lower 40^{th} percentile on the experimenter designed pretest. Students were assigned to the graphic organizer intervention group or the traditional instruction control group. While there were no statistically significant differences noted between groups on the posttest following the intervention phase of the study, on a delayed posttest students who received the graphic organizer interventions performed significantly higher than their peers in the control group.

In a study by Snead and Snead (2004), the effectiveness of concept mapping as an instructional learning tool on science achievement with 182 middle school students was

investigated. Students were randomly assigned to one of two instructional groups, with the treatment group receiving three weeks of concept mapping instruction prior to the introduction of the nine week weather unit. Students in the control group entered into the nine-week weather unit with no prior instruction in learning strategies. There were no statistically significant differences between the treatment group and the control group on either the pretest or the posttest.

Williams et al., (2007) evaluated the effectiveness of graphic organizer instructional program with cause and effect-based social studies material for 179 second graders at risk for academic failure, including 15 students with known disabilities. Students were assigned to three conditions: a text-structure program with visual organizers; a content-only program with the use of graphic organizers; and the control group. Both the text structure and content with graphic organizer groups showed significant progress while the control group did not show growth. There was no significant difference between the text structure and content with graphic organizer groups. The authors explained that growth was attained by providing explicit instruction to students with and without disabilities.

Summary of graphic organizer interventions. CAST (www.cast.org) reports that there is solid evidence for the effectiveness for graphic organizers to facilitate learning. In the context of this review, graphic organizers are indicated as a promising practice for expository text comprehension when used by teachers to instruct science and social studies content to students with mild disabilities. The results of these studies could be used by teachers and instructional facilitators in making decisions about curriculum presentation for students with and without learning disabilities.

All interventions that were examined in this literature review were graphic organizers and the definition of graphic organizer remained fairly consistent in each of the studies. The graphic organizer selected in each of the studies was a type of visual-spatial design of information gathered from the text. In three of the studies, flow charts or web-type visual displays were used. This was to assist students in making connections of the ideas within the text. In five studies, a hierarchical display was employed, with the topic heading at the top of the display and details of the passage listed below the topic. The remaining study used visual pictorial displays with and without the use of mnemonics as an intervention. Students listed items regarding details inside of pictures that represented the major themes of the reading.

All of the studies used visual displays for the intervention, the method for instructing student use of the graphic organizers varied. Each of the studies utilized a series of steps or tasks that the teachers were to follow in order to present the intervention to their students. Four studies used a scripted approach to teach the intervention, and another two studies described general teacher instruction as the method to teach the graphic organizer intervention.

Ten of 11 of the studies provided information regarding the number of sessions and the length of intervention. One study did not provide any information concerning duration. Graphic organizers were taught in the intervention stage of the study from 6 to 22 sessions with a mean of 14.8 sessions. Four of the articles gave a specific amount of time for each of the instructional sessions ranging from 40 to 55 minutes per session. In 90.9% of the studies examined, there was a statistically significant difference between the group receiving intervention and the control group. The statistics employed in these

studies support the premise that graphic organizers do assist students with mild disabilities in gaining comprehension of content area, expository text.

There were two limitations throughout this literature review. First, only four of the studies reviewed employed any measures of agreement. In those four articles, two reported both procedural fidelity measures and interrater reliability. In the remaining two articles, interscorer reliability was completed for the three dependent measures. A second limitation is the absence of specificity in the description of the presentation of the intervention, particularly in two of the studies selected. This makes replication of these studies difficult, at best.

Currently, there is no supporting research for graphic organizer instruction or intervention for students with moderate and severe disabilities and autism. These students may benefit from the systemic structure of graphic organizers to assist in the comprehension of expository text found in the content area of social studies. Research has addressed that students with disabilities and autism often have difficulty comprehending the material that they read or that is read to them (Coyne et al., 2010; Basil & Reyes, 2003; Hagiwara & Myles, 1999; O'Connor & Klein, 2004). A graphic organizer strategy may help students with autism gain comprehension of expository text in the content area of social studies.

Story Grammar

A second strategy used with students with mild disabilities that may have applicability to social studies for students with severe disabilities is story grammar instruction. Story grammar instruction is defined as "an attempt to construct a set of rules that can generate a structure for any story" (Rayner & Pollatsek, 1989). The most

common terms identified in story-grammar are characters, setting, plot, resolution, and theme. In contrast, these elements can vary depending on the scope or theme of the story being read (Dymock, 2007). While the terms previously listed may be useful in the comprehension of literary passages, other content areas have equally relevant terms that can be taught through story grammar instruction. Some salient vocabulary for expository text comprehension in social studies would be event, time, characters, location, detail, and outcome. It is essential that students can identify, understand, and relate the different components of story grammar, or content-specific common vocabulary, in order to have full passage comprehension in expository text.

Story grammar instruction with student with disabilities. Murfett, Powell, and Snow (2008) investigated the effect of intellectual disability on the adherence of student observers to a "story grammar" framework with 78 elementary students with moderate intellectual disability and 138 students without known disabilities. All students attended a magic event, and during the event the magician explained specific details about learning magic. Three days after the event, students in the treatment group were interviewed twice. The first interview established that the students remembered attending the event, and the second interview was to request specific details about the event. The interviews were recorded and coded for student responses to the story-grammar elements. The investigators also measured non-story grammar event-related content and unrelated content. Finally, the number of words that each child spoke about the event was quantified. Researchers found that the students with intellectual disability provided shorter narratives and used less story-grammar elements than their typical counterparts.

Several of the students with intellectual disability could not provide any narrative, but all students in the control group could provide some narrative with story-grammar elements.

While Murfett et al. (2008) observed deficits in story grammar, other researchers have been able to use story grammar as an intervention strategy for students with disabilities. Xin et al., (2008) investigated teaching conceptual model-based word problem story grammar to enhance mathematics problem solving with five 4th and 5th grade student with or at risk for a specific learning disability in the curricular area of math. They presented "story grammar" as it related to math delivered with specific explanations, modeling, guided practice, performance monitoring with corrective feedback for each targeted word. Each student made a gradual increase in their ability to perform computations, complete word problems, and solve pre-algebraic equations.

In 2008, Westerveld and Gillon examined an oral narrative intervention for 10 students with mixed reading disabilities and 10 students with no known disabilities. All students received instruction on seven story grammar elements that focused on oral language and listening comprehension including: (a) a discussion and explanation of the story grammar elements, (b) a partial reading of the story, (c) student identification of specific story-grammar elements within a story map, and (d) a student retelling of the story using the story map as a guide. The results indicated that the intervention that was used with all students did have an effect on oral narrative comprehension, but not on the overall student's reading comprehension skills. A limitation in the design of the study made it difficult to ascertain which portions of the intervention contributed to the outcomes. Also, the participants were already known to have reading difficulties suggesting that the intervention was not sufficient to improve their reading

comprehension. When these results are considered together with Xin et al., it is feasible that story grammar may be a strategy to improve other skills like math problem solving or possibly social studies comprehension, but that this strategy may be underdeveloped in students with severe disabilities unless directly taught.

Several studies have focused on how to teach story grammar. Fagella-Luby, Schumaker, and Deschler (2007) explored an embedded learning strategy instruction including story structure in secondary literature classes with 79 students, including 14 students with a known learning disability. The students were divided into two groups with half of the students receiving the embedded story structure (ESS) intervention, while the other half served as the control group. The ESS group learned strategies in self-questioning, utilizing story grammar with picture-text pairing, and summary writing. Results indicated statistically significant differences were found between the groups favoring the ESS group on the strategy, story structure, and reading comprehension. Regardless of identification as learning disabled, students made equivalent gains in the ESS group as their non-disabled peers. Story structure taught to students with and without disabilities did improve their reading comprehension skills.

Boulineau, Fore, Hagen-Burke, and Burke (2004) investigated the use of story-mapping to increase the story-grammar text comprehension of six 3rd and 4th grade elementary students with learning disabilities. In this study, story grammar was explicitly taught using a story map as a visual organizer for practice. Each story grammar word was taught separately and then the definition was given by the students. The outcome of this study indicated that story grammar instruction did improve the student's comprehension skills with all students showing improvement in their ability to successfully complete the

story map. While this study does suggest that story-grammar instruction improved the students' identification of story-grammar elements, there are limitations as the design was descriptive, and because the baselines were not staggered, a functional relationship could not be established. A second limitation was the small number of participants used in the study. The third limitation was that there were no norm-referenced test scores to measure global comprehension of the student participants.

Finally, Bos and Anders (1990) compared knowledge-based and instrumental/ access-based vocabulary instruction strategies derived from science textbooks with 61 junior high students with learning disabilities. Each student received one of four interventions: (a) definition instruction (DI) by directly teaching the definitions of the vocabulary terms, which was considered the standard teaching method; (b) semantic mapping (SM) in which students learned from a hierarchical relationship matrix; (c) semantic feature analysis ((SFA) where the students learned to predict relationships among the concepts using the relationship matrix; and (d) semantic/syntactic feature analysis (SSFA) in which students used the relationship matrix to make predictions and to answer cloze-type questions. The second, third, and fourth interventions included a story grammar strategy. Students in the SM and SFA groups had greater vocabulary recall than students in the DI group, while students in the SM. SFA, and SSFA groups scored significantly higher in text comprehension than the students in the DI group. At the follow-up testing, students in the SM, SFA, and SSFA groups scored significantly higher than the students in the DI group.

Synthesis of story grammar instruction. Overall the story grammar instruction research has varied widely in the quality of the research design employed. Three of the

studies used true experimental- control group, pretest-posttest design with random assignment (Fagella-Luby et al., 2007; Westerveld & Gillon, 2008; Bos & Anders, 1990). One study used a qualitative approach to teaching story-grammar as it related to oral narrative comprehension (Murfett et al., 2008). One other study employed quasi-experimental procedures in a descriptive ABC design, but did not stagger their baselines, thereby reducing the opportunity to establish a functional relationship (Boulineau et al., 2004). Only one of the studies used a multiple probe with staggered baselines (Xin et al., 2008).

Besides varying level of research methodology, another limitation of the story grammar research is the variety of methods used to teach story grammar. Sometimes the story grammar was used as an independent variable to increase passage comprehension (Murfett et al., 2008; Xin et al., 2008; and Westerveld et al., 2008) and other times it was a dependent variable (Fagella-Luby et al., 2007; Bolineau et al.; 2004; Bos et al., 1990). Specifically, the dependent variables measured the students' vocabulary as it applied to reading and story structure.

When used as an independent variable, one study taught story-grammar for math (Xin et al., 2008) and three used a story-grammar intervention to address reading comprehension (Bos & Anders, 1990; Boulineau et al., 2004; Fagella-Luby et al., 2007). Two of the studies addressed oral narration comprehension for students with "story retells" (Murfett et al., 2008; Westerveld et al., 2007). While one study mentioned using a script to ensure fidelity of the teaching package, none of the studies mentioned using specific scripts to teach each specific story grammar element. None of the studies used story-grammar to teach content and concepts in social studies.

Three studies used specific evaluation instruments to measure story grammar (Fagella-Luby et al., 2007; Westerveld et al., 2008; Xin et al., 2008). One study measured student progress by counting the number of correct responses on a story-mapping sheet (Boulineau et al., 2004). One study counted the number of words that were on-topic and related to story-grammar elements and coded for common elements (Murfett et al., 2008).

Perhaps most notably, none of the studies included students with moderate intellectual disability or autism. The instruction of specific story grammar of social studies might prove fortuitous to teach middle school-aged students with severe disabilities the use of a modified graphic organizer procedure to promote improved expository text comprehension in social studies.

Developing an Intervention Approach for Social Studies for Students with Autism

There is only one study to date on social studies for students with developmental disabilities (Dugan et al., 1995) and the need exists to create an intervention approach to teach students with autism strategies to comprehend expository text found in social studies. Because the students may not be able to read grade level text, the goal of this study is to impart authentic history curriculum by following four criteria described by Browder et al. (2007): ensuring academic content; using the student's assigned grade level as the point of reference; working with curriculum experts to guarantee that the achievement level is linked to the grade-level content standards, though the content may differ in breadth or depth; and allowing for differentiation in achievement across grade levels or grade bands. In order to achieve these goals, the use of story grammar and graphic organizer strategies will be used to increase comprehension of adapted expository text. The purpose of this study is to investigate the use of specific vocabulary of social

studies to teach middle school students with severe disabilities to use a modified graphic organizer procedure to promote improved expository text comprehension in social studies topic area of United States History.

CHAPTER 3: METHOD

Institutional Review Board Approval

In compliance with the University of North Carolina at Charlotte's policies, permission was obtained by the University Institutional Review Board (IRB). Following this process, permission was obtained by the Charlotte-Mecklenburg Schools Office of Accountability, in compliance with their procedures. Finally, a letter of consent was collected from the building principal (Appendix A), the classroom teachers (Appendix B), and the parents of each of the participating students (Appendix C). Students were asked to give their assent to participate (Appendix D). The student assent forms included simplified language to increase the comprehension. Teachers, parents, and students were informed of the option to decline participation in the study during any point in the study.

Participants

Target population. Three student participants were recruited to participate in this study. Student participants met the following criteria: (a) enrolled in middle school, (b) diagnosed with both an intellectual disability and autism spectrum disorder, (c) age range from 11- 15 years old, (d) had good attendance, (e) participated in the state alternate assessments based on alternate achievement standards in one or more academic areas, in North Carolina, this would be the Extend 1 Alternate Assessment, (f) were receptively fluent in the English language, (g) had a basic ability to comprehend self-read adapted material at the first to second grade level, (h) had the ability to read some adapted text

with and without picture pairings, and (i) had some ability to create a simple written response. Students were all male and represented three different racial ethnicities.

Student Participants. Le was an Asian-American student who was in the 6th grade and was 11 years old. His full scale cognitive score was 69, falling into the borderline to mild intellectual disability range of intellectual functioning. His adaptive behavior scores were also in the borderline range as reported by both the teacher and the parents. His academic scores were in the low range with notable score of 63 in reading comprehension on a Woodcock Johnson. Le participated in the NC Extend One which was the state's alternate assessment based on alternate achievement standards.

Le spent the majority of his school day in general education classes with co-teaching supports. He was able to socially, academically and behaviorally negotiate the general education environment with the exception of unexpected schedule changes and the noise of the bell to signal the class changes.

The second student in the study was David. David was an African-American student who was in the 8th grade as was 13 years old. His full scale intellectual quotient (IQ) was 61, falling into the mild intellectual disability of intellectual functioning. His adaptive behavior scores were also in the moderately low to borderline range as reported by both the teacher and the parents. His academic scores were in the moderately low to very low range with notable score of 58 in broad reading on a WIAT. David participated in the NC Extend

David spent the majority of his school day in a self-contained special education class for students with severe autism coupled with intellectual disability. He was able to socially, academically and behaviorally negotiate the general education environment only

for lunch, electives, and extra-curricular activities. David was the team manager for the school basketball team.

The third student in the study was Kimo. Kimo was a multi-racial student who was in the 6th grade as was 11 years old. His full scale IQ score was 76 on a Universal Non-Verbal Intelligence Test (UNIT), falling into the borderline range of intellectual functioning. This score should be interpreted with caution, as the instrument used was a non-verbal measurement of his overall intelligence. His adaptive behavior scores were also in the moderately low to very low range as reported by both the teacher and the parents. No academic scores could be obtained as he was unable to respond during testing. In a narrative generated by his teacher, she described his reading comprehension as needing continuous verbal cues and modeling. She stated that these would help with his ability to answer reading comprehension questions. In the past, she indicated, that he would randomly point to answers and make random guess for answers. Kimo participated in the NC Extend One which was the state's alternate assessment based on alternate achievement standards.

Kimo spent the majority of his school day in self-contained special education class for students with severe autism coupled with intellectual disability. He was unable to socially, academically and behaviorally negotiate the general education environment for lunch, electives, and extra-curricular activities without the support of special education staff. Kimo was functionally minimally verbal, though he could verbal communicate with one word responses and two to five word phrases. Please see Table 1 for additional student characteristics.

Table 1

Characteristics of Students

Student	Age	Gender	Grade	Ethnicity	IQ Scores	Disability	Response Mode
Le	11	Male	6	Asian-American	63	Autism	Verbal Written
David	13	Male	8	African-American	61	Autism	Verbal Written
Kimo	11	Male	6	Multi-racial	76	Autism	Non-Verbal Written

Teacher participants. One teacher of students with autism was the primary interventionist. The teacher was selected by the researcher based on her (a) effective teaching skills as witnessed by the primary researcher, (b) a teaching schedule that already included academic content more than three hours per school day, (c) an expressed interest in learning to teach social studies daily, (d) having potential student participants in their classroom, and (e) a willingness to participate in the study.

Mrs. Mary McLain was a certified special education teacher who specialized in the area of autism. She was 27 years old Caucasian female. She was the primary instructor in a self-contained classroom for students with autism and intellectual disability. She had 5 years of teaching experience and four of those years were with students with autism at her current middle school.

Mrs. McLain has a Bachelor's degree in American Sign Language in 2005 from a small private college in the southeast. She received her Master's degree in special education with a focus on the adapted curriculum from a large state university in the southeast in 2008. She earned her National Board Teacher Certification in 2010. She was

nominated for Teacher of the Year in her school for 2010-2011. She has served on four university sponsored research projects in the past three years.

Setting

The setting for this study was a self-contained classroom for students with autism. The classroom was located in a middle school that is situated in a large, urban, diverse school district. This middle school has been recognized as a National School To Watch for continued success during the last three years. More than 87.2% of students were on grade level in all tested subjects. In addition, parent, student and teacher survey data showed ratings among the highest in the district.

All baseline, intervention, generalization, and maintenance sessions were held in an empty classroom with the teacher, the student, and, often, members of the research team. This insured a quiet instructional setting, free from distractions or disruptions, thereby maximizing the results of the study and minimizing treatment diffusion.

Training and interventionists. All teacher training was conducted by the researcher as the primary author of this study. Training occurred in three sessions, as the teacher learned (a) the content and language of social studies, and specifically history; (b) the story-grammar intervention for vocabulary instruction; and (c) the graphic organizer intervention for all four phases of the study. Each training session lasted approximately 45 minutes to one hour and occurred after the commencement of the school day. Training occurred in the teacher's classroom. A second researcher took data to measure procedural fidelity during training sessions. The teacher was trained by listening to an explanation of the steps, reviewing the script, and finally role-playing the intervention. The researcher first demonstrated the strategy, and then asked the teacher to role play the process using

graphic organizer intervention and the prompting scripts. The researcher acted as the "student" for the teacher role-play. The participating teacher never fell below 90% fidelity on periodic procedural fidelity check, and therefore retraining was never deemed to be necessary. The teacher served as the primary interventionists for the study.

Independent Variable

The intervention was twofold. Initially, there was a pre-instructional phase that involved pre-teaching the use of vocabulary maps based on using a scripted story-grammar approach. This was instructed prior to implementing the intervention. The primary intervention was a modified graphic organizer instruction with a series of scripted prompts that allowed students to demonstrate comprehension of the adapted social studies materials. The second part of the intervention was a generalization phase to study the effect of graphic organizer instruction on student's comprehension of untrained expository social studies text.

Instructional Materials

Pre-instruction vocabulary cards, maps, and guides. The researcher selected salient, history vocabulary terms and created scripts to teach the words and their meanings. The vocabulary words selected for this study were *event, people, location, time, detail, sequence, and outcome*. The commonly used words were selected with a content expert in the field of social studies and United States History. This expert is a full professor at the University of North Carolina at Charlotte. She provided content validation of the social studies terms, definitions, and the adapted passages. Vocabulary cards were generated to systematically instruct the general definition of the selected words and terms. There was one vocabulary card developed for each of the terms

selected. Employing the practice of concept attainment, each vocabulary card had the teacher's script, the examples and non-examples, and the correction procedures on one side. The other side displayed the scripted definition and a colored picture cue for the student to view. The teacher scripts were completed in a two color format to indicate the portions that the teacher read verses the actions the teacher needed to take. The vocabulary cards were made on an 8 x 11 sheet of paper and were be laminated for strength and durability (Appendix E).

The student's acquisition of salient social studies grammar was measured on a vocabulary map. Each map consisted of the vocabulary word and the student matched the vocabulary word to the picture cue to the definition. The picture cues and the definitions were laminated pieces and could be sorted and matched into rows with their companion definitions (Appendix F). The interventionist and researcher scored the vocabulary map for the number of terms the student could recall independently. Student responses were scored on Data Collection Sheet for the Vocabulary Map (Appendix G).

A vocabulary guide with the selected words and their definitions was provided to the students as a passive reminder. The seven terms, their paired picture cue, and the definition was arranged in a table format. The vocabulary guide was 8 x11 in size and displayed the same icons and colors and the vocabulary cards. This was also be laminated (Appendix H).

Adapted Passages. The researcher adapted grade level text to decrease the verbiage of the text book and to increase the understandability of passages. Each story passage was written at a third grade listening or reading comprehension level as measured by the Lexile Framework for Reading (2004), with picture symbols to support

main ideas and key vocabulary (Appendix I). This use of considerate text, or text that provides embedded support for reading comprehension, has been shown to increase comprehension in students with disabilities (Dimino, 2007), and these passage included picture pairings for the high frequency and salient words and terms. Once the passages were adapted, these stories were validated by a content expert at UNCC.

Graphic Organizer. An adapted or modified graphic organizer procedure was developed to assist students in answering literal and inferential types of questions from the passages from the history text (See Appendix J). The graphic organizer consisted of nine tasks or steps in which students were asked to identify and describe (a) the *event*, (b) the *people* involved in the event, (c) the *location* of the event, (d) describe three *details* from the passage, and (e) describe the *outcome* of the event. Additionally, students were asked to sequence the instances in the event. The eight questions/statements were presented to students in a written format. The student's capability to sequence the major details indicated the ninth item on the graphic organizer. Student wrote their answers on the modified graphic organizer. The graphic organizer was a printed in color on 8.5 x 11 white paper and the student used a new graphic organizer on each day that social studies was taught.

Overview of the Method

This investigation focused on two research questions: (a) What effect does graphic organizer instruction have on students with severe disabilities comprehension of the adapted text in the area of US History? and (b) What is the effect of graphic organizer instruction on student's comprehension of untrained expository social studies text? The participating teacher received training to use direct instruction procedure with a system of

prompts to teach students with autism to comprehend expository social studies text passages.

Dependent Variables

Student responses. The primary dependent variable was the number of items that students completed on the modified graphic organizer before and after systematic and explicit instruction in the pre-selected, common vocabulary terms used in social studies. During the training process, instructional graphic organizers were analyzed for correct and incorrect responses. The student had the possibility of scoring up to nine correct responses on the graphic organizer while the teacher used instructional scripts that described a system of prompts for each of the items on the graphic organizer (Appendix K). Teachers were given an answer key to aid in the use of the prompting incorrect responses and the scoring of the student graphic organizer. The teacher and the researcher each scored every graphic organizer, awarding one point for each correct answer out of nine possible answers. The researchers carefully scrutinized each graphic organizer and data was recorded to ascertain which, if any, of the items the student did not get correct (e.g. event, location, detail).

A second dependent variable was the student's ability to generalize the graphic organizer intervention to untrained social studies passages. Each session, students were given a new passage to read and a blank graphic organizer to complete. Students were asked to complete the entire graphic organizer prior to the teacher making corrections. Once the graphic organizer was complete, the teacher scored each of the nine questions, awarding one point for every item completed independently correct. Once the graphic

organizer was scored, the teacher addressed each of the incorrect items using the supplementary generalization scripts to continue the level of trained prompts.

Inter-rater data was collected from two members of the research team approximately 75% of the time that procedural fidelity is completed to ensure that the classroom staff and the research team were in agreement with the success of the treatment. Agreement was defined as exact word match for the graphic organizer and the correct match for definition. This data were collected so members of the research team could review and score student products.

Experimental Design

A single subject, multiple-probe across participants design was employed (Gast, 2010; Horner & Baer, 1978; Tawny & Gast, 1984). Data were collected and recorded on a separate graph for each student participant. The student graph displayed the number independently correct responses on the modified graphic organizer. The decision to introduce each participant into the multiple probe design was based on the primary dependent variable-the graphic organizer. When the first student could answer six of nine (56%) of the questions correctly on the graphic organizer for three consecutive sessions, the next student was brought into the intervention. During each session, intervention occurred with the student's teacher during the independent work time. The students were given a passage and a graphic organizer. The students were instructed to read the adapted passage and complete the graphic organizer. The number of independently correct answers on the graphic organizer was scored. The first student completed the passages selected for the baseline phase, and when a stable baseline of a minimum of five data points was achieved, he received additional passages for the intervention phase of the

study. At this time, the second student continued in their baseline phase. Additional baseline data points were taken for the remaining three students. This pattern continued until all students entered the intervention phase of the study. Students demonstrated the ability to answer a minimum of seven of nine of the items independently correct for three sessions in the intervention phase prior to moving to the generalization phase.

Data Analysis

Data were analyzed with a visual inspection of the graphs (Gast, 2010). A level of stability was determined for the number or the percentage of steps in the task analysis that were completed correctly. Critical steps were also noted. A breakdown of steps missed were tallied, followed and missed steps were sorted, coded, and analyzed.

Procedure

Five phases were included in the study: pre-teaching salient vocabulary, baseline, intervention, generalization, and maintenance.

Pre-teaching vocabulary. Prior to the actual start of the study, the primary researcher instructed the student participants in the basic definitions of the seven salient vocabulary terms: event, location, people, time, detail, sequence, and outcome. All student participants received this phase as group instruction using a scripted, direct instruction method. During this phase of the study, the vocabulary terms were taught in three stages: introduction of the vocabulary word and its definition; concept attainment with examples and non-examples of the vocabulary word; and student independent response when asked to give the definition. This followed the model-lead-test strategy commonly used in direct instruction programs and story grammar instruction. Once the students proficiently stated the definitions of the seven words and completed the

vocabulary matching map with 87% or higher accuracy, the students were ready to enter the baseline phase of the study.

Pre-teaching occurred to increase the students' ability to identify specific, salient social studies vocabulary words and terms using scripted vocabulary instruction and then completing a vocabulary map. Students were asked to give the definitions for each of the seven vocabulary terms. Students gave their answers verbally and by matching the vocabulary term to the correct definition. To assess the student's competence in vocabulary attainment, specific examples and non-examples were provided. When a student was unable to answer correctly, correction procedures were followed by the teacher. Once the student learned the terms, he was asked to complete a vocabulary map to demonstrate competence. Students were asked to match the correct term to the correct definition and the correct picture icon. The researcher measured student's attainment of salient vocabulary terms by completing oral probes and by asking the students to complete matching tasks. For example, the researcher asked the student, "What is an event?" and the students responded using the story grammar, scripted definition. Prior to beginning the baseline phase of this study, a student had to independently offer correct definitions to 87% of the words in three of five teaching trials.

Baseline. The interventionist presented the student with a passage adapted from the 8th grade, social studies text. The student was instructed to read to the passage. Student directed reading was completed by the student reading aloud, or silently. Upon completion of the passage, the student was presented with the modified graphic organizer. Each student also received a copy of the vocabulary guide, but did not receive instruction on its use. The teacher instructed the student to read and answer each question

or section. No other teacher assistance was offered. The student was to respond to sections of the graphic organizer in writing. Student answers were scored as independently correct or incorrect. Each student read five to six adapted passages during the baseline phase and were asked to complete a graphic organizer on each passage. Baseline continued for a minimum of five data points and until every student's data showed stable trends and level prior to the first student beginning intervention. Every student was reprobed every four to five instructional sessions so that each student had a minimum of five baseline points. Answers were scored on data collection sheet (Appendix L). A trial consisted of one adapted history passage and the completion of one graphic organizer. Each trial took between 10 and 30 minutes to complete. The student completed one trial per day, including the adapted passage and the graphic organizer. This remained consistent throughout the four phases of the study.

Intervention. After students learned the terms that were listed on the vocabulary guide, the first student to enter the intervention phase of the study received a new adapted social studies passage from the *History Alive: U. S. History* book. The teacher requested that the student read the first instructional passage. Once the student completed the reading of the passage, the teacher began specific instruction of the use of the graphic organizer. Using the instructional scripts, the teacher asked the student what the event was. When the student answered correctly, he was asked to complete that specific item on their graphic organizer. When the student answered incorrectly, the teacher read from the next section on their script, instructing the student to state the definition of the vocabulary word and answer the example/non-example portion of the vocabulary script. The teacher also asked the student to reread the passage. Once this process was complete, the teacher

again asked the student what the event in the passage is. If the student answered incorrectly again, the teacher reread the portion of the passage that describes the event. The student was then asked to name the event and if the student answered incorrectly, the teacher stated the passage event and asked the student to repeat it. Finally, the student was instructed to enter this information on their graphic organizer. This process continued until all nine items on the graphic organizer were completed. Scripts and passage answer keys were provided to the teacher to address each one of the item on the graphic organizer.

Intervention continued until the first student could answer 56% of the items for three data points on the graphic organizer independently correct. Once the first student in the intervention stage was demonstrating proficiency in the use of the graphic organizer, the next student was brought into the intervention phase of the study. This process continued until all students were in the intervention or in the generalization phase of the study.

Generalization. Once a student was able to maintain 78% independently correct on the items on the graphic organizer for three consecutive points, the student moved to the generalization phase of the study. For generalization, the student was given unfamiliar passages and the graphic organizer. The student completed the questions on the graphic organizer. Once the student completed the entire graphic organizer independently, the teacher scored it for the number of items that are correct and incorrect. When a student made an error on a specific question, the teacher employed the scripted correction procedure sequence, using the generalization correction procedure script (Appendix M). The student read one passage and completed one graphic organizer daily. Each graphic

organizer was scored from 0 to 9 points for accuracy. Each time that the teacher reverted to the using the script, that answer was scored as incorrect. Only answers that the student derives independently and correctly were scored as a correct response. The generalization stage of the study concluded when the student has completed four to five adapted passages from the *History Alive: U. S. History* text or was able to answer all nine items with 78% accuracy for three consecutive trials.

Independent Maintenance. At the completion of generalization phase of this study, when the student showed consistent implementation of the vocabulary skills to complete the modified graphic organizer, the teacher directed the student to read additional passages. The student was given passages to read and the graphic organizer to complete independently. The teacher scored the correct responses and recorded the student answers on the data sheet. At the completion of the work session, the teacher checked the student answers, and used the generalization script to clarify the correct answers. When a student made an error, the teacher encouraged that student to use their vocabulary guide to review the specific vocabulary. When the student was unable to use correctly respond to the question with the use of the vocabulary guide, the teacher reviewed the vocabulary term, using the scripted approach that was instructed during the intervention and generalization phase.

Procedural Fidelity

Interrater reliability. The nature of both phases of this study dictated that students create a permanent product as a demonstration of competence. The researchers also scored the vocabulary maps and the graphic organizers to assess interrater reliability.

Procedural fidelity. A checklist was developed to score the teachers on their delivery of the graphic organizer intervention. This helped to ensure fidelity. Fidelity checks were made for 75% of all instructional sessions. The teacher was expected to maintain a procedural fidelity score of 90% or greater. While the researcher planned to retrain the teacher if she fell below the 90% mark, her fidelity was always over 97% so it was not necessary to retrain her throughout any of the phases in the study.

Threats to Internal and External Validity

Internal threats to validity. A multiple probe across participants design was chosen to reduce the threat to internal validity. This design prevented the threat by reducing the amount of baseline testing. The teacher was also be asked to teach the strategies to only one student at a time, preferably in a separate room to prevent treatment diffusion, another threat to internal validity.

External validity. The intervention was utilized by three student participants. This will help to reduce the threats to external validity by showing generalized skill acquisition by three different students. Experimental control was confirmed by demonstrating at least three displays of the effects of the intervention through an inter-subject control (Horner et al., 2005; Kennedy, 2005).

CHAPTER 4: RESULTS

Interrater Reliability

In this section, the result of the interrater reliability for each student graphic organizer and for the entire study will be provided. Interrater reliability was taken for 56.2 % of baseline all sessions, 85.7% of intervention sessions, 100% of generalization sessions, and 100% of maintenance sessions. Interrater data were taken for each student during each phase of the study, and the number of interrater observations were evenly distributed across all students. At the conclusion of each session, the teacher scored the student's graphic organizer which served as a permanent product. Next, the second observer scored the graphic organizer and computed agreement with the primary scorer. The second observer also scored the student's on a separate chart as they occurred to resolve any disagreement. The teacher's scores and the observer's scores were compared and the rate of interobserver agreement was calculated. The rate of agreement throughout the baseline and main phases were 100%. The overall agreement of student responses on the graphic organizer throughout the study was 100%. Interobserver agreement was computed by dividing the total number of agreements by the sum of the agreements and multiplying the quotient by 100.

Procedural Fidelity

The primary researcher observed and recorded procedural fidelity on the interventionist in 75% of all baseline, intervention, generalization, and maintenance

sessions across all student participants. The interventionist provided overall treatment fidelity of 99.78%. Interrater agreement for fidelity was taken 37.5% of all monitored sessions with interobserver agreement at 100% for all trials. See Table 2.

Table 2

Procedural Fidelity

Student	% of sessions	Fidelity Range	Mean	IOA %
Le	83	100%- 100%	100%	100
David	83	98%- 100%	99.7%	100
Kimo	63	97.7- 100%	99.8%	100

Student Performance

Student 1. During the baseline phase of the study, Le was not able to correctly complete any items on the graphic organizer. In each of the five baseline sessions, Le scored 0% correct. In the eight intervention sessions, Le scored a range from 6 to 9 items correctly with a mean of 8.0. He was able to demonstrate proficiency on all nine items for the last three sessions of intervention. During the generalization phase of the study, Le scored a mean of 8.25 out of 9 in the four sessions with a range of seven to nine items scored correctly. In the maintenance phase of the study, Le scored in the range of eight to nine items correctly in two session for a mean of 8.5 items independently correct.

Student 2. David was unable to score any item correctly in the five baseline sessions. In the eight intervention sessions, David scored a range from two to eight items correctly with a mean of 6.75. During the generalization phase of the study, David scored a mean of 8.0 out of 9 in the four sessions with a range of seven to nine items scored correctly.

Student 3. Kimo scored zero items correct out of nine in the six baseline sessions. In the 12 intervention sessions, Kimo scored a range of one to eight items correctly with a range of 5.17 items correct. During the generalization phase of the study, Kim scored a mean of 7.5 out of 9 in the two sessions with a range of 7 to 8 items scored correctly.

Results for Question 1

What effect does graphic organizer instruction have on the comprehension of adapted text in the area of US History for students with severe disabilities?

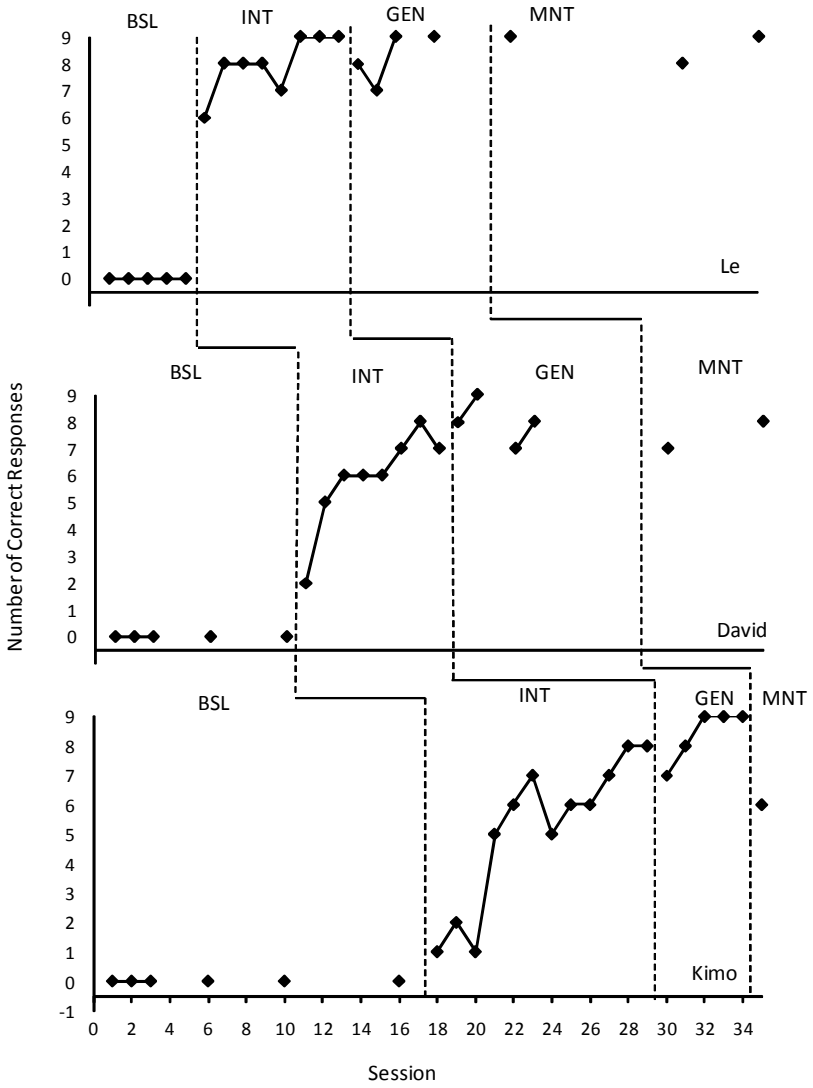

Figure 1. Student's number of correct items on the graphic organizer across four phases of the study.

Le's Scores

Figure 1 provides the total number of correct responses for the nine items on the graphic organizer for each session. Data indicate that the intervention had a positive effect on his ability to independently read a passage adapted from an eighth grade US History book and complete nine items on the graphic organizer with accuracy. Via visual analysis of the graph, a functional relationship can be established between the graphic organizer instruction and the student's ability to demonstrate compression of the US History passage. This functional relationship is determined by the jump in level after the intervention was introduced. Table 3 provides an item analysis of independently correct student responses in each of the phases of the study.

Table 3

Le's Item Analysis for the Items on the Graphic Organizer

Phase	Event	Location	Time	People	First Detail	Second Detail	Third Detail	Sequence	Outcome
BL	0/5	0/5	0/5	0/5	0/5	0/5	0/5	0/5	0/5
INT	6/8	7/8	8/8	6/8	7/8	7/8	8/8	8/8	7/8
GEN	3/4	2/4	4/4	4/4	4/4	4/4	4/4	4/4	4/4
MAN	2/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3	3/3

Note. BL- baseline; INT- intervention; GEN- generalization; MAN- maintenance

David's Scores

Figure 1 provides the total number of correct responses for the nine items on the graphic organizer. Data indicate that the intervention had a positive effect on his ability to read a passage adapted from an eighth grade US History book and complete each of the nine items on the graphic organizer with accuracy. Via visual analysis of the graph, a functional relationship can be established between the graphic organizer instruction and the student's ability to demonstrate compression of the US History passage. This functional relationship is established by the change in slope or trend after the intervention was introduced, clearly indicating a relationship between the instructional strategy and David's ability to complete the graphic organizer.

Table 4

David's Item Analysis for the Items on the Graphic Organizer

Phase	Event	Location	Time	People	First Detail	Second Detail	Third Detail	Sequence	Outcome
BL	0/5	0/5	0/5	0/5	0/5	0/5	0/5	0/5	0/5
INT	6/8	2/8	2/8	3/8	6/8	8/8	6/8	7/8	6/8
GEN	4/4	3/4	3/4	2/4	4/4	4/4	4/4	4/4	4/4
MAN	2/2	2/2	1/2	0/2	2/2	2/2	2/2	2/2	2/2

Note. BL- baseline; INT- intervention; GEN- generalization; MAN- maintenance

Kimo's Scores

Figure 1 provides the total number of correct responses for the nine items on the graphic organizer. Data indicate that the intervention had a positive effect on his ability to read a passage adapted from an eighth grade US History book and complete eight of nine

items on the graphic organizer with accuracy. Via visual analysis of the graph, a functional relationship can be established between the graphic organizer instruction and the student's ability to demonstrate compression of the US History passage. This functional relationship is established by the change in slope or trend after the intervention was introduced, clearly indicating a relationship between the instructional strategy and Kimo's ability to complete the graphic organizer.

Table 5

Kimo's Item Analysis for the Items on the Graphic Organizer

Phase	Event	Location	Time	People	First Detail	Second Detail	Third Detail	Sequence	Outcome
BL	0/5	0/5	0/5	0/5	0/5	0/5	0/5	0/5	0/5
INT	7/12	9/12	5/12	11/12	6/12	6/12	7/12	2/12	11/12
GEN	5/5	4/5	5/5	5/5	5/5	4/5	4/5	2/5	5/5
MAN	1/1	0/1	1/1	1/1	1/1	0/1	1/1	0/1	1/1

Note. BL- baseline; INT- intervention; GEN- generalization; MAN- maintenance

Results for Question 2

What is the effect of graphic organizer instruction on student's comprehension of untrained expository social studies text? After the students successfully completed the intervention phase of the study, they were eligible to enter the generalization phase. In the generalization phase, each student was given a new and untrained adapted passage, a vocabulary map, and a graphic organizer. Students were instructed by the interventionist to read their passage and complete the graphic organizer independently. Occasionally, the interventionist would remind the students to complete their passage or organizer. The

student participants were able to move into the generalization phase of the study quite seamlessly.

Le's Scores

Once the Le reached criteria for completion of the intervention phase, he began the generalization and maintenance phases of the study. In generalization, Le was given an adapted passage that he had never seen prior to the session. In the four generalization sessions, Le was able to demonstrate independent proficiency of skills learned in intervention. He scored in a range of seven to nine with a mean of 8.25 (See Figure 1).

After the intervention and generalization phases, maintenance data were collected at 10-15 day intervals to monitor if Le was able to sustain the skills learned. During maintenance, Le scored from seven to nine points on the graphic organizer for a mean of eight of nine points.

David's Scores

In the generalization phase, David was able to demonstrate his ability to complete the graphic organizer independently. His scores ranged from seven to nine with a mean of 8. After the intervention and generalization phases, maintenance data were collected at 10 day intervals to monitor if David was able to sustain the skills learned. During maintenance, David scored the seven and eight points on the graphic organizer for a mean of 7.5 (See Figure 1).

Kimo's Scores

In the generalization phase, Kimo was able to demonstrate his ability to complete the graphic organizer independently. His scores ranged from seven to nine with a mean of 8.4 in five sessions. During maintenance, Kimo scored six points on the first trial.

CHAPTER 5: DISCUSSION

The purpose of this study was to investigate the use of specific vocabulary of social studies instruction to teach middle school students with autism to use a modified graphic organizer procedure to promote improved expository text comprehension in social studies topic area of United States History. A multiple-probe across participants design was utilized to ascertain the impact of the independent variable on the dependent variable. The following research questions guided the investigation:

1. What effect does graphic organizer instruction have on the comprehension of students with autism of adapted text in the area of US History?
2. What is the effect of graphic organizer instruction on student's comprehension of untrained expository social studies text?

The findings of this study demonstrated a functional relationship between the graphic organizer intervention and all three students' ability to answer comprehension questions on a graphic organizer related to a United States History passage that had been adapted from grade-level expository text. Each student was able to identify the individual sections of the graphic organizer, give a general definition of the vocabulary term (i.e., event is an incident that happens in history), find the specific answer in the adapted passage, and write that information on their graphic organizer.

Based on the findings of this study, a functional relationship was established as each student was able to generalize these skills to independently complete a graphic organizer using unfamiliar passages. While Le and David were able to complete the passages independently without any teacher intervention from the beginning of the generalization and maintenance stages, initially, Kimo required multiple reminders to "keep working" (*vs.* engaging in self-stimulatory behaviors) to work through the graphic organizer process. Kimo did achieve independence in generalizing the tasks of reading the passage and completing the graphic organizer. After the students completed the generalization phase of the study, periodic maintenance sessions occurred, and each student was able to maintain the skills learned to independently complete a graphic organizer after reading an unfamiliar passage.

Effects of the Intervention on the Dependent Variables

Question 1: What effect does graphic organizer instruction have on the comprehension of students with autism of adapted text in the area of US History? In this study, a functional relationship was established between the graphic organizer intervention and the students' abilities to correctly complete a graphic organizer independently thus demonstrating comprehension of the adapted social studies passages. Each of the three students was able to show an increase in the number of correct responses throughout the intervention stages and two of three of the students were able to generalize these skills.

Reading comprehension of narrative and expository text is a heavily researched area in the field of education, but without applications for students with autism. Strategies that work in comprehension of narrative text also have been successful for the

comprehension of the expository text of social studies (Brophy et al., 2009), even though social studies texts may provide some additional challenges such as text structure, sequence, compare and contrast, and cause and effect (Meyer et al., 2001). Some of the strategies generally used with both types of text are task monitoring, graphic organizers, story retelling procedures, mnemonics, peer tutoring, and story maps (Gersten et al., 2001). One common strategy for increasing comprehension in both narrative and expository text is the use of graphic organizers. This study is unique because it is the first of its kind to address comprehension of expository text, specifically social studies, for students with autism.

This study was a multi-component treatment. The first component was to preteach vocabulary needed to successfully use a graphic organizer. The results of one study suggested that it was important teach the appropriate vocabulary grammar to the student participants (Rayner & Pollatsek, 1989). A second component was the use of scripted lessons to teach students actually complete the graphic organizer. In order to maintain integrity of the vocabulary grammar, scripted lessons were included. Scripting student lessons has a strong evidence-base in research (Bos & Anders, 1990; Fagella-Luby et al., 2007; Westerveld & Gillon, 2008). In this study, scripted lessons were important, as the teacher-interventionist was very consistent in the delivery of the intervention, as well as consistent in the correction procedure for incorrect responses.

The third treatment component was instruction to use the graphic organizer. There is strong evidence for the use of graphic organizer strategies with students across the four main curriculum areas of English/language arts, math, science, and social studies(Garjria et al., 2007). There are additional studies that indicate that the use of

graphic organizers support the text comprehension of students with and without disabilities (Armbuster & Anderson, 1988; Bos & Anders, 1990; Darch & Carnine, 1986; Darch & Eaves, 1986; Dowhower, 1999; Fraise-Blunt, 2000; Griffin et al., 1991; Williams, 2005). There is little evidence to support the use of modified graphic organizers for students with developmental disabilities, and this is one study that employed the use of a graphic organizer to measure the comprehension of students with autism when reading expository text. The results of this study do show promise for the use of this graphic organizer. This current study extends this body of research by showing that students with autism can demonstrate comprehension of adapted social studies expository text by completing a graphic organizer. In this study, a systematic method for instructing students in the use of the graphic organizer and several visual cues (e.g. vocabulary map, colorful graphic organizer) supported the learning of the salient vocabulary needed to complete the graphic organizer.

Question Two: What is the effect of graphic organizer instruction on student's comprehension of untrained expository social studies text? Once a functional relationship between the graphic organizer intervention and the students' abilities to complete a graphic organizer was established, students were then asked to read and complete a graphic organizer independently with untrained text. Findings indicated that a functional relationship was established between the graphic organizer intervention and comprehension of untrained adapted social studies passages. Each of the three students also were able to maintain these skills in the generalization phase of the study.

This generalization is important for two reasons. Currently there are no published studies that address social studies content and students with severe disabilities, so this study may create a foundation for other studies to follow when the goal is to teach a strategy for learning the content. The one study that investigated social studies instruction with students with autism (Dugan et al., 2005) had student participants that functioned on a much higher cognitive level and were found to have mild forms of autism. This study very possibly may stand alone in a collection of research studies for students with autism and intellectual disability.

The second reason that generalization may be considered important is the possibility that this newly acquired skill set may not only generalize to untrained adapted passages in social studies, but may generalize in other text in additional subject areas. Garjira et al. (2007) found that graphic organizer instruction showed the greatest promise for measuring the comprehension of both narrative and expository text. Ellis (1994) asserted that the use of graphic organizers was a simple way for students to intellectually process and organize complex information found in expository text. In a meta-analysis on graphic organizer use for text comprehension, Kim et al. (2004) found that graphic organizers provided the greatest supports for comprehending expository text. While none of these studies included students with severe disabilities or autism, the generalization that occurred in the current study support further exploration of this strategy for this population. Graphic organizers when used within a systematic process can support students with autism and intellectual disability to learn social studies through independent comprehension of narrative and expository text.

Limitations

One limitation of this study may be the small number of student participants which may impact the generalizabiltiy of the study as a whole. Much more research needs to be conducted in future studies to consider graphic organizer intervention for students with developmental disabilities including autism in the area of social studies to be an evidence-based intervention. Horner et al. (2005) recommends that the criteria for evidence-based interventions include a minimum of five studies, with 22 or more participants, in at least three different geographical locations. Using Horner et al.'s criteria, the current research contributes only one study with a total of three participants, in one geographical location (North Carolina). According to this set of criteria, graphic organizer in the area of social studies for students with severe disabilities would be considered, at best, an emerging practice.

A second limitation may be the location of the intervention. Student participants received their instruction individually and in a separate room from their peers. As instruction was delivered in a separate setting, this does not replicate the way that most students who attend public schools learn social studies content. Middle school social studies is typically taught in grade-level classrooms with class sizes from 20-30 students and one teacher providing instruction and guidance to the entire class simultaneously. To replicate this study in a general education setting, students may need support to use the adapted social studies passages as an augment to the typical text (e.g., someone to create the summaries; teacher cue about when to read/use the summary).

A third limitation may be the difficulty of the content provided to the student participants. Each passage was carefully prepared to meet specific Lexile and

comprehension guidelines, but the students occasionally had difficulty finding the requested information even after careful scanning. The process of reading the passage and completing the nine step graphic organizer was arduous for each of the students. In future studies, the stressful process of learning the graphic organizer intervention may be lessened by the use of forward or backward chaining strategies which have been found to be helpful in teaching complex processes to students with disabilities in a step by step format (Spooner & Spooner, 1984).

A fourth limitation in this study would be that while the students did gain proficiency and independence when reading an adapted social studies passage and completing the graphic organizer, this type of activity would be aligned to inductive thinking (Taba, 1967). Inductive thinking demonstrates the ability to learn material such as names and dates from expository text (McCormick, 2008). This study did not approach deductive thinking or historical thinking (Wineberg, 2001). Students in this study were not able to demonstrate the ability to utilize reasoning skills to make choices, balance opinions, or tell stories from the content and context of history.

The final limitation would be one student's dependence on teacher encouragement and prompting to keep working. Kimo experienced some difficulties in the generalization phase of the study due to his need for continual support and reinforcement. It is unclear whether Kimo's performance could have been improved with a different method of behavior support.

Suggestions for Future Research

The results of this study indicate a functional relationship between graphic organizer instruction and the ability of students to accurately and independently complete

a graphic organizer relating to reading of an adapted grade level social studies passage. To further strengthen these results of this study and to contribute to the possibility of attaining research or evidence based status, replication of this study is recommended. Using another group of students and additional adapted passages would strengthen the results of this intervention.

Another suggestion for future research is to determine if students with autism and intellectual disability could learn the graphic organizer strategy in other settings, primarily in a general education setting. This could be determined by providing general education and special education teachers the materials and the training to implement the intervention package in the context of a general education setting. If the lessons were provided and aligned to the general education lessons, researchers could determine if the graphic organizer intervention could be instructed within the general education setting.

A third suggestion for future research would be the use of peer tutors to provide the intervention and instruction to the students with disabilities. Using peer supports to assist students with disabilities to access school environments and activities has been in existence for several decades (Carter & Hughes, 2005; Donder & Nietupski, 1981). Often peer supports are recruited for socially related activities (Hunt, Farron-Davis, Wrenn, Hirose-Hatae, & Goetz, 1997; Kennedy & Itkonen, 1994; Nientimp & Cole, 1992). In contrast, Carter, Cushing, Clark, and Kennedy (2005) also found that peers can impact academic skill instruction and assist students with disabilities to participate in general education classes and may also provide an alternative to overreliance on paraprofessionals. Given these potential benefits, some consideration needs to be given

about what may be unique about recruiting and training peers for academic tutoring versus social support.

A fourth proposal for future research would be to adopt this method of teaching social studies vocabulary and graphic organizer intervention to other student populations, including struggling learners with and without IEPs. These strategies might easily be introduced to a general education class of students. If these lessons were introduced in a general education classroom, with or without the benefit of adapted text, researchers could establish if the graphic organizer intervention would be successful for all students to demonstrate inductive thinking skills (McCormack, 2008; Taba, 1967).

A final recommendation is to continue to research strategies of providing social studies instruction for this population of students. As the possibility that legislation comes closer to mandating instruction and assessment in the content area of social studies, there is a sense of urgency in finding research and evidence-based practices that will direct teachers in the process of teaching social studies. Graphic organizer instruction has a long and rich research-base as does the systematic and scripted method of teaching salient vocabulary terms in story grammar instruction. These two methods may help to create a foundation for measuring student comprehension of social studies passages.

Implications for Future Practice

Teachers of students with autism and intellectual disability are in need of research and evidence-based strategies to teach social studies to their students. These teachers can begin to gather ideas from this study. While the intervention, as used with students with autism, is in its infancy and nowhere close to being a research-based strategy, the findings from this study are promising. Most importantly, results of this study show that

students with autism were able to demonstrate comprehension of expository text using the graphic organizer strategy. This supports previous research for students with and without disabilities.

Although this study did not occur in a general education classroom, the current intervention has potential for use across a variety of general education content areas because it provides a structured way for engaging students with severe disabilities with expository text. For example, once the participants master the vocabulary terms and the graphic organizer process, the strategy could be applied for text summaries of both narrative text (e.g., other stories) and informational text (e.g., science, social studies). One of the features of the training used in this study is that student participants learned to complete specific active responses. Downing (2006) notes the need for educators to utilize universal design for learning (UDL) allowing the content to be accessible from the outset or creation, rather than making modifications as an afterthought. Future electronic text books may make it possible for text summaries and other adaptations to be contained within the materials used by all students. In the interim, the use of passage summaries with picture symbols may be an adaptation with usefulness beyond students with developmental disabilities. For example, creating a passage summary may be a way for students who read on grade level to demonstrate comprehension. Other struggling readers may read the summary as a method to preview the passage to be read.

Summary

While social studies is not currently an assessed curriculum subject area as required by law, it is important for students to learn the skills that social studies encompasses. While there are numerous studies that support teaching social studies for

students without disabilities, this was one of the first studies to demonstrate specific and systematic strategies for teaching true history content to students with autism.

The long-range results of this study are unknown and it is hoped that the strategies that were taught in this study will generalize to other areas of social studies, as well as other curriculum areas. In addition, these are strategies that teachers can employ to teach curriculum specific vocabulary and content specific comprehension skills.

The purpose of this study was to investigate the use of specific vocabulary of social studies instruction to teach middle school students with developmental disabilities to use a modified graphic organizer procedure to promote improved expository text comprehension in social studies topic area of United States History. Findings indicate that the intervention was successful for the students to demonstrate the comprehension of adapted expository text by using a graphic organizer strategy. Replications of this intervention in the future may lead to a research-base practice for instructing teachers on how to educate their students with autism and intellectual disability.

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APPENDIX A: PRINCIPAL'S CONSENT FORM

November 30, 2010

Dear _____,

The following information is provided to ascertain whether _____ School would like to participate in a research-based study. As the principal of the school, you should be aware that you are free to decide not to participate or to withdraw at any time without consequences.

The purpose of this study is to investigate the use of specific vocabulary of social studies instruction to teach middle school students with severe disabilities to use a modified graphic organizer procedure to promote improved expository text comprehension in social studies topic area of United States History. Data will be collected by the teacher and/or investigator four to five days per week. Each session should take no longer than 60 minutes. The investigator will make all attempts to minimize any disruptions to your school.

Do not hesitate to ask any questions prior to, during, or after about the study. At the conclusion of the study, all information will be made available to you, the teacher, the students, and their parents.

Confidentiality for the school, the students, and the teacher will be strictly maintained.

There are no known risks or discomforts associated with this study. The benefits include that students with significant disabilities will have access to grade-level reading material in accordance to No Child Left Behind Act, 2001.

Please sign this consent form. You are signing it with the knowledge of the nature and purpose of this investigation. A copy of this form will be given to you for your records.

Thank you,
Tracie-Lynn Zakas
Doctoral Student
University of North Carolina at Charlotte

_____ _____

Principal Signature Date

APPENDIX B: TEACHER'S CONSENT FORM

November 30, 2010

Dear _____,

The following information is provided to ascertain whether you and your class would like to participate in a research-based study. As the teacher in a classroom for students with autism at your school, you should be aware that you are free to decide not to participate or to withdraw at any time without consequences.

The purpose of this study is to investigate the use of specific vocabulary of social studies instruction to teach middle school students with severe disabilities to use a modified graphic organizer procedure to promote improved expository text comprehension in social studies topic area of United States History.

Data will be collected by you and/or the investigator four to five days per week. Each session should take no longer than 60 minutes. Your responsibilities will be at attend three scheduled training sessions and to implement the intervention in your classroom as prescribed. The investigator will make all attempts to minimize any disruptions to your classroom and your school.

Do not hesitate to ask any questions prior to, during, or after about the study. At the conclusion of the study, all information will be made available to you, the teacher, the students, and their parents. Confidentiality for the school, the students, and you will be strictly maintained.

There are no known risks or discomforts associated with this study. The benefits include that students with significant disabilities will have access to grade-level reading material in accordance to No Child Left Behind Act, 2001.

Please sign this consent form. You are signing it with the knowledge of the nature and purpose of this investigation. A copy of this form will be given to you for your records.

Thank you,
Tracie-Lynn Zakas
Doctoral Student
University of North Carolina at Charlotte

_____ _____

Teacher Signature Date

APPENDIX C: INFORMED CONSENT FOR PARENTS

Informed Consent for Parents

TEACHING SOCIAL STUDIES CONTENT TO STUDENTS WITH AUTISM USING A GRAPHIC ORGANIZER INTERVENTION

Project Title and Purpose

The purpose of this study is to investigate the use of specific vocabulary for social studies instruction to teach middle school students with severe disabilities to use a modified graphic organizer procedure to promote improved expository text comprehension in social studies topic area of United States History.

Investigator(*s*)

Tracie-Lynn Zakas, a doctoral student at UNC-Charlotte will be the primary investigator. The faculty supervisor will be Dr. Diane Browder, a professor at UNC-Charlotte.

Eligibility

To be included, participants must be enrolled in a Charlotte Mecklenburg middle school. Participants must be identified with autism, must receiving the majority of their education in a self-contained classroom for students with autism, must have a current IEP, and must have signed parental consent.

Overall Description of Participation

Teachers will explicitly teach text comprehension to middle school-aged students with autism using a graphic organizer strategy. Students will be taught specific vocabulary to increase the likelihood that social studies text comprehension skills can be maintained and generalized for other readings.

Length of Participation

The study will take place over a 90 day period in which baseline data will be collected, intervention will be trained and implemented and data will be collected. Each session should last approximately 30-60 minutes daily. This will occur during your child's regularly scheduled social studies period, so there should be no disruption to his/her school day.

Risks and Benefits of Participation

No risks are anticipated. Your child will benefit from participation in this study by having increased opportunity to participate in the general education curriculum in the content area of social studies.

Volunteer Statement

Your child is a volunteer. The decision to participate in this study is completely up to you. If you or your child decide to be in the study, you or your child may stop at any time. You will not be treated any differently if you decide not to participate in the study or if you stop once you have started, nor will your child's grades or classroom status be impacted.

Confidentiality Statement

Any information about your participation or your child's, including your identity, is completely confidential. The following steps will be taken to ensure this confidentiality:

Confidentiality will be maintained by using psuedonyms for all study participants when the results of the study are written. During the study, students-peers will be

instructed to keep the confidentiality of their study partner. All data will be stored in a locked cabinet, in a locked office on the UNCC campus. All data on the computer will be secured under a password protected account that will be accessable only to the research team. No data will be stored on a "virtual" hard-drive.

The name of the teacher and the school will be changed to maintain anonymity of the study participants.

Statement of Fair Treatment and Respect

UNC Charlotte wants to make sure that you are treated in a fair and respectful manner. Contact the university's Research Compliance Office (704-687-3309) if you have questions about how you are treated as a study participant. If you have any questions about the actual project or study, please contact Dr. Diane Browder (704-687-8836) or Tracie-Lynn Zakas (704-618-8732 or 980-343-2634).

Approval Date

This form was approved for use on November 1, 2010 for use for one year.

Consent

I have read the information in this consent form. I have had the chance to ask questions about this study, and those questions have been answered to my satisfaction. I am at least 18 years of age, and I agree to participate in this research project. I understand that I will receive a copy of this form after it has been signed by me and the principal investigator of this research study.

_____

Participant Name (PRINT)

_____ _____

Parent Signature DATE

_____ _____

Tracie-Lynn Zakas
Investigator Signature DATE

APPENDIX D: STUDENT ASSENT FORM

Student Assent Form

Hello! My name is Tracie-Lynn Zakas and I'm a student at the University of North Carolina at Charlotte. I'm doing some research!

I want to help you to learn some important strategies so you can learn more about history. I would like you to participate in my study. You will have to work your teacher everyday to learn as much as you can about US History. You don't have to participate if you don't want to. If you decide not to try it, it's not going to affect your grade or anything else in your classes, but your answers might help students to learn more about social studies. If you agree, I'd like you to sign below.

_____I agree to participate.

_____I do not agree to participate.

Printed Name:
_____

Signed:
_____

Date: _____

APPENDIX E: VOCABULARY SCRIPTS

Script for Event

Teacher: Let's learn about the vocabulary of social studies.

My turn first. Listen. What is an event?
An event is an incident that happens in the past. Say it with me.
T: An event is an incident that happens in the past.
Student: An event is an incident that happens in the past .
T: Yes, An event is an incident that happens in the past.
T: Your turn. What is an event?
S: An event is an incident that happens in the past.

Use "My Turn – Together– Your Turn" to correct errors.
Repeat until firm (i.e., students can say it independently)

T: I'm going to name some things from an event. You tell me 'event' or 'not an event."
T: Presidential Election
S: Event
T: A man walks on the moon
S: Event
T: Video Game
S: Not a Event
T: A pig
S: Not a Event
T: The first day of school
S: Event

Use "My Turn – Together– Your Turn" to correct errors.
(e.g., "My turn. The video game is not an event because it is not an incident that happens in an event.)
Repeat until firm (i.e., students can say it independently)

T: Your turn. What is an event?
S: An event is an incident that happens in the past.

Repeat until firm

Script for Location

Teacher: Let's learn another word from the vocabulary of social studies.

T: My turn first. Listen. What is a location?
A location is where the event takes place. Say it with me.
T: A location is where the event takes place.
Student: A location is where the event takes place.
T: Yes, A location is where the event takes place.
T: Your turn. What is a location?
S: A location is where the event takes place.

Use "My Turn – Together– Your Turn" to correct errors.
Repeat until firm (i.e., students can say it independently)

T: I'm going to name some things from history. You tell me 'location' or 'not a location."
T: Battlefield
S: Location
T: Washington DC
S: Location
T: Pencil
S: Not a Location
T: Mother
S: Not a Location
T: United States of America
S: Location

Use "My Turn – Together– Your Turn" to correct errors.
(e.g., "My turn. The pencil is not a location, because it is not where the event took place.)
Repeat until firm (i.e., students can say it independently)

T: Your turn. What is a location?
S: A location is where the event takes place .

Repeat until firm

Script for People

Teacher: Let's learn another word from the vocabulary of social studies.

T: My turn first. Listen. What are people?
People are an individual or group who take part in an event. Say it with me.
T: People are an individual or group who take part in an event .
Student: People are an individual or group who take part in an event.
T: Yes, people are an individual or group who take part in an event.
T: Your turn. What are people?
S: People are an individual or group who take part in an event.

Use "My Turn – Together– Your Turn" to correct errors.
Repeat until firm (i.e., students can say it independently)

T: I'm going to name some people in history. You tell me 'people' or 'not people."
T: Barack Obama
S: People
T: Abraham Lincoln
S: People
T: Car
S: Not people
T: Elevator
S: Not people
T: Pilgrim
S: People

Use "My Turn – Together– Your Turn" to correct errors.
(e.g., "My turn. The car and an elevator are not people because those are note a person or a group at an event.)
Repeat until firm (i.e., students can say it independently)

T: Your turn. What are people?
S: People are the person or the group at the event.

Repeat until firm

Script for Time

Teacher: Let's learn another word from the vocabulary of social studies.
T: My turn first. Listen. What is time?
Time means the moment when the event takes place. Say it with me.
T: Time means the moment when the event takes place.
Student: Time means the moment when the event takes place.
T: Time means the moment when the event takes place.
T: Your turn. What is time?
S: Time means the moment when the event takes place.

Use "My Turn – Together– Your Turn" to correct errors.
Repeat until firm (i.e., students can say it independently)

T: I'm going to name some times from history. You tell me time or not time.
T: In the winter
S: Time
T: In 1492
S: Time.
T: Dog
S: Not time
T: Everyone is happy and we use an umbrella.
S: Not time
T: At night
S: Time

Use "My Turn – Together– Your Turn" to correct errors.
(e.g., "My turn. The "A dog and using an umbrella is not time, because these are not moments when an event takes place)
Repeat until firm (i.e., students can say it independently)

T: Your turn. What is time?
S: Time means the moment when the event takes place.

Repeat until firm

Script for Detail

Teacher: Let's learn another word from the vocabulary of social studies.
T: My turn first. Listen. What is detail?
Detail is a description of the event. Say it with me.
T: Detail is a description of the event.
Student: Detail is a description of the event.
T: Detail is a description of the event.
T: Your turn. What is detail?
S: Detail is a description of the event.

Use "My Turn – Together– Your Turn" to correct errors.
Repeat until firm (i.e., students can say it independently)

T: I'm going to name some details from history. You tell me detail or not detail.
T: In the city
S: Detail
T: During the storm
S: Detail.
T: The event
S: Not a detail
T: Barak Obama becomes president
S: Not a detail
T: At night
S: Detail

Use "My Turn – Together– Your Turn" to correct errors.
(e.g., "My turn. The "Barak Obama becomes president is not a detail, because this is the event.)
Repeat until firm (i.e., students can say it independently)

T: Your turn. What is detail?
S: Detail is a description of the event.

Repeat until firm

Script for Sequence

Teacher: Let's learn another word from the vocabulary of social studies.
T: My turn first. Listen. What is sequence?
Sequence means the order that details happen (1st, 2nd, 3rd). Say it with me.
T: Sequence means the order that details happen (1st, 2nd, 3rd).
Student: Sequence means the order that details happen (1st, 2nd, 3rd).
T: Sequence means the order that details happen (1st, 2nd, 3rd).
T: Your turn. What is sequence?
S: Sequence means the order that details happen (1st, 2nd, 3rd).

Use "My Turn – Together– Your Turn" to correct errors.
Repeat until firm (i.e., students can say it independently)

T: I'm going to name some sequences from history. You tell me sequence or not sequence.
T: First, there was an election
S: Sequence
T: Second, there was an inauguration
S: Sequence.
T: Puppy
S: Not sequence
T: Fork
S: Not sequence
T: Third, the president took office
S: Sequence

Use "My Turn – Together– Your Turn" to correct errors.
(e.g., "My turn. The "Puppy and fork are not a part of sequence, because these are not the order that details happen)
Repeat until firm (i.e., students can say it independently)

T: Your turn. What is sequence?
S: Sequence means the order that details happen (1st, 2nd, 3rd).

Repeat until firm

Script for Outcome

Teacher: Let's learn another word from the vocabulary of social studies.
T: My turn first. Listen. What is an outcome?
An outcome means the result of the event. Say it with me.
T: An outcome means the result of the event.
Student: An outcome means the result of the event.
T: An outcome means the result of the event.
T: Your turn. What is an outcome?
S: An outcome means the result of the event.

Use "My Turn – Together– Your Turn" to correct errors.
Repeat until firm (i.e., students can say it independently)

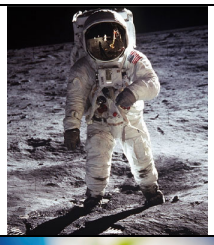
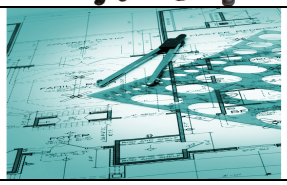
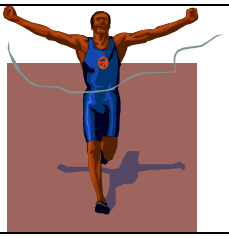
T: I'm going to name some outcomes from history. You tell me an outcome or not an outcome.
T: The country had a new president.
S: An outcome
T: The USA had its first black president.
S: An outcome.
T: Sneaker
S: Not an outcome
T: In 2008
S: Not an outcome
T: Many people were happy to have a new president.
S: An outcome

Use "My Turn – Together– Your Turn" to correct errors.
(e.g., "My turn. The "A sneaker and "in 2008" are not outcomes, because these are not results of the event.)
Repeat until firm (i.e., students can say it independently)

T: Your turn. What is an outcome?
S: Time means the result of the event.

Repeat until firm

APPENDIX F: VOCABULARY MAPS

Term	Definition	Picture Cue
Detail	People are the person or group at the event.	
Time	Sequence is the order that details happen (1st, 2nd, 3rd).	
Outcome	An event is an incident that happens in history.	
People	The outcome is the result of the event.	
Sequence	Location is where the event takes place.	
Location	Time is the moment when the event takes place.	
Event	Details are a description of the event.	

APPENDIX G: DATA COLLECTION SHEET FOR VOCABULARY MAPS

Match word to definition to picture cue

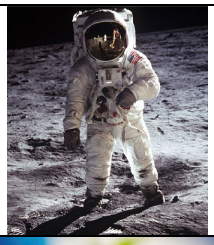
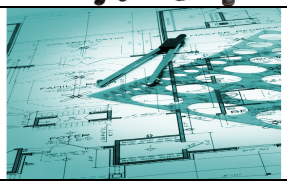
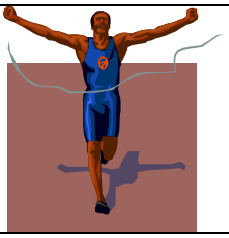
Date	Vocabulary Map #	Event (2)	Character (2)	Location (2)	Time (2)	Detail (2)	Sequence (2)	Outcome (2)	Number Ind. Correct	% Correct
									/14	%
									/14	%
									/14	%
									/14	%
									/14	%
									/14	%
									/14	%
									/14	%
									/14	%
									/14	%
									/14	%
									/14	%
									/14	%

Student Name_____

+ = independent correct NR= no response

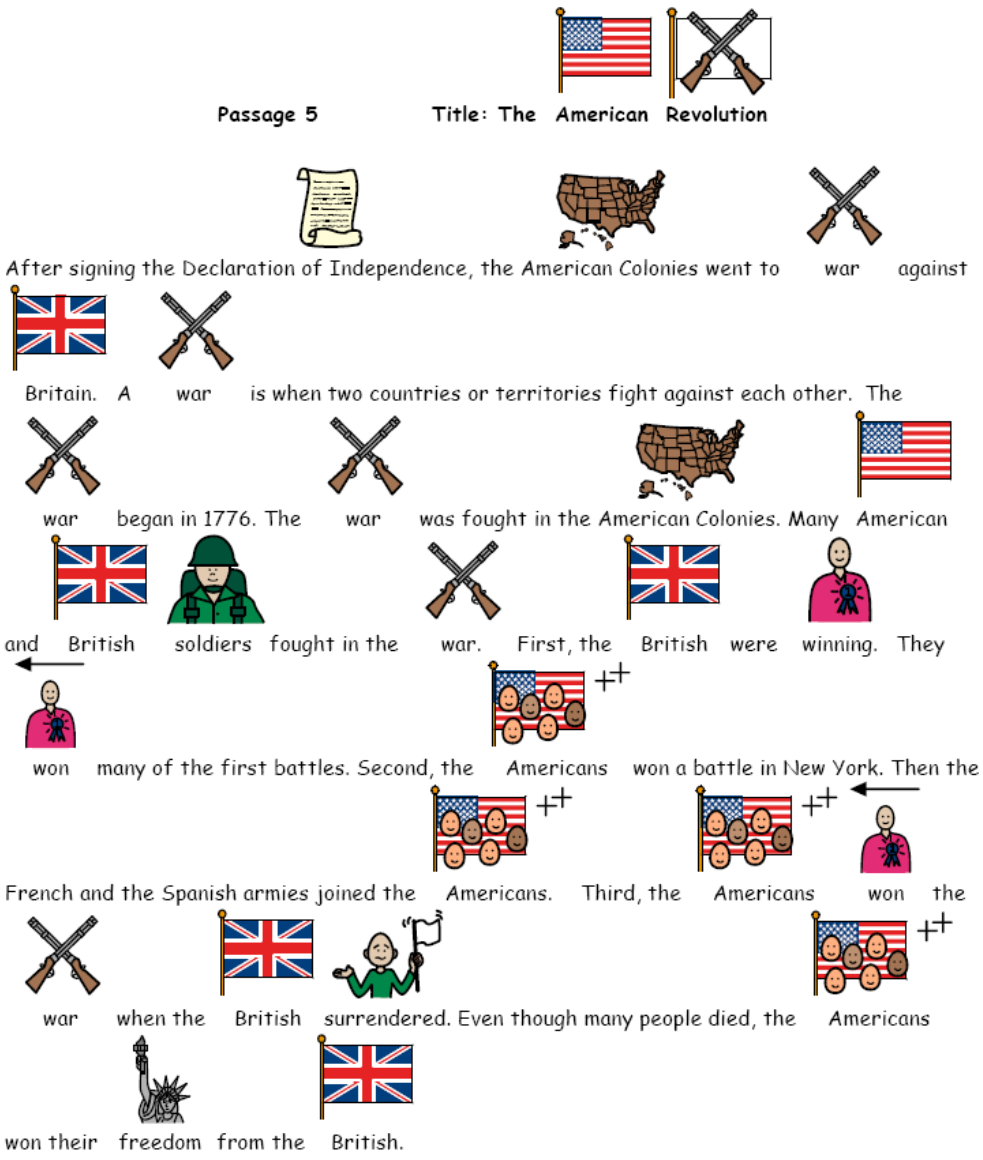
0= incorrect or error P= correct after prompting

APPENDIX H: VOCABULARY GUIDE

Term	Definition	Picture Cue
Event	An event is an incident that happens in history.	
Location	Location is where the event takes place.	
Time	Time is the moment when the event takes place.	
People	People are the person or group at the event.	
Detail	Details are a description of the event.	
Sequence	Sequence is the order that details happen (1st, 2nd, 3rd).	
Outcome	The outcome is the result of the event.	

APPENDIX I: SAMPLE PASSAGE AND ANSWER SHEET

Sample Passage and Answer Sheet



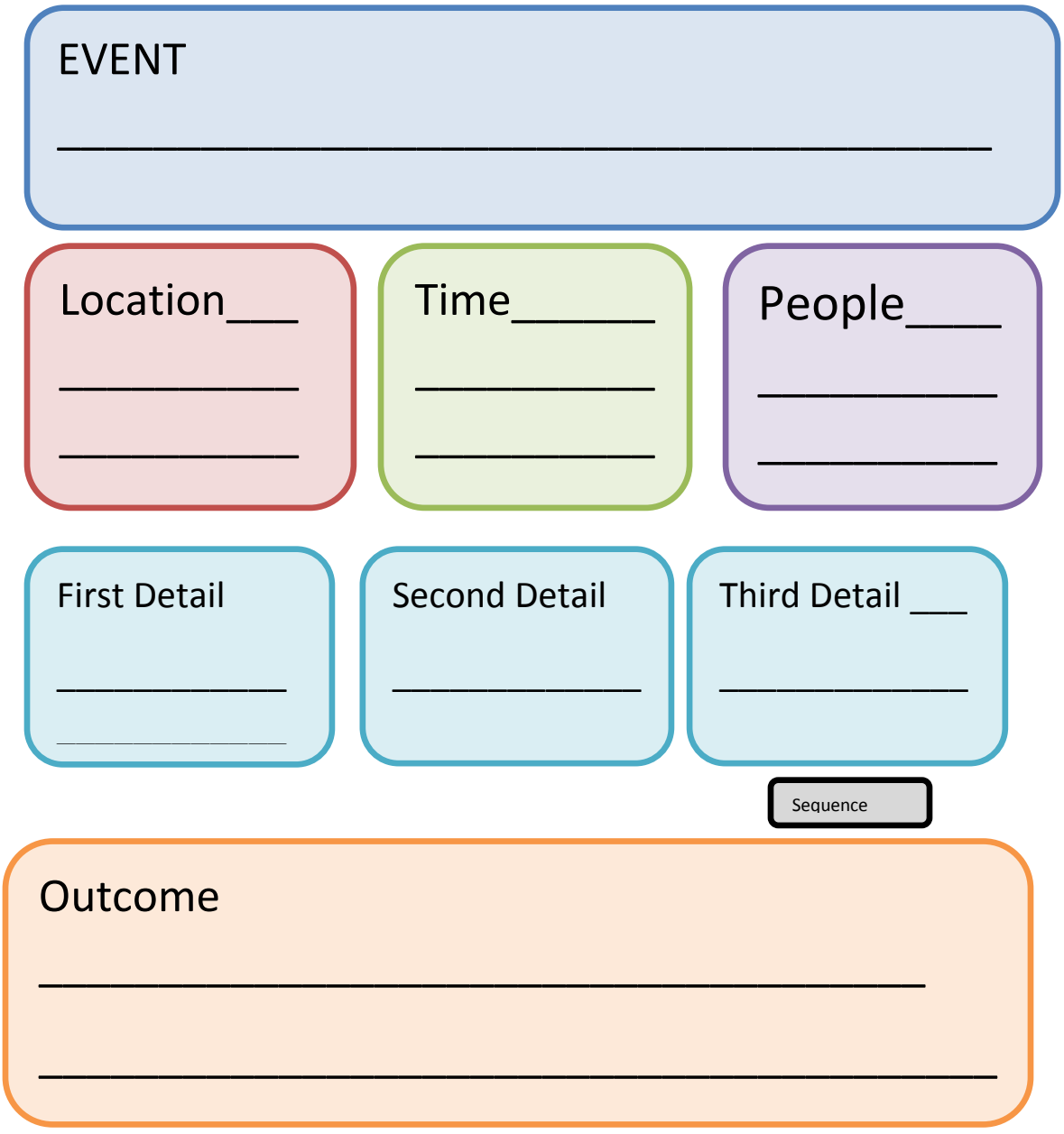
Passage: 5

Title: The American Revolution

After signing the Declaration of Independence, the American Colonies went to war against Britain. A war is when two countries or territories fight against each other. The war began in 1776. The war was fought in the American Colonies. Many American and British soldiers fought in the war. First, the British were winning. They won many of the first battles. Second, the Americans won a battle in New York. Then the French and the Spanish armies joined the Americans. Third, the Americans won the war when the British surrendered. Even though many people died, the Americans won their freedom from the British.

Term	**Answer**
Event	The American Colonies went to war against Britain.
Location	American Colonies America
Time	1776
People	Americans British Soldiers
First Detail	First, the British were winning.
Second Detail	Second, the Americans won a battle in New York.
Third Detail	Third, the Americans won the war when the British surrendered.
Outcome	Even though many people died, the Americans won their freedom from the British.
Highlighted Words	American Colonies, America, soldiers, war, win/winning/won, armies/army, surrender, freedom

APPENDIX J: GRAPHIC ORGANIZER



Student: _____ Date: _____

Passage Number: _____ B: ____ I: ____ G: ____ Score: ___/ 9 Percent: _____%

APPENDIX K: INSTRUCTIONAL SCRIPTS

First, I am going to ask you to read the passage from social studies. You can read it aloud or you can read it to yourself. When you are finished reading, we are going to complete your graphic organizer about this passage. If the student reads silently, ask them to "Please let me know when you have finished reading the passage."

Once the student has completed the passage, give them the graphic organizer.

EVENT

The first item on our graphic organizer is EVENT. Point to EVENT. Can you find EVENT on your graphic organizer? Touch EVENT. Wait for the student to touch the word EVENT.

What is an EVENT? Wait for the student to give the answer from the vocabulary script. Praise the correct response. If the student does not give the correct response, refer back to the vocabulary script for event and complete the script.

Now, I want you to listen carefully and think about your answer. What is the EVENT in this passage? Wait for the student response. If the student responds and gives the correct answer as it relates to the passage, ask them to "Write that in the box for EVENT." Once the student has written their answer, praise the correct response.

If the student answers incorrectly or does not respond, ask the student Give the definition of EVENT. If the student does not give the correct response, refer back to the vocabulary script for event and complete the script. Refer the student back to the passage and ask them to name the event. If the student answers correctly, ask them to write their answer on the graphic organizer and praise their response.

If the student answers incorrectly or does not respond,-Try again. I want you to tell me the EVENT in our passage. Listen carefully as **I** read the sections of the passage that tells us the EVENT. Read the portion of the passage that names the EVENT and ask the student "Now that I have read the passage, can you tell me what is the event in this passage?" If the student responds correctly, praise the response and ask them to write it on their graphic organizer.

If the student responds incorrectly, The event in this passage is _____ (see passage notes to fill in the correct EVENT). Now you say the event. Can you tell me what the event is? Yes, you are right! The event in this passage is _____. Can you write that on your graphic organizer?

Thanks. Let's move on to our next box which is LOCATION.

LOCATION

The next item on our graphic organizer is LOCATION. Point to LOCATION. Can you find LOCATION on your graphic organizer? Touch LOCATION. Wait for the student to touch the word LOCATION.

What is a LOCATION? Wait for the student to give the answer from the vocabulary script. Praise the correct response. If the student does not give the correct response, refer back to the vocabulary script for location and complete the script.

Now, I want you to listen carefully and think about your answer. What is the LOCATION in this passage? Wait for the student response. If the student responds and gives the correct answer as it relates to the passage, ask them to "Write that in the box for LOCATION." Once the student has written their answer, praise the correct response.

If the student answers incorrectly or does not respond, ask the student Give the definition of LOCATION. If the student does not give the correct response, refer back to the vocabulary script for location and complete the script. Refer the student back to the passage and ask them to name the location. If the student answers correctly, ask them to write their answer on the graphic organizer and praise their response.

If the student answers incorrectly or does not respond,-Try again. I want you to tell me the LOCATION in our passage. Listen carefully as **I** read the sections of the passage that tells us the LOCATION. Read the portion of the passage that names the LOCATION and ask the student "Now that I have read the passage, can you tell me what the location in this passage is?" If the student responds correctly, praise the response and ask them to write it on their graphic organizer.

If the student responds incorrectly, The location in this passage is _____ (see passage notes to fill in the correct LOCATION). Now you say the location. Can you tell me what the location is? Yes, you are right! The location in this passage is _____. Can you write that on your graphic organizer?

Thanks. Let's move on to our next box which is TIME

TIME

The next item on our graphic organizer is TIME. Point to TIME. Can you find TIME on your graphic organizer? Touch TIME. Wait for the student to touch the word TIME.

What is the TIME? Wait for the student to give the answer from the vocabulary script. Praise the correct response. If the student does not give the correct response, refer back to the vocabulary script for time and complete the script.

Now, I want you to listen carefully and think about your answer. What is the TIME in this passage? Wait for the student response. If the student responds and gives the correct answer as it relates to the passage, ask them to "Write that in the box for TIME." Once the student has written their answer, praise the correct response.

If the student answers incorrectly or does not respond, ask the student Give the definition of TIME. If the student does not give the correct response, refer back to the vocabulary script for time and complete the script. Refer the student back to the passage and ask them to name the time. If the student answers correctly, ask them to write their answer on the graphic organizer and praise their response.

If the student answers incorrectly or does not respond,-Try again. I want you to tell me the TIME in our passage. Listen carefully as **I** read the sections of the passage that tells us the TIME. Read the portion of the passage that names the TIME and ask the student "Now that I have read the passage, can you tell me what the time in this passage is?" If the student responds correctly, praise the response and ask them to write it on their graphic organizer.

If the student responds incorrectly, The time in this passage is _____ (see passage notes to fill in the correct TIME). Now you say the time. Can you tell me what the time is? Yes, you are right! The time in this passage is _____. Can you write that on your graphic organizer?

Thanks. Let's move on to our next box which is PEOPLE.

PEOPLE

The next item on our graphic organizer is PEOPLE. Point to PEOPLE. Can you find PEOPLE on your graphic organizer? Touch PEOPLE. Wait for the student to touch the word PEOPLE.

What are PEOPLE? Wait for the student to give the answer from the vocabulary script. Praise the correct response. If the student does not give the correct response, refer back to the vocabulary script for people and complete the script.

Now, I want you to listen carefully and think about your answer. Who are the PEOPLE in this passage? Wait for the student response. If the student responds and gives the correct

answer as it relates to the passage, ask them to "Write that in the box for PEOPLE." Once the student has written their answer, praise the correct response.

If the student answers incorrectly or does not respond, ask the student Give the definition of PEOPLE. If the student does not give the correct response, refer back to the vocabulary script for people and complete the script. Refer the student back to the passage and ask them to name the people. If the student answers correctly, ask them to write their answer on the graphic organizer and praise their response.

If the student answers incorrectly or does not respond,-Try again. I want you to tell me the PEOPLE in our passage. Listen carefully as **I** read the sections of the passage that tells us the PEOPLE. Read the portion of the passage that names the PEOPLE and ask the student "Now that I have read the passage, can you tell me who the people in this passage are?" If the student responds correctly, praise the response and ask them to write it on their graphic organizer.

If the student responds incorrectly, The people in this passage is _____ (see passage notes to fill in the correct PEOPLE). Now you say the people. Can you tell me what the people are? Yes, you are right! The people in this passage are _____. Can you write that on your graphic organizer?

Thanks. Let's move on to our next 3 boxes which are the DETAILS.

DETAIL

The next items on our graphic organizer are the 3 DETAILs. Point to DETAIL. Can you find DETAIL on your graphic organizer? Touch DETAIL. Wait for the student to touch the word DETAIL.

What is a DETAIL? Wait for the student to give the answer from the vocabulary script. Praise the correct response. If the student does not give the correct response, refer back to the vocabulary script for detail and complete the script.

Now, I want you to listen carefully and think about your answer. What is one DETAIL in this passage? Wait for the student response. If the student responds and gives the correct answer as it relates to the passage, ask them to "Write that in the first box for DETAIL." Once the student has written their answer, praise the correct response. What is another DETAIL in this passage? Wait for the student response. If the student responds and gives the correct answer as it relates to the passage, ask them to "Write that in the second box for DETAIL." Once the student has written their answer, praise the correct response.

What is another DETAIL in this passage? Wait for the student response. If the student responds and gives the correct answer as it relates to the passage, ask them to "Write that in the third box for DETAIL." Once the student has written their answer, praise the correct response.

If the student answers incorrectly or does not respond, ask the student Give the definition of DETAIL. If the student does not give the correct response, refer back to the vocabulary script for detail and complete the vocabulary script. Refer the student back to the passage and ask them to name the detail. If the student answers correctly, ask them to write their answer on the graphic organizer and praise their response.

If the student answers incorrectly or does not respond,-Try again. I want you to tell me a DETAIL in our passage. Listen carefully as **I** read the sections of the passage that tells us the DETAIL. Read the portion of the passage that names the DETAIL and ask the student "Now that I have read the passage, can you tell me what a detail in this passage is?" If the student responds correctly, praise the response and ask them to write it on their graphic organizer. Repeat this for the second and third details.

If the student responds incorrectly, The first detail in this passage is _____ (see passage notes to fill in the correct DETAIL). Now you name a detail. Can you tell me what the first detail is? Yes, you are right! The first detail in this passage is _____. Can you write that on your graphic organizer? Repeat for the second and third detail.

Thanks. Let's move on to SEQUENCE.

SEQUENCE

The next thing that we need to think about is SEQUENCE. What is a SEQUENCE? Wait for the student to give the answer from the vocabulary script. Praise the correct response. If the student does not give the correct response, refer back to the vocabulary script for SEQUENCE and complete the script.

Now, I want you to listen carefully and think about your answer. What is the SEQUENCE of the 3 details in this passage? Wait for the student response. They should respond with "First the_____; Second the _____; and Third, the _____. If the student responds and gives the correct answer as it relates to the passage, ask them to "Check your details to see if they are in the correct SEQUENCE." Once the student has checked their answer, praise the correct response.

If the student answers incorrectly or does not respond, ask the student Give the definition of SEQUENCE. If the student does not give the correct response, refer back to the vocabulary script for SEQUENCE and complete the script. Refer the student back to the

passage and ask them to name the SEQUENCE. If the student answers correctly, ask them to write their answer on the graphic organizer and praise their response.

If the student answers incorrectly or does not respond,-Try again. I want you to tell me the SEQUENCE of the details are in our passage. Listen carefully as **I** read the sections of the passage that tells us the SEQUENCE of the details. Read the portion of the passage that names details in the SEQUENCE and ask the student "Now that I have read the passage, can you tell me what is the SEQUENCE of our details are in this passage?" If the student responds correctly, praise the response and ask them to write it on their graphic organizer.

If the student responds incorrectly, The SEQUENCE of the details are FIRST, _____; SECOND, _____; and THIRD, _____. (see passage notes to fill in the correct SEQUENCE). Now you say the SEQUENCE of the details. Can you tell me what the SEQUENCE of the details are? Yes, you are right! The SEQUENCE in this passage is FIRST, _____; SECOND, _____; and THIRD, _____. Can you write that on your graphic organizer?

Thanks. Let's move on to our last box which is OUTCOME.

OUTCOME

The last item on our graphic organizer is OUTCOME. Point to OUTCOME. Can you find OUTCOME on your graphic organizer? Touch OUTCOME. Wait for the student to touch the word OUTCOME.

What is an OUTCOME? Wait for the student to give the answer from the vocabulary script. Praise the correct response. If the student does not give the correct response, refer back to the vocabulary script for outcome and complete the script.

Now, I want you to listen carefully and think about your answer. What is the OUTCOME in this passage? Wait for the student response. If the student responds and gives the correct answer as it relates to the passage, ask them to "Write that in the box for OUTCOME." Once the student has written their answer, praise the correct response.

If the student answers incorrectly or does not respond, ask the student Give the definition of OUTCOME. If the student does not give the correct response, refer back to the vocabulary script for outcome and complete the script. Refer the student back to the passage and ask them to name the outcome. If the student answers correctly, ask them to write their answer on the graphic organizer and praise their response.

If the student answers incorrectly or does not respond,-Try again. I want you to tell me the OUTCOME in our passage. Listen carefully as **I** read the section of the passage that tells us the OUTCOME. Read the portion of the passage that names the OUTCOME and ask the student "Now that I have read the passage, can you tell me what the outcome in this passage is?" If the student responds correctly, praise the response and ask them to write it on their graphic organizer.

If the student responds incorrectly, The outcome in this passage is _____ (see passage notes to fill in the correct OUTCOME). Now you say the outcome. Can you tell me what the outcome is? Yes, you are right! The outcome in this passage is _____. Can you write that on your graphic organizer?

Thanks. We have finished our graphic organizer. You have worked very hard today!

APPENDIX L: DATA COLLECTION SHEET FOR THE GRAPHIC ORGANIZER

Student Name_____

Date	Passage Number	Event	Character	Location	Time	Detail 1	Detail 2	Detail 3	Sequence	Outcome	Number Ind. Correct	Percent Correct

+ = independent correct NR= no response

0= incorrect or error P= correct after prompting

APPENDIX M: SCRIPT FOR GENERALIZATION

First, I want you to read the passage from social studies. You can read it aloud or you can read it to yourself. When you are finished reading, you will complete your graphic organizer about this passage to the best of your ability. Please let me know if you need help with reading any of the words. Give student the passage, a graphic organizer, and a vocabulary guide. Now, I want you complete the whole graphic organizer by yourself. Remember that you can use your vocabulary guide if you need it. Let me know when you are finished and we will review your answers together.

Once the student has completed the reading and the graphic organizer, correct the passage with the student. I can see that you worked really hard on your social studies passage today. Let's see how you did.

The first item is **event**. If the student gets it correct, praise the correct answer and move on to the next item. Score this a + or correct on the graphic organizer

If the student gets the item incorrect, return to the Intervention/Instructional script to correct the item insuring the student knows the correct response before proceeding to the next item. Score this a 0 or incorrect on the graphic organizer. Continue to the next item.

The next item is **location**. If the student gets it correct, praise the correct answer and move on to the next item. Score this a + or correct on the graphic organizer

If the student gets the item incorrect, return to the Intervention/Instructional script to correct the item insuring the student knows the correct response before proceeding to the next item. Score this a 0 or incorrect on the graphic organizer. Continue to the next items on the graphic organizer:

Time

People

3 Details

Sequence

Outcome

Score each item and praise students for correct responses.

Correct each incorrect item using the Instructional/Intervention scripts.

Score the graphic organizer.