Marshall University Marshall Digital Scholar

Theses, Dissertations and Capstones

2014

The Effectiveness of Graphic Organizers on the Comprehension of Social Studies Content by Students with Disabilities

Martha Lynn Mann hightow1@marshall.edu

Follow this and additional works at: http://mds.marshall.edu/etd



Part of the Special Education and Teaching Commons

Recommended Citation

Mann, Martha Lynn, "The Effectiveness of Graphic Organizers on the Comprehension of Social Studies Content by Students with Disabilities" (2014). Theses, Dissertations and Capstones. Paper 890.

This Research Paper is brought to you for free and open access by Marshall Digital Scholar. It has been accepted for inclusion in Theses, Dissertations and Capstones by an authorized administrator of Marshall Digital Scholar. For more information, please contact zhangi@marshall.edu.

Effectiveness of Graphic Organizers
The Effectiveness of Graphic Organizers on the Comprehension of Social Studies Content by
Students with Disabilities
Research Paper
"Submitted to the Special Education Faculty of Marshall University College of Education and
Professional Development in Partial Fulfilment of the Requirements for the Degree
Masters of Arts"
By
Martha Lynn Mann
May 8, 2014

Keywords: graphic organizers, social studies, comprehension, students with disabilities

Abstract

Today, more students with disabilities are being served in inclusive classrooms and are required to achieve the high expectations set by the 21st Century standards. Many are not being successful, due to the difficulty of differentiating between what is important and is not important in the social studies textbooks. Research suggests that graphic organizers can help facilitate learning through visual representations, but they are not being utilized to help students in the comprehension and achievement of the curriculum content. This study focused on the effectiveness of "concept/event maps and sequence chains." These two types of graphic organizers were utilized during class discussions, reading, and homework assignments to aid in the comprehension of the eighth grade social studies content as determined by the achievement on posttest measures in four middle school classrooms in rural West Virginia.

Dedication

I dedicate my research study to my husband, Danny. I want to thank him for his patience, understanding, and support over the past two years. I would like to thank my family and friends, especially Heather, for listening and offering advice as I journeyed through this process. I appreciate her support through the countless hours of working together to reach the end. I want to thank my very special daughter, Maggie, she is my inspiration and the reason I love my job. In addition, I want to thank the faculty and staff at Marshall University Graduate College for their dedication to ensure my success in the special education program. Lastly, thanks to the students and staff at my middle school for allowing me to complete this study.

Table of Contents

Chapter 1: Introduction	6
Statement of the Problem	6
Purpose of the Study	7
Rationale for the Study	8
Research Question	8
Chapter 2: Review of the Literature	9
Graphic Organizers in Social Studies	11
Graphic Organizers and Students with Disabilities	11
Graphic Organizers – Organizing/Classifying and Sequencing	13
Graphic Organizers and Implementation	15
Effectiveness of Graphic Organizers	17
Statement of the Hypothesis	18
Summary of the Literature	19
Chapter 3: Methods	20
Participants	20
Procedures	20
Materials	21

Data Collection and Analysis	21
Chapter 4: Results	23
Class Data	23
Chapter 5: Discussion	27
Implications of the Study	27
Informal Observations	28
Limitations to the Study	28
Conclusions	29
References	30
Appendices	33

Chapter 1: Introduction

According to Myers & Savage (2005) graphic organizers are a research based strategy that promotes comprehension and aids in student learning with the complex content often addressed in social studies. Ausubel (1963) suggested that the use of graphic organizers greatly influences learning by providing students with a meaningful framework to relate existing knowledge to new information. Utilizing visuals, such as those provided by graphic organizers, in social studies curriculum facilitates memory and content achievement (Tate, 2003).

With the increased demands in the 21st century and the Common Core Standards, known in West Virginia as the Next Generation Standards, schools are under pressure to ensure student learning and achievement. These standards are based on clear, consistent, high expectations, relevant to real world, provide equality, and reflect the knowledge all students need for success (National Governors Association Center for Best Practices, Council of Chief State School Officers, 2010). Schools also must demonstrate that students are effectively progressing based on assessments, thus meeting the demands of the Next Generation Standards. Giving students strategies, such as graphic organizers in order to achieve in the classroom, especially in social studies is vital in comprehending the curriculum.

Statement of the Problem

Today, more students with disabilities are being served in inclusive classrooms and are required to achieve the high expectations set by the standards (Scruggs, Mastropieri, & Okolo, 2008b). Many are not being successful even though they are capable of achieving at the same level as typically developing peers (Stein, 2013). Many students also have difficulty

differentiating between what is and is not important in the social studies textbooks (Myers & Savage, 2005). Scruggs, Mastropieri, & Okolo (2008) also suggested that the social studies curriculum is a challenge for students with disabilities due to the constraints of cognitive development and limited background knowledge of the material presented during instruction.

Research shows that utilizing graphic organizers in social studies classrooms does aid in the comprehension of the content. The amount of information presented in the social studies curriculum and textbooks can be overwhelming to students. Graphic organizers give them a means to organize the material, recognize the key concepts, and focus on the important information (Farris, 2001).

According to Marchand-Martella, Miller, and MacQueen (1998) graphic organizers are a simple tool utilized by students to help them grasp key information. They also allow the learning process to be more efficient and effective, especially for students with disabilities (Dexter & Hughes, 2011). Instructional practices that include the use of graphic organizers, effectively improve the performance and achievement of students with disabilities in the social studies classroom (Scruggs et al., 2008b).

Purpose of the Study

The purpose of this research is to study the effectiveness of graphic organizers, specifically concept/event maps and sequence chains, on the comprehension of the social studies content by students with and without disabilities. Concept/event maps are used to organize and represent important information within the text. Sequence chains allow students to list events from beginning to end in order to understand the content (Walch, 2005).

This study focuses on utilizing concept/event maps and sequence chains, in inclusive social studies classrooms. One hundred and four students in the eighth grade, with and without disabilities in a small rural West Virginia middle school will participate in the research with a timeline of six weeks. A pretest and posttest will be given, designed by the authors of the social studies curriculum utilized at the school. Teacher made assessments at the end of each chapter will also be utilized in the data. Information to be included are scores from both pretest and posttest and teacher made assessments, class sizes, gender, ethnicity, number of students with and without disabilities.

Rationale for the Study

Graphic organizers facilitate the students understanding of the social studies curriculum through visual representations (Kim, Vaughn, Wanzek, & Wei, 2004). This study is one step in a series of studies to demonstrate the effectiveness of graphic organizers on comprehension. Predicting whether graphic organizers aid in comprehension, specifically the concept/event maps and sequence chains utilized in this research, will be determined by student achievement on the posttest measures of the social studies content. However, if students, especially those with disabilities, are to be successful in the 21st century, they must be given effective strategies and supports to increase achievement.

Research Question

What effect do graphic organizers, specifically concept/event maps and sequence chains have on the achievement of the social studies content by students with and without disabilities?

Chapter 2: Review of the Literature

This chapter will provide a review of the literature concerning the use of graphic organizers in the classroom to aid in the comprehension of the social studies content. The researched literature is divided into five categories: (A) the use of graphic organizers in the social studies classroom, (B) how graphic organizers help students with disabilities, (C) graphic organizers utilized to organize/classify and sequence events, (D) methods of implementing graphic organizers, and (E) the effectiveness of graphic organizers.

Graphic Organizers in Social Studies

What is social studies? The National Council for the Social Studies (1992) defined social studies as the integrated study of the social sciences and humanities to promote civic competence. The primary purpose of social studies 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.

According to the recent amendments of the Individuals with Disabilities Education Improvement Act of 2004 (IDEA 2004) students with disabilities are being included in general education classrooms such as social studies. Furthermore, the No Child Left Behind Act of 2001 (NCLB 2001) regulations require that all students work on the appropriate grade-level curriculum. The focus of the social studies curriculum is on skills and strategies that include problem solving, analysis, synthesis, and evaluation. These high-level thinking skills and the requirements of inclusion in general education creates a significant challenge for students with disabilities in the social studies classroom (Steele, 2008).

Social studies is an information rich subject with an estimate of 85 to 95 percent of the content addressed emerging from the textbook. Therefore, interacting with the text is critical for students to learn the social studies content (Myers & Savage, 2005). Graphic organizers utilized in the social studies curriculum help students to focus on the important information within the text. Massey & Heffner (2004) found in their study that using outlines and graphic organizers in social studies classrooms allowed students to learn the key concepts within the text through visual representations.

Learners need to understand the context and the structure of the text in order to understand the content, yet many students lack the necessary skills to comprehend the complex relationships among ideas, facts, and concepts often found in social studies. Farris (2001) suggested that graphic organizers give the students control over the text and assist in comprehension. Students need to be given the necessary tools to make sense of social studies texts, graphic organizers can be utilized as a valuable tool in the comprehension of the content (Guzzetti, 1992).

According to the research, students better connect and comprehend the social studies content when utilizing graphic organizers. Gallavan and Kottler (2007) suggested that graphic organizers aid in students' motivation, short term recall, and long term achievement by allowing students to summarize, manipulate, and manage the complex social studies curriculum.

In the social studies classroom graphic organizers help students to preview new material, make connections, recognize patterns, identify main ideas, understand relationships between key concepts, organize information, take notes, and review material. Graphic organizers also help foster higher level critical thinking skills by asking students to recall, evaluate, synthesize,

analyze, and apply what they have learned. Research shows that graphic organizers contribute to better test scores in social studies content because they help students understand the key relationships and ideas of the curriculum thus enabling them to be more focused as they study (Walch, 2005).

Graphic organizers provide an essential tool for learning social studies content. They aid in the comprehension of concepts that guide student achievement. Graphic organizers make learning a manageable and fun task for all students especially those with disabilities (Gallavan & Kottler, 2007).

Graphic Organizers and Students with Disabilities

Research suggests that graphic organizers provide multiple benefits for students with disabilities. They allow access to the content, provide tailored instruction to meet student needs, and support learning the curriculum in the classroom (Scruggs, Mastropieri, & Okolo, 2008). Students with disabilities have shown to benefit from the use of graphic organizers due to the fact that they reduce the cognitive demand on learning and aid in recalling information quickly and clearly. Graphic organizers also help students with disabilities to organize the content, take concise notes, retain, and apply what they have learned (Walch, 2005).

Many students with disabilities often have difficulty connecting new material to prior knowledge, identifying and ignoring extraneous information, identifying main ideas and supporting details, drawing inferences, and creating efficient problem-solving strategies (Baumann, 1984; Holmes, 1985; Johnson, Graham, & Harris, 1997; Kim, Vaughn, Wanzek, & Wei, 2004; Williams, 1993). Because many textbooks are written above grade-level reading ability and lack organizational clarity (Gajria et al., 2007), these learning difficulties make

interpreting and comprehending texts especially challenging. Students with disabilities need explicit content enhancements to assist in comprehension. Graphic organizers have often been recommended as an instructional tool to assist students in understanding complex concepts, such as in the social studies curriculum (Dexter & Hughes, 2011).

Expository text is more information driven and may contain unfamiliar technical vocabulary. These texts are often organized poorly and require students to perform complex cognitive tasks in order to comprehend the material (Lapp, Flood, & Ranck-Buhr, 1995). Many students with disabilities who already have difficulty with reading and study skills are challenged by the academic demands of reading and interpreting the text (Bryant, Ugel, Thompson, & Hamff, 1999; Bryant et al., 2000). Therefore, these students can benefit from learning strategies that facilitate the comprehension of this type of text. One strategy that has often been recommended to assist students with disabilities in learning from expository text is the use of graphic organizers (Bos & Vaughn, 2002; Rivera & Smith, 1997; Taylor, Harris, & Pearson, 1988).

Kim et al. (2004) examined the effects of graphic organizers on reading comprehension of students with disabilities. The examination revealed overall beneficial outcomes across the studies. In general, the findings support the use of graphic organizers to promote these students' reading comprehension. Across the board, when the students were taught to use graphic organizers, large effect sizes were demonstrated on teacher developed reading comprehension posttests. Visual displays of information such as those provided by graphic organizers enhance the reading comprehension of students with disabilities. (Kim et al., 2004).

Graphic organizers have been recommended as tools to help students with disabilities read for meaning and understand relationships between concepts in all subject areas (Kim, Vaughn, Wanzek, & Wei, 2004). In addition, the research shows that they are effective in helping students with disabilities to comprehend and learn from social studies text in particular (Boon, Fore, Ayres, & Spencer, 2005; DiCecco & Gleason, 2002; Scanlon, Deshler, & Schumaker, 1997).

Graphic organizers allow teachers to differentiate instruction based on the needs of students and the content being learned by the students in order to comprehend the complex and key concepts in social studies curriculum (Hall, Kent, McCulley, Davis, & Wanzek, 2013). Teachers that utilize graphic organizers in their instructional practices provide a means for students with disabilities to organize information around the main ideas. This support has shown many benefits on student learning of the social studies material (Scruggs, Mastropieri, & Okolo, 2008). Many researchers have identified graphic organizers as useful tools to aid students in their ability to comprehend the content presented in the social studies classroom, especially those students with disabilities.

Graphic Organizers - Organizing/Classifying and Sequencing

Graphic organizers are an essential strategy to aid in the organizing/classifying and sequencing of materials and events in the social studies curriculum to help students with disabilities comprehend the content (Marchand-Martella et al., 1998). This study will focus on utilizing graphic organizers to aid in comprehension and thus achievement on social studies assessments. Specifically, students will utilize two types of organizers, concept/event maps and sequence chains, to help performance in the social studies classroom.

A concept/event map is a graphical tool used to organize and represent information. It uses the questions who, what, where, when, how, and why to identify key points. The main idea, concept, or event is written in the middle of the page with lines drawn from the center with the key questions to be answered as a student reads the social studies content. These maps help students to sort out key points to better comprehend the material read (Walch, 2005).

Another important characteristic of concept maps is the inclusion of cross-links. These are relationships or links between concepts in different segments or areas of the concept/event map. Cross-links show how a concept in one area of knowledge represented on the map is related to a concept in another area shown on the map. There are two features of concept/event maps that are important in the facilitation of creative thinking: the hierarchical structure that is represented in a good map and the ability to search for and characterize new cross-links (Novak & Canas, 2008).

Concept/event maps serve several purposes for learners. They help students brainstorm and generate new ideas. They encourage students to discover new concepts and the keys that connect them. They allow students to more clearly communicate ideas, thoughts, and information. They help students integrate new concepts with older concepts. They enable students to gain enhanced knowledge of any topic and evaluate the information (Inspiration.com, 2013).

According to Atkins (2009) numerous studies have found that students with disabilities benefit from concept mapping. Improvements in verbal and written abilities as well as reading and comprehension abilities, increased when students with learning disabilities used concept/event maps. One study in particular he noted was completed by the Office of Special

Education Programs, within the U.S. Department of Education. This study showed a slight but consistent improvement in comprehension and a moderate improvement in vocabulary when students used concept/event mapping during their general studies. The research indicates that concept/event maps do provide a meaningful learning experience by allowing students to clearly structure and organize information in order to comprehend important information.

The second graphic organizer for this study is sequence chains. Sequencing or order of events is a key concept in social studies. Students have to understand what happened first, then next, and last in order to make sense of the content. Being able to determine how events happened and in what order aids in the comprehension of why those events occurred (Walch, 2005).

Walch (2005) defined sequence chains as a way to organize and describe a series of events. They show students stages of development, phases of an era, or the actions taken by an individual or group. They also represent the outcomes of all the steps in a sequence. Sequence chains aid in students comprehension of complex social studies content by identifying the steps in an event or process.

Limited research has been found on the effectiveness of sequence chains in the comprehension of social studies content. This study may provide some evidence that this specific graphic organizer is as effective as other types that have been studied.

Graphic Organizers and Implementation

Merkley & Jeffries (2000) suggest that teachers follow a set of guidelines in order to make the implementation of graphic organizers more successful. This section will review some suggestions in operating procedures for implementing graphic organizers in the classroom.

According to Merkley and Jefferies (2000) there are five essential steps in implementing graphic organizers. The first step is to verbalize relationships among concepts expressed by the visual, in other words, reminding students that the graphic organizer is an overview of the material that will be read. Secondly, the teacher must provide opportunities for student input and involvement in class discussions. Third, the teacher should make a connection between current and past instruction and knowledge. The fourth step is to reference the upcoming reading or lesson. Finally, help students decode the text and make sense of what was read or learned.

Another idea about the implementation and usage of graphic organizers comes from McCoy & Ketterlin-Geller (2004). They suggest that teachers should think about the main ideas and supporting details first. They should also consider how the supporting details fit with the main idea. This should be the basis of the teacher's visual representation of the information in the graphic organizer. The graphic organizer should include space for examples and non-examples of the main ideas. This design enables students to identify important information, draw meaning from text, provide concrete examples, and distinguish between details or facts.

Research revealed another strategy in implementing graphic organizers that suggested as a first step teacher's explain and model each section of the graphic organizer to students. Then students are given time to answer questions and complete the graphic organizer. The teacher's role is to observe and assist students where needed. Once the assignment is completed, class discussion and review of the graphic organizer ensures that the students understood the main concept of the lesson. The final aspect is that the graphic organizer can be utilized for another activity such as an essay, timeline, or model (Strong, Silver, Perini, & Tuculescu, 2002).

Although the implementation techniques between these studies vary, the goal remains the same: provide students a means to make connections, think critically about the material, enhance comprehension, and to become independent learners.

Effectiveness of Graphic Organizers

Graphic organizers are effective tools in learning of the content. Bellanca (2007) referenced a study done by the Institute for Advancement of Research in Education (IARE) concerning graphic organizers. The authors of this study found that graphic organizers have a number of positive benefits for student learning and achievement. Among the findings reported were increased reading comprehension, improved student achievement over grade levels and content areas, and a more extended period of information retention. In addition, students showed an increased ability to organize information, identify relationships, and categorize essential textbook materials. Furthermore, students with learning disabilities exhibited a higher achievement level in school (Bellanca, 2007).

Tileston (2004) reported that graphic organizers help students organize their notebooks, their notes, and the essential information that will be helpful to them as a guide to use in the future. Note taking using organizers was found to help some students improve their writing. Fordham, Wellman, & Sandmann (2002) reported that students can more easily summarize a section of text through writing or prepare for an essay about a certain topic if they used organizers and with this type of support, students at all levels can approach a writing task more confidently. Farris (2000) agrees that graphic organizers can help with everyday classroom tasks like reading, writing, note taking, and group work.

Bellanca (2007) suggested that graphic organizers can help students develop important cognitive functions because the organizers help students think about specific operations and outcomes in the material. His research also states that graphic organizers can help strengthen study habits. Some authors found that graphic organizers were useful for improving cognitive skills in a variety of ways. Gillet & Temple (1994) found that some organizers help students think critically about plot and text structures like sequential ordering, cause and effect, literal and implied information, and comparing and contrasting. Strong, Silver, Perini, & Tuculescu (2002) found similar results in their studies. They found that after using graphic organizers, students saw information more clearly in six main categories: sequences, topic descriptions, cycle structures, problem and solution, and cause/effect relationships.

Walch (2005) described graphic organizers as a powerful tool that not only tells students the relationships between concepts; it shows them visually the connections. Students can use graphic organizers before a lesson to lay the foundation for new ideas, to recall what they know, and to make connections between the two. Graphic organizers can be utilized to take and organize notes to review and prepare for tests. They also help students to identify main ideas, important information, compare/contrast, recognize patterns, and comprehend the content. These uses of graphic organizers make them an effective strategy for students.

Statement of the Hypothesis

Eighth grade students with and without disabilities in a social studies classroom who utilize graphic organizers, specifically concept/event maps and sequence chains, to aid in the achievement of content perform better on assessments than eighth grade students who do not utilize graphic organizers.

Summary of the Literature

By reviewing the literature of graphic organizers in five areas (the use of graphic organizers in the social studies classroom, how graphic organizers help students with disabilities, graphic organizers utilized to organize/classify and sequence events, methods of implementing graphic organizers, and the effectiveness of graphic organizers) the studies suggest that by utilizing graphic organizers in the classroom, students are more equipped to comprehend and apply what they have learned, contributing to better scores on assessments. Despite the amount of research on graphic organizers and their effectiveness, Marzano (2001) reports that the graphic organizer is the most underused of high effective strategies in the classroom. This valuable tool should be used on a more frequent basis to allow students to retain and apply what they have learned to ensure success.

Chapter 3: Methods

This research study analyzed the effectiveness of graphic organizers in classrooms on the achievement of the social studies content. It was completed at a small, rural middle school in southern West Virginia. The school had approximately 400 students in fifth through eighth grades. One of the primary goals within this school was that all students were progressing and meeting the demands of the 21st Century. In order for students to succeed, they must be given strategies or tools that allow them to comprehend the curriculum. Graphic organizers could be one possible solution to meeting this need. Therefore, my research hypothesis for this study became: Did eighth grade students with and without disabilities in a social studies classroom who utilized graphic organizers, specifically concept/event maps and sequence chains, to aid in the achievement of content perform better on assessments than eighth grade students who did not utilize graphic organizers?

Participants

The study was conducted with 92 students in eighth grade West Virginia Social Studies classes. Students ranged from 13 to 15 years of age. Approximately 48 students were males and 44 were females. 83 students were white, 6 were black, and 3 were considered other. In addition, 13 students had been identified with Individual Education Plans (IEPs). All students had been placed into the appropriate grade level social studies program, which was designed to prepare students for college and/or the 21st Century workforce. Both the general education teacher and the special education teacher facilitated the study. Students post- test scores were analyzed to determine if using graphic organizers was more effective than using traditional/typical strategies in the classroom.

Procedures

The research study lasted for approximately six weeks. It was noted during this time, school was interrupted on several days due to weather related snow days or scheduled breaks.

Over the course of this period, the students covered approximately three chapters/units in the textbook. This time frame allowed the teacher(s) to discover if the use of graphic organizers improved the students' performance and achievement of the social studies content. Student grades on pre and post-test assessments were analyzed for improvement (see below – Data Collection and Analysis). The six week period also gave the students enough time to effectively utilize graphic organizers in the classroom. During the first week of the study, the students were given a pre-test on the chapters/units to be covered. Then, the students were provided with the concept/event maps and sequence chains that they utilized during the study. The teacher(s) explained each method and modeled an example for the students to observe and follow. Students used these graphic organizers during class discussions, reading assignments, and homework assignments. A post-test was given on the information covered to determine the effectiveness of graphic organizers on the comprehension of the social studies content.

Materials

Students in the eighth grade social studies classes utilized the same materials for the foundation of the study. The textbook the students used throughout the study was: *West Virginia* 150 Years of Statehood – author Vicki Wood, published by Clairmont Press, Inc. (2013). They were also exposed to identical reading assignments, workbook activities, review activities, and tests during the study. Two types of graphic organizers, concept/event maps and sequence chains (adapted from Content- Area Graphic Organizers Social Studies 2005) were utilized by the students for reading assignments and class discussions (see Appendix A and B).

Data Collection and Analysis

Data was collected and compared from the pre and post-test assessments to chart student improvement. This assessment data collected over the six weeks came from three chapters from the *West Virginia 150 Years of Statehood* textbook. These summative assessments were used at the start with a pre-test and at the end with a post-test with questions from each chapter/unit (see Appendix C and D). The assessments were analyzed and assisted in determining the

effectiveness of graphic organizers on student achievement of the social studies content.

Overall, this study focused on what effect do graphic organizers, specifically concept/event maps and sequence chains have on the achievement of the social studies content by students with and without disabilities?

Chapter 4: Results

This research was designed to study the effectiveness of graphic organizers on the comprehension of the social studies content by students with and without disabilities. The data collected over the course of the study came from a pre-test, that students were given to check prior knowledge of the material that was covered and from a post-test that was given at the end of the study to analyze if utilizing graphic organizers, specifically, concept/event maps and sequence chains, made a difference in the achievement of the content curriculum in social studies. Both the pre and post-tests approximately contained 15 True/False Questions, 17 Multiple Choice Questions, and 13 Matching Questions. During the study, all eighth grade students in the four social studies classrooms were given the same materials and assessments. The results of the study are discussed in this chapter.

Class Data

Class One had 20 students take both the pre and post-tests. The mean or average was 33.6 on the pre-test, with a range of scores from 16 to 56. On the post-test, the average score was 55.8, with a range of scores from 24 to 86. Class Two had 23 students take both tests. The pre-test scores range from 20 to 54 with a mean of 34.0. On the post-test the mean score was a 58.1 with a range from 30 to 84. Class Three also had 23 students take the tests. Their average on the pre-test was 27.9 with test scores that ranged from 20 to 52. The post-test scores ranged from 28 to 78 with the mean of 47.9. The last group was Class Four with 26 students taking both pre and post-tests. The mean for the pre-test was 29.9 with scores that ranged from 18 to 50. The post-

test mean was 48.4 and scores that ranged from 22 to 72. The standard deviations for both pre and post-test scores in all four classes were calculated using Microsoft Excel. Figure 4.1 shows the mean and standard deviation for each class.

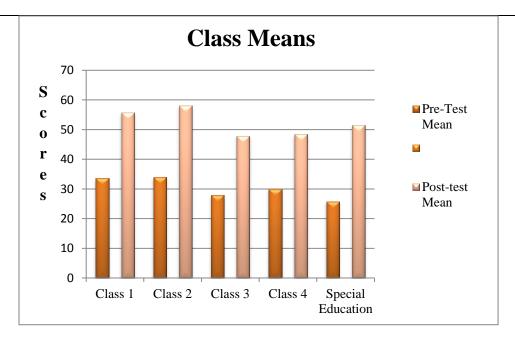
Figure 4.1 Class Means and Standard Deviations on both Pre-test and Post-test							
Class	Pre-test Mean	Standard Deviation	Post-test Mean	Standard Deviation			
Class One	33.6	10.56	55.8	16.33			
Class Two	34.0	8.64	58.1	12.01			
Class Three	27.9	7.15	47.9	13.89			
Class Four	29.9	7.55	48.4	14.44			

The data was also analyzed with the pre and post test scores that were obtained by the 13 students identified as special education. The pre-test was 25.8 with a range of scores from 20 to 38. The post-test mean was 51.5, the test scores ranged from 30 to 70. Microsoft Excel was used to calculate the standard deviation of both tests. Figure 4.2 shows those results.

Figure 4.2 Special Education Students Mean and Standard Deviations for Pre-test and Post-test					
Pre-test Mean	Standard Deviation	Post-test Mean	Standard Deviation		
25.8	4.72	51.5	13.49		

The graph below (Figure 4.3) compares the pre-test and the post-test means for each class and the special education students. The measure shows that student scores increased after utilizing graphic organizers to learn the social studies content.





Another way the data was analyzed was by a t-test. T-test is used to determine if the difference between two means are statistically significant. In this study, t-test was used to compare the means of the pre-tests that all four classes took before the study with the means of the post-tests they took after the study. The special education group means of both tests were also compared.

Results from the t-test are measured by a p value. The results showed that the two-tailed P value equals 0.0004. By conventional criteria, this difference is considered to be extremely statistically significant. The confidence interval was described as the mean of Group One minus Group Two equals -21.200 with a 95% confidence interval of this difference from -25.113 to -17.287. The intermediate values used in calculations were t = 17.2428, df = 3, standard error of difference = 1.229. Figure 4.4 shows the results from the t-test software.

Figure 4.4	Pre-test	Post-test
Mean	30.240	52.550
Standard Deviation	3.561	5.171
SEM	1.593	2.585
N	5	4

Overall, the results indicate that the mean scores between the pre-test and the post-test were statistically significant, indicating that graphic organizers were effective in the comprehension of the social studies content by eighth grade students with and without disabilities. The differences in all classes on the pre-test and post-test means showed that all students scored better after utilizing graphic organizers.

Chapter 5: Discussion

The purpose of this study was to determine if graphic organizers were an effective tool to help students with and without disabilities comprehend the social studies content curriculum. The review of the literature indicated that graphic organizers are effective tools that have not been utilized to aid students in comprehending complex material. During the study period, students were given two types of graphic organizers, concept/event maps and sequence chains, to aid in the organization and learning of the chapters covered.

Implications of the Study

The effectiveness of graphic organizers was determined by student performance on the assessments given before and after the study. The data collected came from pre-test and post-test means of four social studies classes of eighth grade students that ranged in age from 13 to 15 years. Data was also observed on the assessments of the 13 students identified as special education. The students utilized the two types of graphic organizers during in class readings, discussions, and homework assignments.

Overall, student scores from all four classes showed an increase on the post-test assessment. The special education students also showed an increase on the post-test assessment. The mean was calculated for each class on both the pre-test and post-test. A graph indicated that the post-test mean was higher than the pre-test mean. The same was true for the special education students' mean scores. A t-test was performed to compare the mean data of both assessments. The results indicated that there was a statistical significance between the pre and post-test means.

Informal Observations

It is noted that over the course of the study that was planned for approximately six weeks, there were 16 instructional days lost due to weather and the scheduled spring break. Despite this factor, graphic organizers appeared to be an effective strategy for students in the comprehension of the social studies content.

Student responses and attitudes towards graphic organizers were observed. In general, the reaction towards utilizing graphic organizers had a positive effect. Students were engaged during the in class readings and discussions. Students that never or rarely volunteered to answer questions started participating by offering answers. It was observed that students were on task and completed the graphic organizers. Some students indicated that they used the graphic organizers as study guides to help prepare for the in- class quizzes and the post-test given at the end of the study.

Limitations to the Study

Even though the results of the study indicate that graphic organizers are an effective tool on the comprehension of the social studies content, there are limitations. The most notable limitation would be that the study was completed in one small middle school in rural West Virginia. Another limitation was the fact of the loss of instructional days, so students were not exposed to the instructional strategy on a continuous basis. Also due to the loss of instructional days, the students' ability to utilize and retain the information gathered on the graphic organizers could have been effected. A limitation to this research could be that the students were only given two types of graphic organizers to use during the study, concept/event maps and sequence chains. Finally, the last limitation could have been in the selection of the pre-test and post-test

questions, even though they were selected from the test bank, some may have been more difficult than others.

Conclusions

Results from this study indicate that graphic organizers, specifically, concept/event maps and sequence chains are a vital tool that aid in the comprehension of the complex material presented in the social studies curriculum. They are in fact an important strategy that can be utilized by students with and without disabilities to learn the social studies content.

References

- Ausubel, D. P. (1963). The psychology of meaningful verbal learning. New York: Grune & Stratton.
- Atkins, W. (2009). Concept maps. Retrieved from http://www.education.com
- Barbieri, K. E. (2011). Hear My Voice! Teaching Difficult Subjects with Graphic Organizers. *Social Education*, 75(6-), 301-309.
- Cleveland, M. (2005). *Content area graphic organizers social studies*. Portland, Maine: Walch Publishing.
- Dexter, D. D., & Hughes, C. A. (2011). Graphic organizers and students with learning disabilities: a meta-analysis. *Learning Disability Quarterly*, 34(1), 51-72.
- Farris, P. J. (2001). Elementary and middle school social studies: an interdisciplinary Instructional approach. New York, NY: McGraw-Hill Higher Education.
- Gallavan, N. P., & Kottler, E. (2007). Eight Types of Graphic Organizers for Empowering Social Studies Students and Teachers. *Social Studies*, *98*(3), 117-128.
- Gay, L. R., Mills, G. E., & Airasian, P. (2012). *Educational research competencis for analysis* and applications. Boston: Pearson Education, Inc.. (Original work published)
- Hall, C., Kent, S. C., McCulley, L., Davis, A., & Wanzek, J. (2013). A New Look at Mnemonics and Graphic Organizers in the Secondary Social Studies Classroom. *Teaching Exceptional Children*, 46(1), 47-55.
- Kaya, E. (2012). Teachers' Opinions on the Use of Social Studies Classrooms in Social Studies Education. *Educational Sciences: Theory and Practice*, 12(2), 1015-1021.
- Key, L. V., Bradley, J. A., & Bradley, K. S. (2010). Stimulating Instruction in Social Studies. Social Studies, 101(3), 117-120. doi: 10.1080/00377990903283932

- Kim, A. H., Vaughn, S., Wanzek, J., & Wei, S. (2004). Graphic Organizers and Their Effects on the Reading Comprehension of Students with LD: A Synthesis of Research. *Journal of Learning Disabilities*, 37(2), 105-118.
- Marchand-Martella, N., Miller, T. L., & MacQueen, C. (1998). Graphic organizers. *Teaching Pre K-8*, 28(4), 46.
- Marzano, R. J. (2009). Setting the Record STRAIGHT on "High-Yield" Strategies. *Phi Delta Kappan*, 91(1), 30-37.
- Merkley, D. M., & Jefferies, D. (2000). Guidelines for implementing a graphic organizer.

 *Reading Teacher, 54(4), 350.
- Mosco, M. (2005). Getting the Information Graphically. Arts & Activities, 138(1), 44-44.
- Myers, M. P., & Savage, T. (2005). Enhancing Student Comprehension of Social Studies Material. *Social Studies*, *96*(1), 18.
- Ozmen, R. G. (2011). Comparison of Two Different Presentations of Graphic Organizers in Recalling Information in Expository Texts with Intellectually Disabled Students.

 Educational Sciences: Theory and Practice, 11(2), 785-793.
- Robinson, D. H., Katayama, A. D., Beth, A., Odom, S., Ya-Ping, H., & Vanderveen, A. (2006).

 Increasing Text Comprehension and Graphic Note Taking Using a Partial Graphic

 Organizer. *Journal of Educational Research*, 100(2), 103-111.
- Robinson, D. H., & Kiewra, K. A. (1995). Visual argument: Graphic organizers are superior to outlines in improving learning from text. *Journal of Educational Psychology*, 87(3), 455.
- Scruggs, T. E., Mastropieri, M. A., & Okolo, C. M. (2008a). Science and Social Studies for Students with Disabilities. *Focus on Exceptional Children*, 41(2), 1.

- Scruggs, T. E., Mastropieri, M. A., & Okolo, G. M. (2008b). Focus on Exceptional children. Focus on Exceptional Children, 41(2), 1-24.
- SOCIAL STUDIES. (2013). District Administration, 49(3), 51-55.
- Steele, M. M. (2008). Teaching Social Studies to Middle School Students with Learning Problems. *Clearing House*, *81*(5), 197-200.
- Wakeman, S., Karvonen, M., & Ahumada, A. (2013). Changing Instruction to Increase

 Achievement for Students With Moderate to Severe Intellectual Disabilities. *Teaching Exceptional Children*, 46(2), 6-13.
- Tileston, D.W. (2004). What every teacher should know about instructional planning.

 Thousand Oaks, CA: Corwin Press, Inc.
- U.S. Department of Education. (2007). No child left behind FAQs. Washington, DC:

 Author. Retrieved November 27, 2007, from http://answers.ed.gov
- Wood, V. (2013). West Virginia 150 years of statehood. (1st ed.). Atlanta, Georgia: Clairmont Press, Inc.

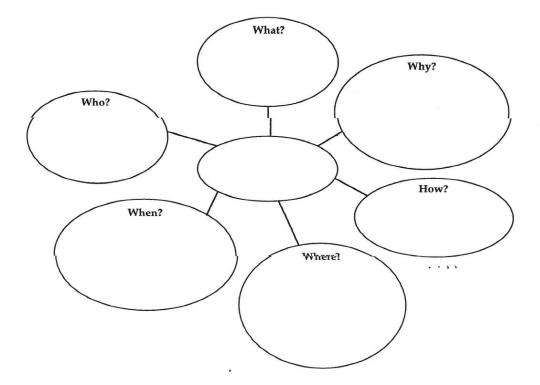
Appendix A:

Concept/Event Map Graphic Organizer



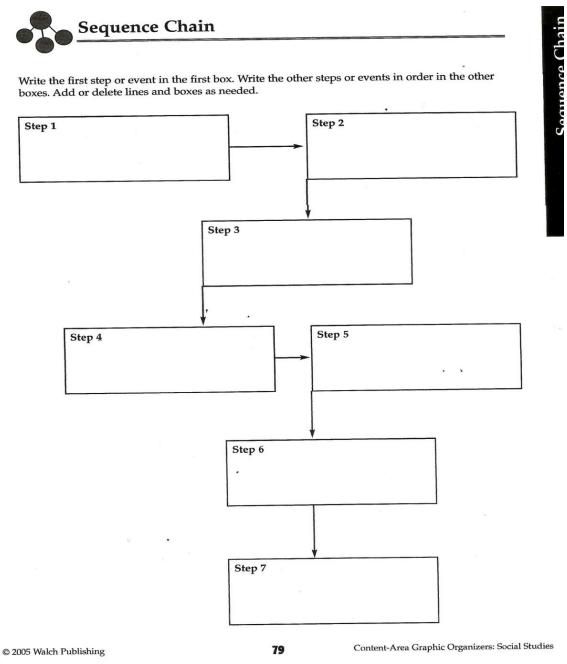
Concept/Event Map

Write your topic in the center circle. Then write details in the smaller circles. Add and delete lines and circles as needed.



Appendix B:

Sequence Chain Graphic Organizer



Appendix C:

WV Social Studies Pre-test

N		_	
Name:	Class:	Date:	ID: A
WV Soc	cial Studies Pre-test		
True/Fals	ise whether the statement is true or false.		
1.	 James Madison and John Marshall represented wester 1829. 	n Virginia at the Virginia Constitutio	nal Convention of
2.	2. The primary issue of the Virginia Constitutional Conv	vention of 1829 was the size of some	counties.
3.	3. Henry Ruffner proposed that all slavery be abolished	in Virginia.	
4.	4. The Virginia Constitutional Convention of 1850 calle	d for jurors to be selected from voter	registration lists.
5.	5. The North did not have slaves because slavery was no	ot profitable there.	
6.	5. The Compromise of 1850 settled the slavery issue in	he United States.	
7.	7. John Brown wanted to use arms from Harpers Ferry to	o enable a slave uprising.	
8.	3. Virginia was the first state to secede from the Union.		
9.	2. The firing on Fort Sumter marked the beginning of the	e Civil War.	
10.	 The main reason the eastern counties were added to the separate the state from Virginia. 	ne new state of West Virginia was to p	provide a barrier to
11.	. West Virginia became a state when Abraham Lincoln	signed the statehood proclamation.	
12.	2. West Virginia was the 30th state to be added to the U	nion.	
13.	3. Most people wanted to name the new state of West V	irginia "Kanawha."	
14.	1. West Virginia played an important military role in the	Civil War.	
Multiple (Choice the choice that best completes the statement or answers the	ne question.	
1.	a. Library Fund c. S	ide better education for children? tate-supported elementary schools eachers' Colleges	
2.	a. Baptist c. P	Virginia before the Civil War? resbyterian Aethodist	

1

Name	:	
	3.	What did Henry Ruffner believe had been harmed most by slavery? a. economic development c. religious freedom b. educational reforms d. social equality
	4.	Which group of people often hired tutors to teach their children? a. eastern industrial workers c. immigrants from Europe b. frontier townspeople d. southern planters
	5.	What group of people were excluded from the early improvements in education? a. females c. poor whites b. immigrants d. slaves
	6.	What was another name for the Midland Trail? a. James River and Kanawha Turnpike b. Northwestern Turnpike c. Parkersburg and Staunton Turnpike d. Weston and Gauley Bridge Turnpike
	7.	What United States president recommended that a federal arsenal be built at Harpers Ferry? a. George Washington c. James Monroe b. Thomas Jefferson d. Abraham Lincoln
	8.	What was the importance of the Fugitive Slave Law that was included in the Compromise of 1850? a. It required the return of runaway slaves to their owners. b. It prevented slaves from having group gatherings or meetings. c. It prevented slaves from testifying against whites in court. d. It required slaves to have citizenship papers in order to obtain jobs.
	9.	What law did popular sovereignty repeal? a. Fugitive Slave Law b. Compromise of 1850 c. Kansas-Nebraska Act d. Missouri Compromise
	10.	Who commanded the United States Army which defeated John Brown at Harpers Ferry? a. Jefferson Davis c. Robert E. Lee b. Ulysses G. Grant d. Abraham Lincoln
	11.	What event triggered the secession of the first southern states? a. Election of 1860 c. Kansas-Nebraska Act b. Firing on Fort Sumter d. Virginia's vote on secession
	12.	Who was the governor of the Restored Government of the State of Virginia? a. Arthur I. Boreman c. Francis Pierpont b. John Carlile d. Waitman T. Willey
	13.	In what county was the Battle of Forks and Spoons fought? a. Barbour c. Nicholas b. Kanawha d. Randolph
	14.	In what county was the Battle of Droop Mountain fought? a. Nicholas c. Randolph b. Pocahontas d. Wood

Name	:				ID: A
	15.	In what county was the Battle of Scary Creek fa. Jackson b. Kanawha	ougl c. d.	nt? Mason Putnam	
	16.	Which Civil War battlefield became West Virga. Carnifex Ferry b. Droop Mountain	ginia c. d.	's first state park? Hawks Nest Point Pleasant	
Matcl	ning				
		Match the vocabulary term with its definition. a. abolitionist b. academy c. canal d. emancipation e. financier f. internal improvements g. literary fund h. navigable	i. j. k. l. m. n.	old fields subscription school suffrage toll tuition turnpike tutor	
	1.	one who wanted to end slavery			
-	2.	the right to vote			
	3.	freeing			
	4.	money to be used for education			
	5.	parents paid a fee to a schoolmaster for educati	ing t	neir children	
		Match the term with its definition. a. abstain b. insurrection c. martyr d. platform	e. f. g. h.	popular sovereignty sabotage secede treason	b
	6.	rebellion			
	7.	crime of attempting to overthrow one's own go	vern	ment	
	8.	withdraw from the Union			
	9.	right of people living in an area to decide issue	s for	themselves	
	10.	a person who suffers death in support of a belief	ef or	cause	
86	11.	Match the Confederate commander with the bata. Carnifex Ferry b. Droop Mountain c. Philippi John Echols	d. e.	n which he participated. Rich Mountain Scary Creek	

Name:					ID: A
12.	John Floyd				
	Henry Wise				
	Match the person with his description. a. Arthur I. Boreman b. J. Edgar Boyers c. A. Bolten Caldwell d. John Carlile	e. f. g. h.	Samuel Crane Francis Pierpont Campbell Tarr Waitman T. Willey		
14.	tried to ruin West Virginia's chance for st	atehood			
15.	first governor of West Virginia				
				, ·	
	•				
		4			
		1100/			

Appendix D:

WV Social Studies Post-test

Name	:	Class: Date: ID: A
wvs	Soci	al Studies Post-test
True/I		e hether the statement is true or false.
	1.	The Virginia Constitution of 1830 extended suffrage to people who rented property.
	2.	The primary issue of the Virginia Constitutional Convention of 1829 was the size of some counties.
-	3.	Henry Ruffner proposed that all slavery be abolished in Virginia.
	4.	According to the Constitutional Convention of 1850, all slaves were taxed at 100% of their value.
	5.	The Virginia Constitutional Convention of 1850 determined that slaves would be counted as 3/5 of a person in determining representation in the state legislature.
	6.	Cotton was responsible for the large number of slaves in the South.
	7.	Congressman Preston Brooks verbally retaliated against Senator Charles Sumner for his public criticism of Brooks' uncle.
	8.	John Brown was sentenced to be executed by firing squad for his attack on Harpers Ferry.
	9.	Virginia was the first state to secede from the Union.
	10.	All the people in western Virginia favored remaining loyal to the Union.
-	11.	John Carlile submitted West Virginia's application for statehood to the United States Senate.
	12.	Jefferson and Berkeley counties wanted to remain part of Virginia, but were added to West Virginia by the Restored Government of the State of Virginia.
	13.	West Virginia was the 30th state to be added to the Union.
	14.	General Albert Gallatin Jenkins led a cavalry raid in which he seized 5,000 stands of arms at Buckhannon.
-	15.	West Virginia played an important military role in the Civil War.
Multip Identify		Phoice choice that best completes the statement or answers the question.
	1.	Which western Virginia county voted 100% to reject the Constitution of 1830? a. Brooke b. Kanawha d. Wood

Name:			ID: A
	2.	What was a result of the Nat Turner rebellion? a. Slavery came to an end in Virginia. b. Angry whites killed more than 100 slaves. c. Nat Turner became a hero to white planters. d. The number of abolitionist preachers increased.	
	3.	What was the most important reason settlers on the frontier needed to know how to write? a. to sign checks c. to keep a diary of their daily life b. to write letters home d. to record births, deaths, and marriages	
	4.	How were subscription schools and private schools different? a. Teachers were not paid in private schools. b. Private schools were not controlled by the church or state. c. Subscription schools were required to accept all children. d. Teachers in subscription schools received less teacher training.	
	5.	 Which statement explains the influence of the steamboat <i>Washington</i>? a. It was made from the timbers of Fort Henry. b. It was the first steamboat to engage in commercial trade. c. It was the first steamboat to navigate on the Ohio and Mississippi rivers. d. It was the forerunner of the showboats that promoted gambling and entertainment. 	
	6.	 What geographical factor resulted in the lack of need for slaves in the North? a. Small farms were found in the North. b. Immigrants to Northern cities provided cheap labor. c. Industries provided the greatest job opportunities in the North. d. There were more railroads to transport goods to market in the North. 	
	7.	Which provision of the Compromise of 1850 did NOT benefit the North? a. the Fugitive Slave Law b. admitting California to the Union c. ending the slave trade in Washington, D.C. d. allowing popular sovereignty in the New Mexico territory	
	8.	Which statement BEST describes the Missouri Compromise? a. It said Missouri could have slavery. b. It allowed slavery in Maine but did not allow slavery in Missouri. c. It maintained a balance of power between free and slave states. d. It said slaves captured in free states must be returned to slave states.	
	9.	How did the Kansas-Nebraska Act violate the Missouri Compromise? a. It permitted Missouri to be a free state. b. It made Missouri part of the proposed state of Kansas. c. It permitted territory north of the Missouri Compromise line to have slaves if the people wanted them. d. It gave free land to people who lived in Missouri in an attempt to attract enough settlers to make Kansas a state.	

Name		ID: A
	10.	Why did some call the First Wheeling Convention a revolutionary act? a. because the convention was called by Abraham Lincoln b. because the convention did not include delegates from eastern Virginia c. because the convention was not authorized by Virginia's government d. because the convention was attended by men who favored fighting the Southerners
	11.	What was the importance of the Battle at Philippi? a. It protected the historic covered bridge. b. It was the first land battle of the American Revolution. c. It demonstrated the North's commitment to securing the safety of the B&O Railroad. d. It demonstrated the ineffectiveness of the Confederate soldiers and foretold of their eventual defeat.
	12.	What was the importance of the Battle of Rich Mountain? a. It was the turning point of the Civil War. b. It was the last battle of the Civil War in West Virginia. c. It was the last battle before West Virginia received its statehood. d. It allowed the Restored Government of the State of Virginia to operate safely.
	13.	What was significant about the battle at Carnifex Ferry? a. It was a decisive Union victory. b. It was a decisive Confederate victory. c. The Confederates retreated for some unexplained reason. d. The Confederates used their victory to denounce statehood for West Virginia.
	14.	Which was NOT an issue at the West Virginia constitutional convention in 1861? a. choosing a name for the state b. establishing the boundaries for the state c. choosing the elected officials for the state d. issuing a definitive statement concerning slavery
	15.	What was the final action of the Restored Government of the State of Virginia in regard to West Virginia's a. It officially signed the statehood bill. b. It gave approval for an election to choose the new state officials. c. It turned over all its records to the new government of West Virginia. d. It gave Berkeley and Jefferson counties permission to vote on joining West Virginia.
	16.	Which was NOT part of the Union strategy to win the Civil War? a. capture the Confederate capital b. stop the West Virginia statehood movement c. gain control of the Mississippi River to split the Confederacy d. blockade southern seaports to prevent the Confederates from receiving supplies
	17.	What was the Willey Amendment? a. It created a timeline for West Virginia to become a state. b. It provided an organized way for slaves to become free. c. It organized the Restored Government of the State of Virginia. d. It provided for the counties in the eastern panhandle to be part of West Virginia.

Name:		ID: A		
Matching				
	b. insurrection f. salt c. martyr g. sec	pular sovereignty botage cede eason		
1.	rebellion			
2.	statement of the principles and policies of a political party			
21	crime of attempting to overthrow one's own government			
4.	not vote			
5.	right of people living in an area to decide issues for themselves			
	b. J. Edgar Boyers f. Fra c. A. Bolten Caldwell g. Ca	muel Crane ancis Pierpont ampbell Tarr aitman T. Willey		
6.	First state treasurer of West Virginia			
7.	tried to ruin West Virginia's chance for statehood			
8.	first governor of West Virginia			
9.	governor of the Restored Government of the State of Virginia			
10.	first attorney-general of West Virginia			
11.	first auditor of West Virginia			
12.	first secretary of state of West Virginia			
13.	one of West Virginia's first two United States Senators			