Effect of explicitly teaching expository text structure to learning disabled and at-risk readers

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The Effect of Explicitly Teaching Expository Text Structure
to Learning Disabled and At-Risk Readers

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Abstract

This study examined comprehension effects of explicitly teaching expository text structures to four Caucasian male students in a sixth grade general education classroom in a rural Minnesota town. The criteria to participate in the study required participants to possess a learning disability or have been identified as an at-risk reader by standardized testing data. The researcher used leveled expository text passages from Leslie and Caldwell’s (2010) *Qualitative Reading Inventory* – 5 as pre- and postassessments to gauge growth. The researcher guided the students through a five-week intervention focusing on a new nonfiction text structure each week. The nonfiction text structures that were covered included: Goal/Action/Outcome, Problem/Solution, Concept/Definition, Cause/Effect, and Proposition/Support. The results of the study showed all four students exhibiting a two or three level growth in their nonfiction instructional reading levels throughout the intervention. The results of the study paralleled the findings of similar research on the benefits of expository text structure training.
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Chapter One
Introduction

Statement of the Problem

As I began my teaching career four years ago in a fifth grade classroom, it quickly became apparent that many teachers faced three distinct challenges when instructing students how to effectively read nonfiction. I began to be aware of these challenges when I realized several months into the school year that my students were much more accomplished at reading fiction than nonfiction texts. To help me understand this phenomenon, I began to informally survey my coworkers to ascertain what they believed to be the reasons behind the differences in students’ comfort levels with fiction and nonfiction reading. The teachers I spoke with most often cited the lack of training in teaching nonfiction at the university level, pressure to teach to a multitude of teaching standards during their Language Arts class, and the readability levels of textbooks were often several grave levels above the ability of the demographics of students the books were designed for.

These conversations led me to surmise that the teachers I worked with recognized the importance of providing well-rounded, research-based reading instruction, but simply did not have the training to do so. When speaking with them, many of my colleagues stated that they had only been required to take one or two courses covering reading methodology while pursuing their undergraduate degrees. Because of this, they did not feel they were sufficiently equipped to teach students the wide array of strategies and skills necessary to experience success in all facets of reading, particularly nonfiction. Their lack of experience in nonfiction teaching methodology often led my colleagues to focus on how to read graphs, attend to boldfaced words, and interpret images that are commonly found in nonfiction texts as the basis of their nonfiction reading.
instruction. While this type of instruction is beneficial, it has the potential to leave the students deficient in their ability to recognize textual cues that help define expository text structures. My colleagues also shared with me that their lack of training in nonfiction reading led them to rely on their abundant amount of background knowledge in reading fiction to plan daily reading instruction, because they had a greater amount of personal experiences to draw from. In addition to lack of training, the pressure to teach to a multitude of reading and writing standards was also cited as a reason for decreasing the amount of time spent reading nonfiction.

Teachers often feel as if they are pressed for time. Ever since the implementation of No Child Left Behind and the more recent adoption of the Common Core Standards by the state of Minnesota, the pressure on teachers to prepare students to reach specific academic benchmarks determined by state and national governments has increased. My colleagues stated that the high-stakes testing associated with the aforementioned legislation and teaching standards had shifted the way they approached instructional planning. Often hearing that schools who do not reach these benchmarks can be penalized financially, teachers have been forced to sacrifice depth of content as a way of maintaining the breadth of instruction needed to meet state and national teaching standards. Combined with a lack of training at the university level, high-stakes testing posed a significant challenge to my coworkers in their efforts to have students experience the greatest amount of academic success that they are able. Although these were two of the factors that my colleagues mentioned that impacted their nonfiction reading instruction, a third issue raised was that of textbooks written at a much higher reading level than their intended audience.

The increased emphasis on benchmarks and teaching standards has led to a deeper analysis of textbooks to determine the extent of their alignment with the academic standards assessed on the standardized tests associated with No Child Left Behind. Traditional textbooks
have commonly been used to meet the needs of an entire grade levels’ worth of curriculum. However, my colleagues have found that although the content of the textbook may match the state teaching standards, the text itself is often written at a level several years above the intended audience. This has presented major problems for teachers. Instead of having a curriculum ready for immediate implementation, effectiveness of the textbook relied on teachers’ ability to differentiate instruction. The combination of lack of training at the university level, time constraints, and textbooks have provided significant hurdles that teachers in today’s classrooms need to overcome in order to effectively teach nonfiction.

In conjunction with these emerging challenges in nonfiction reading instruction, researchers in the last decade have worked to understand best practices in teaching students how to effectively and accurately read nonfiction. Research has suggested that teaching nonfiction text structures would be able to increase students’ ability to comprehend nonfiction reading (Meyer & Poon, 2004; Meyer et al., 2010; Purcell-Gates, Duke, and Martineau, 2007; Broer, Aarnoutse, Kievet, & Van Leeuwe, 2002; Meyer, Middlemiss, Brezinski, McDougall, & Bartlett, 2002). In addition, further research has found that explicit training in recognizing nonfiction text structures could prove particularly beneficial for at-risk readers and students with learning disabilities (Williams, Hall, & Lauer, 2004; Williams et al., 2007; Miller & Lignugaris-Kraft, 2002; Stagliano & Boon, 2009; Saenz & Fuchs, 2002). Finally, research suggested that using graphic organizers would be beneficial when teaching nonfiction text structure to help students visually organize their thoughts (Reynolds & Perin, 2009; Ozmen, 2011; DiCecco & Gleason, 2002; and Williams et al., 2009).

The combination of shifts in the state and national standards and my experiences as both a fifth and sixth grade reading teacher, led me to design a study that examined the potential
comprehension gains derived from the explicit teaching of expository text structures to at-risk and learning disabled students. I hypothesized that targeted teaching of five nonfiction text structures would increase the comprehension abilities of students who have been identified as being either learning disabled or an at-risk reader.

To test my hypothesis, I developed a study that incorporated the explicit teaching of five expository text structures to take place during students’ 35-minute study hall four days a week. The participants were four sixth grade males ages 11-12 from my Language Arts classroom. Two of the students had been identified as possessing learning disabilities, and all four were identified as below grade level, at-risk readers as defined by the reading portions of the Minnesota Comprehensive Assessment standardized test and the Northwest Evaluation Association computerized exam. At the beginning of the study, students were pretested using expository text passages found in the Leslie and Caldwell’s (2010) *Qualitative Reading Inventory - Fifth Edition*. Participants were then guided through a series of weekly exercises based on five nonfiction text frames found in Buehl’s (2008) *Classroom Strategies for Interactive Learning*. After five weeks of treatment, students were posttested using expository text passages located in Leslie and Caldwell’s (2010) *Qualitative Reading Inventory - Fifth Edition* to gauge growth. This study specifically tested whether the explicit teaching of expository text structures would increase reading comprehension of both learning disabled and at-risk readers. The following chapter is literature review covering research from the last decade on the potential benefits of nonfiction text structure training.
Key Terms

Anticipation Guide: series of questions that engages students by asking them to examine their own thoughts and beliefs on a set of topics prior to reading a text. A guided discussion after reading allows for reassessment of their beliefs.

Author Says/I Say: reading strategy designed to guide students to construct meaning from a written text.

Concept/Definition Mapping: strategy to graphically represent new vocabulary and content across all subjects.

Double-Entry Diary: engages readers by eliciting reader responses to textual statements by asking readers to make connections using their own background knowledge, facilitate inference development, and analysis of misconceptions.

Expository Text: text that tries to inform or instruct the reader, usually nonfiction.

History Change Frame: strategy to introduce a new reading to students, asking students to identify statements that indicated a historical change in a statement.

Interactive Reading Guide: peer-facilitated reading strategy that focuses on peer interaction and direction following designed to make texts of all levels available to all students.

Problematic Situations: activity designed to frontload instruction in a Problem/Solution or Cause/Effect text structure that asks students to cognitively consider what their own individual actions would be in a Problem/Solution or Cause/Effect situation.

Question-Answer Relationships: Strategy for student analysis of thinking required to understand questions posed by the teacher, text, or their peers.

Quick Write: Students are given a specific amount of time to identify and write their thoughts and feelings on individual topics or courses of study.

Text Structure: Arrangement and connectivity of the ideas in a textual passage in terms of format and order. Possible text structures include: Cause/Effect, Concept/Definition, Proposition/Support, Goal/Action/Outcome, and Problem/Solution.
Chapter Two
Introduction

The United States Department of Education has publicly lamented the fact that students in the United States consistently rank outside the top ten in global rankings in Reading, Math, and Science as judged by the Programme for International Student Assessment exam. For example, of 34 countries participating in the 2009 exam, the United States placed 14th in Reading, 17th in Science, and 25th in Math. To combat this, the United States’ Congress passed the No Child Left Behind legislation and the more recent Race to the Top that mandated schools reach increasingly stringent performance levels on a yearly basis. The yearly increase in achievement students were expected to meet was dubbed, “Adequate Yearly Progress.” In addition, many states have adopted the new Common Core State Teaching Standards which stress the need to increase the teaching of nonfiction strategies in schools across the United States. Schools quickly found that successfully meeting the requirements demanded by this legislation and the Common Core State Teaching Standards could prove difficult.

The new legislation and teaching standards has prompted educational researchers to design and implement multiple new research studies to evaluate the best practices reading. The last ten years have witnessed a significant amount of research seeking to identify the benefits and best practice methods of teaching expository text structure to struggling readers and students with learning disabilities. Research has indicated that explicitly teaching students to recognize nonfiction text structures through the use of graphic organizers is a proven way to increase student comprehension.
Review of Research

The effects of expository text structure training are examined in the first section of this review of research. Meyer and Poon (2004) attempted to determine if teaching nonfiction text structures to both young and old adult readers would augment their comprehension and textual recall. Similarly, Meyer et al. (2010) wanted to know if using a web-based tutoring program would result in enhanced expository text comprehension and student self-efficacy. Additionally, Purcell-Gates, Duke, and Martineau (2007) sought to identify if student ability to read and write genre-specific texts would increase by providing students an increased number of authentic reading experiences. Furthermore, Broer, Aarnoutse, Kieviet, and Van Leeuwe (2002) tested to see if a correlation existed between explicitly teaching sixth grade students to graphically summarize expository texts and their ability to recognize text structures. Lastly, Meyer, Middlemiss, Brezinski, McDougall, and Bartlett (2002) sought to understand the effects of facilitating Internet based text structure instruction under the direction of adult tutors and whether or not it would increase fifth-grade students’ reading comprehension scores. Many researchers have studied the general impact of explicitly teaching expository text structure with students in the traditional classroom setting. However, some researchers chose to specifically study the effects of text structure training on students with learning disabilities and other at-risk readers.

The second section of this literature review examines previously conducted research that attempted to determine if using text structure training was an effective way to increase the reading comprehension of students with learning disabilities. Williams, Hall, and Lauer (2004) sought to discover whether text structure training would prove effective at increasing expository reading comprehension of second grade at-risk readers. Furthermore, Williams et al. (2007)
wanted to know whether teaching the cause/effect text structure to at-risk second grade students would be an effective way to increase the amount of social studies content knowledge students would be able to comprehend. In a similar manner, Miller and Lignugaris-Kraft (2002) studied the correlation of text structure discrimination training on students with learning disabilities and their writing performance. Likewise, Stagliano and Boon (2009) researched the correlation effects of using story-mapping procedures and their ability to improve expository text comprehension of elementary students with learning disabilities. Similarly, Saenz and Fuchs (2002) studied the specific areas that secondary students with Learning Disabilities preferred narrative vs. expository texts and whether or not their preference impacted academic performance. In addition to studying the effects of text structure training with the general population, students with learning disabilities, and at-risk readers, educational researchers have specifically studied the impacts of using graphic organizers to help students formulate their thinking while reading expository texts.

The third section of this literature review summarizes previous research on the impact of using graphic organizers to teach expository text structure to multiple grade levels of students. Reynolds and Perin (2009) conducted a study that analyzed the preintervention and postintervention strength of middle school students’ ability to produce written work based on expository texts after receiving either text structure or self-regulated learning training. In addition, Ozmen (2011) conducted a study testing the effects of using graphic organizers to increase reading comprehension levels of students with learning disabilities. Moreover, DiCecco and Gleason (2002) designed a study with the purpose of examining how graphic organizers can help students recognize textual cues that convey relational knowledge. In a like manner, Williams, Stafford, Lauer, Hall, and Pollini (2009) extended previous research on text structure
instruction with second grade students to determine if using graphic organizers would increase written and oral performance of the students.

**Effects of Expository Text Structure Training.**

The explicit teaching of expository text structure recognition plays an integral role in student achievement. Students who are taught to recognize specific cues that allude to the overall structure of the text are able to select the appropriate mental framework to strategically read for the desired information. Researchers explored whether or not students who are able to select the appropriate mental framework to read expository text will experience greater reading proficiency and become more independent learners. Meyer and Poon (2004) began to research this question in their study of text structure recognition in both young and old adult readers.

The study conducted by Meyer and Poon (2004) explored the effects of training young and old adults in text structure recognition strategies to determine its’ potential impact on text recall. The purpose of their study was to determine whether readers who are trained to recognize text signals that denote the overall structure of the text will be able to recall more information than readers who are not. The authors listed multiple hypotheses related to the research question. Text structure training was hypothesized to: (a) increase the amount of important information remembered, (b) increase total text recall, (c) improve organization of recall, and (d) increase readers’ ability to consistently use the text structure strategy over a multitude of texts. The independent variable was whether or not the reader had received structure training. The dependent variable was amount of textual recall on a reading comprehension test.

The participants were 56 young adults (21 men and 35 women) and 65 older adults (25 men and 40 women). Participants were volunteers recruited from community advertisements and the local university. Pretests were given to measure participant vocabulary, working
memory, processing speed, cognitive status, reading comprehension, and overall interest in reading.

Following the initial assessments, participants were randomly assigned to strategy training or control groups based on age and reading comprehension scores. Each participant attended six 90-minute sessions spread over three weeks. Participants in both groups read the same materials and were involved in the same amount of cooperative learning. The same team of instructors provided instruction to each group. The strategy training included two steps. Participants were taught to first identify the structure of the text, and in turn use the identified structure to find the main idea. Each of the class sessions included approximately ten participants. The first two sessions included the training program based on advertisements, magazine articles, books, and newspapers. The third and fourth sessions asked participants to monitor their own motivation to learn expository text structures. In the fifth and sixth sessions, both groups were asked to apply what they had learned in two different tasks. The first task involved recalling information from a video, while the second task focused on a magazine article. Posttesting took place two days after completion of the training using an exam similar to the initial pretest.

The authors confirmed their four initial hypotheses. They found that the participants who received treatment were able to recall a greater amount of information with correlation tests showing relationships of .67 or higher across all four text structures. In addition, they ascertained that participants who received training were able to recall more of the most important text information than those who did not receive training. This was indicated by a reliability check on a random sample of data resulting in a reliability level .96. Similarly, researchers uncovered that participants who received treatment were able to organize recalled information
more efficiently than those who did not. This was confirmed by a reliability test producing a reliability rating of .88. Lastly, researchers showed that text structure training was able to transfer to multiple texts by providing participants with a nutrition video and then recording the number of ideas recalled after viewing the video.

Meyer and Poon’s research shows that teaching readers of all ages how to recognize text structure cues can help them recall a greater amount of information. However, in order to obtain a full grasp of the impact of text structure training, research needed to be done on the effects of delivering text structure instruction across multiple modalities.

Meyer et al. (2010) investigated the effects of using a web-based delivery format to explicitly teach text structure to fifth- and seventh-grade students. The primary purpose of their study was to examine whether variations in feedback or choice affected reading comprehension. The researchers proposed four specific secondary research questions to coincide with the primary purpose: (a) did the different versions of the Intelligent Tutoring of the Structure Strategy affect performance on assessments of recall, strategy use, and knowledge of comparison-signaling words? (b) did the design feature show increased understanding of the problem-solution text structure? (c) did the design feature result in increased standardized test scores? (d) were students able to maintain comprehension growth over a four month summer time frame?

Participants in this study were fifth- and seventh-grade students from one school district in western Pennsylvania. The fifth-grade participants were comprised of 25 boys and 31 girls, 21 of which read below grade level. The seventh-grade participants were 24 boys and 31 girls, 20 of which read below grade level. The fifth-grade participants were 85% Caucasian and 15% minority. In addition, 5% of these students received special education services and 10% received free or reduced price lunch. The seventh-grade participants were 81% Caucasian and 19%
minority. Of the seventh-grade participants, 2% received special education services and 2% received free or reduced price lunch. All students in grades five and seven were selected to participate in the study.

Participants were administered 2.5 hours of initial baseline testing using the *Gray Silent Reading Test* prior to beginning treatment. The *Intelligent Tutoring of the Structure Strategy* program was selected to be the web-based delivery format used to teach text structure strategies to students using a 65-lesson self-paced instructional program. Students received initial instruction on the usage of *Intelligent Tutoring of the Structure Strategy* prior to beginning the intervention lesson. Participants were required to work a total of 90-minutes per week on *Intelligent Tutoring of the Structure Strategy* lessons over a six month period. Researchers assigned students to the choice condition, which allowed students to select between two texts to read, and the feedback condition which determined the detail of response given to the students by the *Intelligent Tutoring of the Structure Strategy* program. The detail of responses provided was defined as simple or elaborate feedback for the purposes of the study.

At the end of the six months, participating students took a posttest which fell several weeks before the end of the school year. The initial posttest consisted of students again taking the *Gray Silent Reading Test* followed by a second researcher-designed, delayed posttest administered at the beginning of the following school year. The delayed posttest used three different passages featuring the problem-solution text structure to ask students to use two sentences to identify the main idea of the passage as well as the recall task which required students to recite all remembered textual information.

Results of the *Intelligent Tutoring of the Structure Strategy* intervention confirmed Meyer et al. (2010) initial research question on the potential impact of design variations in the
Intelligent Tutoring of the Structure Strategy. Variations in design accounted for a significant jump in pretest versus posttest scores across all conditions. However, researchers noted that students who received elaborated feedback achieved more long-term gains in ability than students who received simple feedback. Contrary to researcher predictions, researchers did not find a correlation between the amount of information recalled and variations in the Intelligent Tutoring of the Structure Strategy design features. In addition, Meyer et al. (2010) found no significant scoring difference on both posttests when accounting for design features.

Researchers ascertained statistically significant differences in results for time of the test. Researchers confirmed the third of their secondary research questions by finding that students received higher scores on the standardized Gray Silent Reading Test posttest than pretest. The average Gray Silent Reading Test pretest score for the elaborated feedback group was 41.31 with an average posttest score of 45.20. The average Gray Silent Reading Test pretest score for the simple feedback group was 40.81 with the average posttest score being 41.85. Analysis of results indicated that students were able to maintain growth over summer vacation, as delayed posttests continued to show results significantly greater than the pretests.

Although the Meyer et al. (2010) study showed significant positive correlation in reading comprehension among students who received text structure training using web-based delivery methods, the Purcell-Gates et al. (2007) study measured the benefits of text structure training from a different angle. Purcell-Gates et al. (2007) looked specifically at the role of authentic experiences in reading and its’ relationship to expository text comprehension.

Purcell-Gates et al. (2007) sought to understand the role of authentic experience and explicit teaching in learning to read and write a genre-specific text. The researchers wanted to answer two primary research questions: What is the impact of explicit teaching of genre features
in science related expository text on childrens’ ability to read and write those texts? Is the degree of authenticity of literacy activities, or the degree of explicit teaching of language features in these expository texts related to childrens’ ability to read and write those types of texts? As a secondary research initiative, Purcell-Gates et al. (2007) questioned if the measurable impacts of authentic experience and explicit teaching of genre-specific text would vary depending on parental education levels. The independent variable was whether or not students received explicit instruction in recognizing nonfiction texts genres. The dependent variable was student achievement on assessment tests.

In order to ensure data would be gathered from families of all socioeconomic status, researchers randomly selected 16 second and third grade classrooms from multiple school districts consisting of parents who fell between the 25th and 75th quartile of college graduates. The 16 participating classrooms were comprised of 420 students. Classrooms were randomly selected to incorporate explicit teaching of text genre over a one- to two-year period. All classes were assigned to incorporate two 45-minute sessions of literacy-based activities into the content areas to ensure authenticity between the two conditions. Teachers participating in the text structure treatment received training during summer workshops on how to incorporate the explicit teaching of text structure into their daily lessons. These instructors were trained in methodologies used to explicitly teach expository text structures through: (a) naming, (b) modeling, (c) describing, and (d) explaining the function of the genre and how genre specific features serve the function.

Researchers developed their own reading and writing assessments using the classical test theory to ensure reliability and internal consistency of assessments as a whole. Initial reading comprehension was assessed by providing students a set of 13-14 multiple choice questions to be
used in conjunction with informational texts similar to ones in which students had previously been instructed. Writing assessments were used to measure and describe growth in students’ ability to compose informational texts. The administered writing assessments were researcher developed and designed to focus on student genre development and not to ascertain growth in science content knowledge. Data was gathered at the beginning, middle, and end of grades two and three resulting in a total of six assessments per student. Researchers held weekly observations of participating classrooms to assess ongoing fidelity to the treatment.

Research results disproved the first research question. Assessment results indicated no correlation between the explicit teaching of informational text structures and ability to read and write this genre with second and third grade students who had backgrounds on opposite ends of the socioeconomic spectrum. In addition, researchers found no significant correlation in achievement on information and procedural writing compared to parental education. This allowed researchers to conclude that the results of the first research question were an indication that the explicit teaching of text structure did not meet the language development needs of students in second or third grade. Researchers did find a positive correlation between the authenticity of classroom literacy activities and student growth. Students who spent more time in authentic reading activities tended to score higher on the given assessments. This corroborated the researchers’ second research question that language is often best learned in authentic situations. However, results of this study suggested that a minimum age threshold may exist for students to benefit from text structure training.

Although results did not indicate that second and third grade students experienced the benefits of text structure training, Purcell-Gates et al. (2007) found that authentic reading experiences proved beneficial when teaching second and third grade students to read expository
texts. The study continued to build on previous research by Broer et al. (2002) on the potential benefits of using expository text training to help sixth grade students with their reading comprehension.

Broer et al. (2002) designed an experiment to test the correlation of explicitly teaching sixth grade students to graphically summarize expository texts as well as their ability to recognize text structures to further their reading comprehension. The researchers specifically wanted to know if sixth grade students could be taught to make schematic representations of causation or classification text structures under the guidance of a structured intervention system. The independent variable was receiving instruction in graphically summarizing the expository texts and the dependent variable was the difference in student achievement on comprehension assessments pre- and postintervention.

Participants in this study were 354 sixth-grade students from fourteen schools in western Holland. These students were from eighteen sixth-grade classrooms under the instruction of 18 classroom teachers. All pupils were Holland natives and came from a middle class background. Schools were paired together with one school designated to receive the experimental treatment and the other school marked as the control. Initial school pairings were based on school and group size, reading methods, and experience of the teachers.

To assess pre- and postintervention achievement levels, researchers used parts of the Intelligence School Achievement and Interest exam (ISI-sequence) to measure students’ verbal intelligence, reading comprehension, reading style, and synonyms, opposite, and notional word recognition. Researchers also developed the Making Schematics – 1, Making Schematics – 2, and Making Schematics - 3 tests to coincide with the ISI-sequence. Each test consisted of six exercises that asked students to use their knowledge of the classification and causation structure
to: (a) identify the subject, (b) find structure signal words, (c) make a schematic, and (d) formulate the main idea. Students completed Making Schematics – 1 prior to beginning intervention.

Treatment was delivered in two 45-minute sessions per week over an eight week timeframe using the Making Schematics lesson series. The experimental lessons were divided into four blocks. Students were provided explicit teaching in text recognition, making a schematic drawing, and identifying the main idea in both the classification and causation structure. Lessons followed the gradual release of responsibility model, so that after the explicit teaching, students were asked to practice with partners followed by individual work. Teachers were instructed to specifically state to the students where and how the ‘making schematics’ strategy could be used.

Researchers immediately assessed post treatment growth by administering the Making Schematics – 2 test designed to ascertain student ability to identify the main idea and overall structure of the text. Broer et al. (2002) administered a delayed assessment in the form of the Making Schematics – 3 exam four weeks after treatment was completed. Results of the Making Schematics – 2 tests indicated that students who received the treatment scored significantly better than students who did not. When comparing results of the Making Schematics – 1 assessment given at the beginning of the intervention with the scores of the post intervention Making Schematics – 2 and Making Schematics - 3 exams, it became evident to researchers that instruction in the identification of the causation and classification text structures was able to enhance students’ ability to identify the main idea of short informational texts. The number of students scoring “insufficient” decreased from 56% to 25% on postassessments. The researchers were thus able to confirm their initial research question that explicit training in informational text structures would lead to increased reading comprehension.
Therefore, the work Broer et al. (2002) completed provided compelling evidence on the benefits of using text structure training to teach sixth grade students expository text comprehension. That same year, Meyer et al. (2002) recognized that in order to fully understand the benefits of text structure instruction, research needed to be done on delivery of text structure in multiple modalities. To test the impacts of multiple delivery formats, Meyer et al. (2002) created an experiment testing the effects of using the Internet to teach students text structure training with the help of adult tutors.

Meyer et al. (2002) researched the effects of using the Internet to teach text structures to fifth-grade students with and without the aid of older adult tutors. Researchers predicted that students who received the Internet-based structure training would experience a greater increase in comprehension than those who did not. In addition, researchers predicted that students who received a combination of scaffolded instruction and supportive messages from their tutor would show the greatest improvement. The independent variable was whether or not students received online instruction with a tutor and the dependent variable was level of achievement on assessment tests.

Participants in this study were fifth grade students from a rural middle school in northwestern Pennsylvania. Seventy-three students were recruited through parental invitation letters. Student demographics were not recorded for the purposes of this study. The twelve adult tutors ranged in age from 62 to 80. All tutors had previously earned college degrees.

The adult volunteers participated in eight 90-minute training sessions learning computer skills, structure strategy, and tutoring tips. Researchers divided student participants into three groups: a tutoring group using Web-based instruction, a group where students received the same Web-based instruction without tutelage, and a control group in which students did not receive
strategy structure instruction. The children were administered one 60-minute pretest comprised of reading, recall, and writing tasks. Students in the control group participated in the Accelerated Reader program while students in the experimental groups met with their tutors via the Internet.

Students receiving the treatment used a web-based program that adapted instruction to the needs of the individual student. Participants received twenty-five, 20-minute lessons teaching structure strategy. Interventions were administered three times a week for duration of ten weeks. Lessons were divided into targeted skill groups. Lessons 1 – 13 focused on the comparison and problem-solution structures, Lessons 14 - 22 on cause-effect, Lessons 23 - 24 on the sequence structure, and Lesson 25 reviewed all covered content. Following instruction, students in the tutor condition engaged in email dialog with their tutors where tutors were instructed to provide positive feedback.

Assessment results indicated that the majority of the hypothesized effects of combining structure training and tutoring were supported. Analysis of results showed that structure strategy training both with and without the aid of tutors produced positive effects on total text recall. Students who received structure training with and without tutors had mean scores of 56.7 and 45.85 respectively on posttests. Students who did not receive training scored an average of 39.60. Researchers were able to confirm their primary research question that text structure groups were shown to have superior recall to the control group at the end of the treatment. However, results were not able to confirm the secondary research question that students who received tutoring would experience the greatest improvements in comprehension. This was due to students in the non-tutoring condition showing higher achievement levels on delayed posttests.
Overall, the findings of Meyer and Poon (2004) provided a compelling argument that people of all ages can benefit from text structure training. Meyer et al. (2010) extended previous research on text structure training by identifying how a web-based instructional delivery format could lead to an increase in nonfiction reading comprehension. The research by Purcell-Gates et al. (2007) examined the relationship between comprehension test scores of students who were provided authentic experiences when reading nonfiction texts with students who were not. Broer et al. (2002) made clear the benefits of using summary writing to teach expository text structure recognition. Furthermore, Meyer et al. (2002) conveyed the utility of using adult tutors to facilitate web-based text-structure instruction designed help increase reading comprehension. Existing literature showed that training in expository text structure could result in gains in comprehension. The question then became, were similar gains possible when targeting at-risk readers or students with learning disabilities?

**Effects of Text Structure Training on At-Risk Readers or Students with Learning Disabilities.**

The results of studies by Meyer and Poon (2004), Purcell-Gates et al. (2007), Broer et al. (2002), and Meyer et al. (2002) showed the benefits of explicitly teaching expository text structure to general education students. Because of this research, many educational researchers positioned that individualized text structure training would be beneficial to at-risk readers or students with learning disabilities as well. Williams et al. (2004) decided to further text structure research by specifically studying the effects of text structure training with at-risk second grade students.

Williams et al. (2004) questioned whether teaching expository text structure to at-risk second grade students was an effective way to build basic comprehension skills. Researchers
specifically asked: Would students be able to combine their content knowledge with their new knowledge of text structure? Would the level of understanding of text structure and content familiarity differ in students who possessed proficient levels of comprehension ability and those who do not? The independent variable in this study was text structure training and the dependent variable was performance on assessment tests.

Participants in this study were 128 second grade students from ten second-grade classrooms in New York City public schools. All ten classrooms volunteered to participate, nine of which were led by teachers who had obtained masters degrees. The ten classes were to be divided into three different groups. Four classrooms were assigned to the text structure treatment, four were assigned the content treatment (which used the same materials as the text structure, but did not explicitly teach the cause-effect structure), and two were used as the control. The 128 students were 56% Hispanic, 41% African American, 2% Caucasian, and 1% Asian. Approximately 90% of the students received free or reduced price lunch and 6% received special education services.

Researchers designed a program consisting of nine lessons to be delivered in fifteen sessions. Lessons focused on: (a) clue words, (b) trade book reading and discussion, (c) vocabulary development, (d) analysis of individual paragraphs, (e) graphic organizers, (f) compare and contrasting, (g) summary writing, and (h) lesson review. Teachers assigned to the text structure treatment were taught three strategies. Volunteers were first taught how to teach text structure, second how to use a graphic organizer to identify relevant information in the text, and third, how to use a series of guiding questions to focus on important information in the text. Students in the content program used the same texts as those in the text structure condition, but were not explicitly taught text structure recognition.
Preassessments were conducted one-on-one and students were asked to individually respond to oral and written questions. Researchers assessed student ability to identify clue words both in and out of paragraphs, generate oral and written sentences based on graphically organized information, and student strength in recalling answers to compare/contrast style questions. The administered postassessments required students to summarize a compare/contrast paragraph generated from materials explicitly taught in the study, and transfer of text structure knowledge to ability to read and comprehend novels.

Data analysis indicated that text structure instruction does help students improve their comprehension of compare/contrast expository text. In addition to this, researchers found that teachers are able to accomplish this without taking significant time away from new content instruction. Williams et al. (2004) were able to confirm their initial research question that students would be able to combine their content knowledge with knowledge of text structure to increase their comprehension. Similarly, researchers uncovered those students who did not perform as well on text structure assessments did not perform well on assessments of overall listening and comprehension ability. Researchers were thus able to confirm that students who obtain high levels of reading proficiency were more likely to experience success in text structure training than their peers who were not proficient in reading.

Overall, the work of Williams et al. (2004) provided compelling evidence that text structure training could prove beneficial to at-risk second graders. Williams et al. (2007) decided to continue researching the benefits of text structure training with second grade students. However, researchers for the purpose of this study wanted to see if text structure training would prove beneficial to help learn a specific content area.
Williams et al. (2007) researched the effects of using social studies content to teach the cause/effect text structure to at-risk second grade students. Researchers strove to uncover the ability of their own researcher-developed text structure instructional program to help second graders at risk for academic failures improve their comprehension skills. In addition, researchers wanted to determine if this goal could be accomplished without decreasing the amount of content knowledge being taught in the classroom. The independent variable was if students received the text structure training and the dependent variable was performance on assessment tests.

Participants in this study were 243 second grade students from ten classrooms in three elementary schools in New York City. All three schools were categorized as Title I and enrollment across all three schools consisted of 76.5% Hispanic, 22% African American, .5% European American, and 1% Asian or other. Ninety-three percent of students qualified for free or reduced-price lunch and 5% of students received special education services.

Researchers began collecting data by administering the Word Identification and Passage Comprehension subtests of the Woodcock Reading Mastery Test - Revised. They also gathered information from three strategy and two outcome measures including asking students to locate clue words in a paragraph, locating cause-effect cue words, recalling cause-effect questions, and testing vocabulary knowledge.

Researchers designed specific cause/effect example paragraphs to be used in the control and experimental groups during the instructional sessions themselves. During their 30-minute training sessions, experimental group teachers were instructed to explicitly teach identifying cause/effect structure while control group teachers were told not to. The text structure and content programs were divided into three units focusing on separate historical communities. These units contained lessons centered on target paragraphs selected from social studies trade
books that gave teachers the opportunity to focus on (a) cause/effect clue words (b) vocabulary (c) cause/effect questions (d) use of graphic organizers and (e) comprehension questions. Students in the content only program had the same instructional focus as the text structure treatment, but did not experience specific instruction on cause/effect relationships. Researchers conducted multiple observations of the ten participating classrooms to observe fidelity to the treatment. Post-testing consisted of a second administration of the Word Identification and Comprehension passage subtests on the Woodcock Reading Mastery Test - Revised as well as testing student strategy and outcome measures. Strategy and outcome measures consisted of locating clue words; completing a graphic organizer on a cause/effect paragraph, and responses to cause/effect questions.

Researchers found that students who received text structure training and those who did not showed similar ability recognizing the “cause,” but students who received the text structure training outperformed students who did not in determining the “effect.” The overall similarities in performance of the control and experimental groups in the other assessments indicated that text structure recognition can be successfully integrated into content area instruction without diminishing the amount of content taught. Researchers were thus able to confirm both of their initial research questions that their instructional program could increase the comprehension of at-risk readers and could do so without decreasing the amount of content taught.

Williams et al. (2007) showed how teachers can effectively embed text structure training in daily instruction, without having it come at the expense of teaching content. Results indicated that teachers who are able to effectively embed text structure training into content classes will help their students increase their reading comprehension. Williams et al. (2007) study built on
Miller and Lingnugaris-Kraft (2002) research on the benefits of using text structure training with students with learning disabilities. Miller and Lingnugaris-Kraft (2002) specifically studied the correlation of text structure discrimination training and writing performance on students with learning disabilities. The purpose of the study was to determine whether teaching students complex text structures would result in increased knowledge of text structure and improved writing performance. The author listed four research questions to coincide with the purpose of the study: (a) To what extent does teaching students to identify critical components of four text structures increase scores on discrimination tests of the targeted text structure? (b) To what extent does teaching students to identify critical text structure components increase student scores on written paragraph tests? (c) What additional training is needed for students to reach criterion performance on written paragraph tests? (d) Do students’ improved writing skills as measured by criterion tests transfer into the general education setting? The independent variable in this study was text structure training and the dependent variables were results of student posttests.

The participants in this study were two middle school and one high school student who all possessed a Specific Learning Disability as defined by the Utah State office of Education. The students were referred to the study by school special education teachers because of poor paragraph writing skills. Race and ethnicity of study participants were not recorded for the purposes of the study. Students were placed in a three-phase intervention process following the initial selection.

Students were asked to complete writing, discrimination, and generalization tests to determine baseline data prior to beginning intervention. These tests were administered over several 40-minute sessions. Upon completion of the baseline testing, students began the
intervention training itself. The three phases of the intervention training were the Critical Component training, Identifying Critical Information training, and Identifying Critical Information and Feedback on Writing training. The Critical Component intervention phase taught students to verbally list the critical components of target text structures to be used to help discriminate between text structure examples and non-examples. The Identifying Critical Information phase taught students to identify critical information in stimulus passages derived from previous writing tests. The goal of the intervention was to help students identify important details to use in their own written summary of the text. The Identifying Critical Information and Feedback on Writing phase was presented as stimulus questioning requiring students to determine what type of response question was needed. Discrimination tests were administered at the end of each session to determine student performance. Students were determined to have successfully completed an intervention when they were able to complete three consecutive trials with 100% accuracy as well as navigate discrimination tests with 85% accuracy. Student results were then used to determine effectiveness of interventions. The three students did not receive the same amount of instruction as the pace of interventions was derived from discrimination test results. The students received 14, 33, and 24 instructional sessions respectively.

Researchers were not able to completely confirm their first research question that teaching students to identify text structure would increase scores on discrimination tests on that structure. Results showed that text structure scores varied throughout the study. Students were not always able to identify similarities and differences between multiple topics. Participant results confirmed the author’s second and fourth research questions that text structure training had a positive correlation to writing performance. The three students exhibited gains of 40.25%, 55.25%, and 47.38% as determined by the administered writing discrimination and
generalization tests. Researchers found that students required less instruction to meet specific criterion performance after receiving the Critical Component and Identifying Critical Information Training portions of the interventions. This suggests that providing these two interventions would prove beneficial to students with learning disabilities. This finding confirmed Miller and Lignugaris-Kraft’s third research question.

Miller and Lignugaris-Kraft (2002) provided excellent evidence on how individualized instruction can help students with learning disabilities increase the strength of their comprehension abilities. To further the evidence of using explicit individualized instruction to improve expository text comprehension of at-risk students, Stagliano and Boon (2009) researched the effects of story mapping training with elementary students with learning disabilities.

Stagliano and Boon (2009) sought to understand the effects of using story-mapping procedures to improve expository text comprehension of elementary students with learning disabilities. Stagliano and Boon (2009) conducted the study due to their belief that research on teaching expository structures to elementary-aged students was incomplete and deserved further study. The researchers sought to do this by attempting to replicate the results of studies already completed at the middle school level on the benefits of explicit text structure training. However, instead of middle school students, researchers used children in the primary grades as primary participants. The specific purpose of their study was to find the potential effects of using story mapping to teach expository text comprehension to elementary students with learning disabilities. The independent variable was receiving text structure training and the dependent variable was assessment test results.
Three elementary-aged students with learning disabilities participated in this study. All three student participants were male. Two of the three participating students were Caucasian and the other one African American. All three participants were in fourth grade and attended a school in southern Georgia. The school housed approximately 900 students in kindergarten through fifth grade. All three participants met Georgia requirements for the Specific Learning Disabilities and received special education services in reading, writing, and/or math. The three students had not had any prior instruction in using story-mapping procedures.

Intervention sessions took place in a special education resource classroom. Students received individual treatment in one section of the room while remaining students completed normal reading activities in another section of the room. Interventions were scheduled to take place in 15 to 30 minute blocks to be administered intermittently throughout the week. A total of twenty-four intervention sessions were implemented over a two month time frame. Researchers used leveled expository texts from *Read Naturally* as instructional materials.

The study was conducted in three phases consisting of a baseline data gathering phase, treatment phase, and maintenance phase. During the baseline phase, students were briefly shown story mapping elements upon entering the resource room. Teachers removed the story mapping elements from student view after a brief discussion. Students then read an expository text passage from *Read Naturally* and answered five corresponding comprehension questions. The baseline phase continued until students consistently responded to 40% of the comprehension questions correctly. The intervention phase consisted of the teacher providing the students with a story map to be used for the duration of the lesson. The providing of the story map was the only difference between the baseline and intervention phase. Intervention continued until participants answered four of the five comprehension questions correctly for three consecutive
sessions. Students continued to receive once-per-week probing assessments until all three students had reached the 80% correct threshold. The students were tested on their ability to maintain their reading skills two weeks after all interventions were completed.

Researchers found that all three participants initially performed at low levels of comprehension during the baseline phase, but greatly increased their skills after receiving individual story mapping training during the intervention phase. Results analysis showed significant improvement among all three students. Student 1’s mean percentage correct on comprehension questions was 6.67% during the baseline phase, 92% correct during intervention phase, and 86.67% during the maintenance phase. Student 2’s mean percentage correct on comprehension questions was 26.67% during the baseline phase, 85% during the intervention phase, and 86.67% during the maintenance phase. Student 3’s mean percentage correct on comprehension questions was 11.43% during the baseline phase, 86.67% during the intervention phase, and 86.67% during the maintenance phase. These results confirmed the researchers’ primary research question that the using story mapping procedures to teach expository text structure to elementary students with learning disabilities can have a significant impact on reading comprehension.

Stagliano and Boon (2009) helped educators understand that teaching expository story mapping procedures should be an essential component of a well-rounded instructional toolbox. However, in order to fully understand the benefits of using story mapping procedures to teach expository text comprehension to students with learning disabilities, it is essential to specifically understand the differences in reading performance of students with learning disabilities on narrative and expository text.
Saenz and Fuchs (2002) sought to identify the specific areas which secondary students with Learning Disabilities exhibited significant differences in performance when reading expository or narrative texts. The primary research questions were (a) do secondary students with Learning Disabilities exhibit differences in fluency performance when comparing narrative versus expository texts? (b) do secondary students with Learning Disabilities show differences in comprehension performance when comparing narrative versus expository texts?

Participants from this study were recruited from six high schools comprising of students from 20 remedial and special education reading classrooms from an urban school district located in the southeastern United States. The minimum eligibility requirements set by the researchers mandated that any involved students needed to have an identified learning disability as determined by state and federal criteria, and have a reading level between grades 2 and 6 as determined by their teacher. In all, 111 students participated in this study. The study consisted of 80 males and 31 females ranging from grades 9 to 12. Of the participating students, 57.7% were African American, 41.4% Caucasian, and 0.9% were from other ethnicities. Of the 111 students participating, 42 qualified for free or reduced price lunch.

Researchers created a testing procedure where each student read aloud two expository and two narrative text passages in each testing session, with the students receiving the four texts in varying order. The narrative passages used to gather data were selected from the *Monitoring Basic Skills Progress* program and expository passages from the *Timed Reading Series*.

Researchers recorded four scores for each student in each testing session: words read correctly in two minutes, total questions answered correctly, literal questions answered correctly, and inferential questions answered correctly. Researchers considered omissions, additions of prefixes or suffixes, substitutions, and hesitations longer than five seconds as errors when
gauging fluency. Student comprehension data was gathered by researchers asking participants ten researcher-developed comprehension questions and recording their responses. Of the ten comprehension questions, eight required literal responses while two required inferential responses. Students were asked all ten questions regardless of whether or not they had completed the text. Researchers discontinued questioning when students consecutively produced five incorrect responses.

Analysis of results provided responses to both of the research questions. Secondary students with a learning disability showed greater capacity to both fluently read and comprehend narrative text versus expository text. Assessment indicated that students produced greater amounts of correct words per minute when reading narrative texts compared to expository texts. Students read an average of 223.16 words correctly reading narrative versus 212.62 when reading expository texts. In addition, participants answered 54.69% of narrative questions correctly while only 45% of expository text questions correctly. Participants had a 47.97% success rate with literal questions on both narrative and expository texts, but exhibited significant differences when answering inferential questions. Students answered 48.20% of inferential narrative questions correctly while only answering 33.11% of expository questions correctly.

Research in the last ten years on the use of text structure training with below grade level readers has led to the development of new expository text instructional processes. The study by Williams et al. (2004) displayed the existing relationship between teaching expository text structure and increased reading comprehension among early elementary aged students. Williams et al. (2007) successfully examined how teachers can successfully combine text structure training and content knowledge with at-risk readers. Similarly, research by Miller and Lingnugaris-Kraft (2002) resulted in discovering how writing performance of learning disabled students could be
increased with training in expository text structures. Correspondingly, Stagliano and Boon (2009) revealed how expository story-mapping procedures help learning disabled students increase their nonfiction reading comprehension. Likewise, Saenz and Fuchs (2002) outlined the need for students with learning disabilities to experience increased exposure to expository texts. The existing research base on the use of text structure training with students with learning disabilities and other at-risk readers has led to the question: if text structure training is beneficial to students, what instructional approaches should be utilized to accomplish the training?

**The Benefits of Using Graphic Organizers to Teach Expository Text Structures.**

After reviewing the impacts of the explicit teaching of expository text structure to various populations of students, further research was conducted to study the benefits of specific teaching methodologies that could used to enhance text structure training. Much of this research built off the knowledge uncovered in previously reviewed studies and was used to design experiments to test the impact of using graphic organizers on expository text comprehension. Reynolds and Perin (2009) began studying the effects of using graphic organizers to help students increase their ability to produce written texts using classroom expository texts as a foundation.

Reynolds and Perin (2009) wanted to compare the quality of written work produced by middle school students composed from expository texts after they have received text structure or self-regulated learning training. To accomplish this, researchers planned a study testing the two approaches. The purpose of this study was to determine the effectiveness of teaching students to summarize expository text using text structure or by helping students develop self-regulated learning strategies. The independent variable was the type of training students received and the dependent variable was results of student assessments.
Participants in this study were 121 students from six seventh-grade social studies classrooms in a suburban middle school in western Canada. Participants were comprised of 62 male and 59 female students. Most of the participating students were of Caucasian descent and were of low to middle socioeconomic status. Students were selected using parent consent, scores on the second edition of the Gates-MacGinitie Reading Tests - Second Canadian Edition, and from the Test of Written Language, Third Edition. The six participating classrooms were taught by three teachers who were randomly assigned to one of three research conditions. One teacher was assigned to teach their two classes (40 students) the text structure instruction, the second teacher was assigned to teach their two classes (39 students) the PLAN & WRITE for Summarization (PWS) and the third teacher’s two classes (42 students) were assigned the neutral literacy condition to be used as the control.

Each classroom of students participated in a total of ten sessions conducted in the following order: two pretest sessions, five instructional sessions, and three final sessions where posttests and transfer measures were administered. The formal pretesting consisted of two 60-minute sessions on consecutive days two days prior to formal instruction beginning. The pretesting sessions began with students completing the Reading Comprehension subtests of the Gates MacGinitie Reading Test – Second Canadian Edition, a content knowledge test provided by the researchers, and the Spontaneous Writing subtest of the Test of Written Language – Third Edition.

All three conditions were administered to whole classrooms in a 2 ½ week period using the same texts for reading and writing tasks. Teachers were given 50 minutes of training in how to deliver instruction in the three conditions. In this training, researchers modeled appropriate instructional delivery and provided teachers with instructional scripts and texts to be used in
conjunction with the lesson. After completion of the pretests, instructional sessions were

delivered in 45-minutes blocks of time.

The text structure condition required students to record main ideas and details, take notes,
and use graphic organizers to plan for summary writing. Students were taught to do so by the
mnemonic ‘STRUCTURING’, which stands for: scan the passage, think of structure and the big
main idea, read the paragraphs, underline the important point of each paragraph, choose one
interesting detail, take notes using the frame, U-turn and repeat the second passage, review
organization of notes, introduce with topic sentence, next point, and go back and edit.

In the PWS condition, students were asked to take and organize notes for eventual
summary writing using goal setting and the mnemonics ‘PLAN’ and ‘WRITE’. The mnemonic
‘PLAN’ stood for: pick out the big idea and underline the important parts, list main ideas, add
supporting details, and number your ideas. The mnemonic ‘WRITE’ stood for: work for a plan
to develop a topic sentence, remember your goals, include transition words, try to use different
kinds of sentences, and edit your work.

In the neutral literacy control, students read the same passages as students in the two
treatment conditions. Students in this group were asked to read passages from their booklets and
respond to questions in the form of sentences and paragraphs in the first half of class. In the
second half of class, students were asked to complete a creative writing task that corresponded
with the texts being read. Researchers again administered the Reading Comprehension and
Spontaneous Writing subtests from the second edition of the *Gates-MacGinitie Reading Test* and
from the *Test of Written Language - 3rd edition*, to assess postintervention growth.

Results of assessments indicated that the text structure treatment was most effective in
teaching students to create written summaries of expository text. Students who received the text
structure treatment exhibited a mean increase in score of .68 on the Writing Quality Rating Scale, increasing their score from 9.08 to 9.76. Meanwhile, students who received the PWS treatment showed an overall decrease in score from 9.27 to 8.98 on the same scoring scale. Students in the treatment group exhibited a decline in scores as well from 9.11 to 7.79. These results confirm the researchers’ hypothesis that using graphic organizers to teach expository text structure is a beneficial approach to learning to write nonfiction text.

Reynolds and Perin (2009) provided compelling evidence of the academic benefits of using graphic organizers to teach expository text structure. Ozmen (2011) provided a natural extension of Reynolds and Perin’s (2009) research by testing whether or not using graphic organizers to teach expository text structure to students with learning disabilities would be beneficial as well.

Ozmen (2011) conducted a study to identify the benefits of using graphic organizers to teach expository text to students with learning disabilities. The purpose of the study was to compare the recall effects of two different presentations of graphic organizers using compare/contrast expository texts with learning disabled students. The independent variable was the presentation of the researcher-constructed graphic organizer before or after the reading process. The dependent variables were the rate of recalling similarities and differences of the compare/contrast concept used in the text.

Participants in this study were chosen from a single special education classroom for students with learning disabilities in Ankara, Turkey. In order to participate in the study, students needed to meet the following criteria: (a) have the ability to read without syllabication, (b) be in 6th, 7th, or 8th grade; and (c) be able to recall a maximum of one similarity and difference after reading a compare/contrast expository text. There were five students who met
the study criteria. All five students were male, of Turkish decent, and spoke Turkish as their native tongue.

A total of 13 compare/contrast texts were used in the study. Three of the compare/contrast texts were used in baseline testing, five were used during the presentation of graphic organizer before writing condition, and five were used in the completing the graphic organizer after reading condition. All 13 texts were written about topics covered in the students’ fourth and fifth grade science curriculum and were five paragraphs in length. The first paragraph of each text introduced the compare/contrast concept, the second and third paragraphs explained the similarities and differences of the two concepts, and the fifth was a concluding paragraph.

Each student received treatment twice per day, five days a week. The experimental conditions lasted a total of four weeks. Researchers showed participating students two expository and two narrative texts in different orders. The two different presentations of graphic organizers were administered intermittently by providing a thirty minute break between presentations. During the baseline sessions, students were asked to silently read the texts and respond to the questions, “What are the similarities of the concepts?” and “What are the differences of the concepts?” Prereading presentation of the graphic organizer consisted of researchers providing a graphic organizer containing key words and phrases identifying the key similarities and differences of the text concept. Students were allowed to look at the graphic organizer for one minute before being asked to read the passage silently. After reading, post assessment was administered following the same procedures as the baseline. In the postreading presentation of the graphic organizer, students were asked to read the first two text paragraphs silently and fill in the similarities section of a blank compare/contrast graphic organizer. Researchers asked students to state any similarities identified and then proceeded to follow the
same procedure on the differences section of the text. Post assessment was administered in the same manner as the baseline. Throughout the study, baseline sessions lasted approximately 10-15 minutes, the prereading graphic organizer treatment lasted approximately 15-20 minutes and the postreading graphic organizer lasted approximately 30-35 minutes.

Analysis of results indicated that a prereading presentation of the graphic organizer containing key words and phrases was more beneficial for four of the five participating students in identifying both similarities and differences in the text. The time of delivery of the graphic organizer was shown to be equally effective for the fifth student. These results answer Ozmen’s (2011) primary research question that providing students graphic organizers prior to reading is most beneficial to their overall comprehension.

Ozmen’s (2011) study added to existing knowledge by stating that the providing of graphic organizers prior to beginning any new expository reading task would prove more beneficial than providing the graphic organizer after reading. Ozmen’s (2011) study built on DiCecco and Gleason’s (2002) study on the impacts of using graphic organizers to cue and convey relational knowledge in expository text.

DiCecco and Gleason (2002) designed a study whose purpose was to examine the effects of using graphic organizers to cue and convey relational knowledge. Researchers used a pre- and posttest design to investigate the effects of explicit instruction on the use of graphic organizers with students’ ability to apply relational knowledge to social studies material. The independent variable was student training on the use of graphic organizers and the dependent variables were results on pre- and posttest measurements of content knowledge in the form of eight fact quizzes and two domain knowledge essays.
Participants in this study were 24 middle school students with learning disabilities. These students were from two middle schools located in a moderately sized city in Oregon. Students were from three pull-out resource classrooms located in the middle schools. One of the middle schools was in a low socioeconomic status area of the city, while the other was in a middle class area of the city. In order to qualify for the study, students had to have been identified as learning disabled according to Oregon state specifications, be participating in a special education program, have an Individualized Education Program in reading, and have parent permission to participate in this study. Each participating classroom was randomly divided into two groups. One group was to receive the graphic organizer treatment and the other was to be the no graphic organizer control condition. This created six total instructional groups at the three schools.

To begin gathering data, researchers administered the Word Identification and Word Attack subtests of the Woodcock Reading Mastery Test – Revised, Form H to determine initial word identification skills of participating students. A twenty question multiple choice pretest to determine student knowledge regarding the content to be covered was administered during the intervention phase. Finally, a pretest writing sample was procured from each student to assess their writing ability.

The intervention occurred for a period of twenty school days. Instructional sessions occurred during the daily forty-minute reading block in all participating classrooms. The content that was delivered during the intervention phase was taken from Chapters 42 and 43 in America! America!, a middle school social studies textbook. Lessons were limited to basic facts, concepts, and relationships for individual units of thought. Graphic organizers were developed for use in conjunction with each lesson. Each graphic organizer was designed to make implied relationships explicit and cue relational knowledge. A total of five graphic organizers were
constructed for use throughout the treatment phase. The participating teachers were provided instructional scripts to ensure fidelity to treatment during the lessons. The only difference in scripts between the treatment and control groups was the treatment group script was designed to draw reader’s attention to specific cells on the graphic organizer.

Instructors in the graphic organizer condition relied heavily on the use of direct instruction to explicitly show how using the information cells located on the graphic organizer can show relationships for individual units of thought. Teachers would first model and then guide the students through the information in each portion of the graphic organizer while simultaneously eliciting individual student responses. Upon completion, instructors provided a complete review of the graphic organizer to facilitate retention of information. Students in the non-graphic organizer condition received similar instruction to the graphic organizer treatment group, except that no graphic organizers were used. Teachers in the non-graphic organizer group relied heavily on guided discussion focusing on topics relevant to the text being read. These students completed a guided note sheet but the information in the note sheet was never graphically organized.

Students in both treatment conditions were asked to complete eight five-question multiple choice quizzes on the days following instruction. Quiz items were extracted from sections of the text being read. In addition to the quizzes, students were required to complete two domain knowledge essays seven and twenty days after instruction. Each essay was delivered in a strict standardized fashion using a script to ensure consistent procedures were followed. Posttesting also included the use of the Word Identification and Word Attack sections of the Woodcock Reading Mastery Test – Revised.
DiCecco and Gleason (2002) analyzed results and came to several conclusions. Results supported the primary research question that the use of graphic organizers to aid text recall of students with learning disabilities resulted in significant gains in comprehension. Students receiving the graphic organizer treatment showed a mean increase in content knowledge of 6.08 to 13.42 on the 20-item test, as compared to 4.25 to 12.58 as students that did not. Researchers did not find any significant effects between conditions on the content knowledge fact quizzes. Researchers found the greatest difference in conditions when analyzing relational knowledge statements on Essays 1 and 2. The graphic organizer group made an average of 4.33 relational knowledge statements per essay while the group operating without a graphic organizer had an average of 2.54 relational statements per essay.

DiCecco and Gleason (2002) built on the knowledge base of the benefits of graphic organizers by providing excellent evidence on how graphic organizers could help students cue relational knowledge in expository texts. Williams (2009) continued to build on the research of the benefits of graphic organizers by furthering her own previous research on the use of text structure with second grade students.

Williams et al. (2009) sought to extend previous research on text structure instruction with second grade students. This study specifically sought to answer the primary research questions of: (a) can explicit text structure instruction benefit second grade students in reading comprehension as shown in both their writing and oral performance? (b) can adding a limited amount of explicit text training in a second pro–con text structure help second graders improve their comprehension of the second structure? and (c) is explicit instruction in text structure able to help second grade students improve their ability to comprehend authentic texts? As a secondary initiative, researchers sought to develop an effective assessment instrument for the
program. Data was collected using basic measures from an earlier study by Williams (2005) to develop the assessment tool based on the Woodcock-Johnson Reading Mastery Test - Revised. The independent variable in this study was whether or not students received text structure training and the dependent variable was the results on the posttests.

Participants in this study were 215 second grade students from four elementary schools in a large metropolitan area. All four schools exhibited similar student demographics. Demographics across all four schools consisted of students who were 61% Hispanic, 37% African American, 1% Caucasian, and 1% Asian/other. Of the participating students, 90% received free or reduced price lunch, and 6% of participating students received special education services. The fifteen female teachers who voluntarily participated in this survey were randomly assigned to one of the three experimental conditions. The three research conditions were the text structure treatment, the content treatment, and the control.

The teachers were introduced to treatment procedures during 30-minute training sessions offered one week prior to initiation of the study. Students were individually pretested in two 30-45 minute sessions. In the first session, students were assessed using the Word Identification and Passage Comprehension subtests of the Woodcock Reading Mastery Test - Revised, Form H. In the second session, students were given a test assessing their ability to perform several tasks they would be asked to complete during the instructional program. Students in the text structure and content conditions received 12 lessons taught in 22 sessions that were 45 minutes in length. The 22 sessions spanned approximately two months with three sessions taught per week. Treatment lessons 1 and 2 focused on building background knowledge and introducing the compare/contrast paragraph and descriptive paragraphs. Lessons 3-9 focused on using the compare/contrast structure to read expository texts, and lessons 10-12 included the use of mixed-
structure paragraphs containing both compare/contrast and pro-con statements. Posttesting followed using similar procedures to pretesting. The control group did not receive text structure or content training.

The data collected by the researchers was able to provide answers to all primary research questions. Data confirmed initial research predictions that students receiving the text structure treatment would score higher than the content and no-instruction groups when asked to provide a written summary of the text. The oral assessment measures used to identify the instructional effects of limited training in the pro-con text structure showed that students in the text structure training group once again scored significantly higher than students in the other two groups. This again confirmed initial research predictions. Research confirmed that students in the text structure training exhibited greater ability to comprehend authentic texts when compared to the two remaining instructional groups. Williams et al. (2009) were able to successfully expand previous research by confirming for their second primary research question that the *Woodcock Reading Mastery Test - Revised* is an effective way to consistently measure growth. Results from the *Woodcock Reading Mastery Test - Revised* confirmed predictions that text structure groups would score significantly higher than the other treatment conditions.

Literature from the past decade indicated that graphic organizers play an essential role in expository text structure instruction. The research by Reynolds and Perin (2009) demonstrated how expository writing produced by seventh graders increased in quality with text structure training. Similarly, the research by both DiCecco and Gleason (2002) and Ozmen (2011) demonstrated how the nonfiction text recall of students with learning disabilities increased with expository text structure training. Correspondingly, Williams et al. (2009) provided strong
arguments on the inclusion of graphic organizers when providing students expository text instruction designed to increase oral and written textual recall.

Conclusion

The passage of *No Child Left Behind*, *Race to the Top*, and the adoption of the Common Core State Teaching Standards across much of the United States has led many schools to review their instructional approach to teaching nonfiction reading. Literature from the past decade has proved explicitly teaching expository text structures to be an essential instructional method when helping either learning disabled or at-risk readers increase their nonfiction reading comprehension. Meyer and Poon (2004) articulated the potential comprehension benefits of teaching people of all ages expository text structure. The study by Meyer et al. (2010) showed how to use a web-based instructional delivery format to increase nonfiction reading comprehension. In addition, Purcell-Gates et al. (2007) discovered that students who participated in authentic reading experiences while receiving nonfiction text instruction produced greater scores on comprehension assessments then those that did not. Broer et al. (2002) outlined the benefits of using summary writing to teach students to recognize expository text structures. Furthermore, Meyer et al. (2002) found the advantages of combining web-based instruction with the use of adult tutors to help increase reading comprehension in fifth grade students. Thus, the recent research on the benefits of explicitly teaching expository text structures has shown that text structure training will increase nonfiction reading comprehension with students of all ages.

Additionally, research in the last decade on the use of text structure training with learning disabled and at-risk readers resulted in multiple instructional implications. Williams et al. (2004) uncovered the relationship between text structure training and increased reading proficiency
among at-risk second grade students. Furthermore, Williams et al. (2007) outlined potential methods for teachers to successfully embed text structure training with at-risk readers without decreasing the amount of time spent instructing in the content areas. Likewise, Miller and Lingnugaris-Kraft (2002) identified how individualized text structure training with learning disabled students could increase expository writing performance. In conjunction, Stagliano and Boon (2009) accentuated the impact of using expository story-mapping procedures to help students with learning disabilities increase their nonfiction reading comprehension. Correspondingly, the results of Saenz and Fuchs (2002) study stressed the need for increased exposure to expository texts among students with learning disabilities. Research on text structure training from the last decade with both learning disabled and at-risk readers has determined that text structure training should be a frequent aspect of daily reading instruction.

Finally, research from the past ten years indicated that graphic organizers are an essential aspect of nonfiction reading instruction. Reynolds and Perin (2009) showed the benefits of using graphic organizers to increase the quality of expository writing produced by seventh graders. Similarly, both DiCecco and Gleason (2002) and Ozmen (2011) defined how the use of graphic organizers could help students with learning disabilities increase their nonfiction text recall. Lastly, Williams et al. (2009) outlined how using graphic organizers can help students increase their oral and written recall of expository text. Based on this literature, the question that emerged was: can text structure training combined with the use of graphic organizers help sixth grade students identified to be either an at-risk reader or possess learning disabilities help their reading comprehension? The next chapter will detail a five-week study completed to determine if text structure training could help sixth grade students increase their reading comprehension.
Chapter Three
Implementation

Introduction

The understanding that all teachers are reading teachers has not been adopted in its entirety by all educators. Schools across the country have been in the midst of a philosophical shift stemming from the growing belief that content area teachers need to become more accomplished at teaching reading strategies and skills to all levels of students. In the past decade of high-stakes testing, schools that have not encouraged all teachers to become adept in reading instruction have missed significant opportunities to increase the amount of reading instruction students received throughout the school day. In some districts, content area teachers argued that it is their job to teach content and not reading, however the teaching of content and the teaching of reading inherently goes hand-in-hand. Research has indicated that explicitly teaching expository text structures to at-risk readers is beneficial (Meyer & Poon, 2004; Meyer et al., 2010; Purcell-Gates et al., 2007; Broer et al., 2002; Meyer et al., 2002, Williams et al., 2004; Williams et al., 2007; Miller & Lignugaris-Kraft, 2002; Stagliano & Boon, 2009; Saenz & Fuchs, 2002).

Teachers who expect students to be able to read and understand increasingly complex textbooks need to provide students with the tools to cognitively unpack the information teachers expect them to retain. All too often, the complexity of the reading assigned in textbooks is above the independent reading level of the students being expected to read it. In consideration of this fact, content area teachers who desire to have their students acquire as much content knowledge as they are able need to become well-versed in how to teach students to successfully read information-dense non-fiction texts themselves. Graphic organizers are a research based method
of incorporating text structure instruction into content area classrooms (Reynolds & Perin, 2009; Ozmen, 2011; DiCecco & Gleason, 2002; and Williams et al., 2009).

Doug Buehl’s (2009) Classroom Strategies for Interactive Learning provides an excellent instructional framework teachers can follow to accomplish this goal. Buhl (2009) delineated the differences between six different nonfiction text structures that are used in content area classes. In addition to examining the variance across the six structures, Buehl (2009) provided corresponding learning activities that can used to frontload learning, guide comprehension, and consolidate understanding. The six structures Buehl (2009) identified included: Goal/Action/Outcome, Problem/Solution, Concept/Definition, Cause/Effect, Proposition/Support, and Compare/Contrast. The Compare/Contrast structure was not used for the research as participants already possessed a high level of expertise with the Compare/Contrast structure as measured by standardized tests.

Participants

The participants in this study were four sixth-grade students. Each of the four participants was of Caucasian descent. All four students were enrolled in the same public middle school located in small, rural Midwestern United States town. Each of the participants was a member of a general education Language Arts classroom, with ages ranging from 11-12 years old. The four students were randomly assigned to this Language Arts classroom after the completion of their fifth grade academic year. Each student was selected to be part of this study as they had all demonstrated a reading deficiency of one or two grade levels as defined by the reading portions of the standardized Northwest Evaluation Association Measurement of Academic Progress exam and the Minnesota Comprehensive Assessment exam. Additionally,
the four students had permission from their parents/guardians to participate in this study, had
good attendance records, and participated in assigned activities.

All four participants in the study were males. Student 1 was a student who had been
diagnosed with dyslexia. Student 1 benefited from an Individualized Education Program who
generally produced “C” level work. Student 2 was generally a “B” level student who also had
been identified with Specific Learning Disability as defined by the Minnesota Department of
Education. Student 3 did not have a diagnosed Specific Learning Disability but read at a fourth
grade level as measured by the Measurement of Academic Progress and Minnesota
Comprehensive Assessment exams. Student 3 generally produced “B” level work. Student 4 had
no documented learning disability and, like Student 3, was reading at a fourth grade level as
defined by the Measurement of Academic Progress and Minnesota Comprehensive Assessment
standardized exams. Student 4, in most cases, produced “C” level work.

Students participated in the study four times per week in 30-35 minute small group
instructional sessions for five weeks. Students 1 and 3 received instruction during their regularly
scheduled 35-minute study hall on Mondays and Thursdays and during their 30-minute lunch
hour on Tuesdays and Fridays. Students 1 and 3 had to receive instruction during their lunch
hour twice a week because they had instructional band lessons scheduled during afternoon study
hall. Students 2 and 4 participated in instructional sessions during their regularly scheduled 35-
minute study hall on Mondays, Tuesdays, Thursdays, and Fridays. All four students received the
same lessons each day of the week, even if the time of instruction varied. There were no
instructional sessions on Wednesdays because students did not have a study hall built into their
daily schedule.
All activities used in the research study were based off Doug Buehl’s (2009) *Classroom Strategies for Interactive Learning*. Buehl (2009) provided the instructional framework used in the research study as it provided specific instructions needed to successfully identify expository text structure and provided structure-specific activities used to further student comprehension. On the first day of each week the students were introduced to a new type of expository text structure. These text structures included: Proposition/Support, Goal/Action/Outcome, Concept/Definition, Cause/Effect, and Problem/Solution. Each structure was introduced by explicitly modeling specific thought processes and cognitive language that metacognitive readers use to strategically identify cue words and phrases indicative of that text structure. On the second and third day of each week, sections of text were chosen from sixth-grade social studies and science textbooks that were used in conjunction with learning activities provided in Buehl’s (2009) *Classroom Strategies for Interactive Learning*. The social studies content participants explored during this study focused on the role of Minnesota in both the Cold War and the Civil Rights movement, and the science content examined temperature, thermal energy, and heat transformations. The social studies and science content used during the study were mandated topics to learn according to the state of Minnesota Science and Social Studies teaching standards. On the fourth day of each week, students were administered a short performance assessment asking them to individually respond to text-frame specific questions provided by Buehl (2009). This information was used as a formative assessment to determine whether additional time needed to be spent on that text frame.

**Data Collection**

The first point of data collection was the administration of the sight word lists provided in Leslie and Caldwell’s (2010) *Qualitative Reading Inventory - 5th edition* (QRI-5). These exams
helped the researcher to begin gauging the initial reading levels of participating students. Results of the sight word lists provided an initial starting point for administration of the leveled expository text passages provided in the QRI-5. The leveled expository passages were designed to ascertain the specific reading level of each participating student. These passages were constructed to individually test multiple facets of students’ reading competence including prior knowledge via prediction questions, oral reading strength by way of running records, explicit and inferential thinking through use of comprehension questions, and text recall by requiring students to recite as much of the text as they are able to immediately upon finishing the reading. Students began with expository text passages two years below their expected reading level to provide initial success. Participants were then given progressively more difficult passages until reaching their independent reading level as defined by the criteria set in the QRI-5. Upon completion of the study, students were administered an identical post assessment using the same procedures but different expository text passages were substituted to ensure fidelity of data gathered. Identical procedures were followed during pre- and posttests to allow for a fair judgment of growth across treatment. The activities used during the Goal/Action/Outcome week of treatment have been compiled in Appendix A, Problem/Solution in Appendix B, Concept/Definition in Appendix C, Cause/Effect in Appendix D, and Proposition/Support in Appendix E.

**Procedures**

The study took place during the participants’ study hall four days a week for a duration of five weeks. Students 1 and 3 received treatment during their lunch hour two days a week, as their twice-weekly band lesson was scheduled at the same time as study hall. Participants met for twenty total sessions of 30-35 minutes each. Treatment was delivered using the same schedule each week. On the first day of each week, students were introduced to text frame
specific questions using nonfiction articles gathered from the internet. The researcher modeled frame-specific thought processes useful to help guide comprehension for that particular structure. On days two and three, students were provided authentic text from their social studies or science textbooks to be used collaboratively with text frame specific questions provided in Buehl’s (2009) *Classroom Strategies for Interactive Learning*. On day four, participants were administered short performance assessments that were completed in conjunction with authentic text from both social studies and science textbooks. Performance assessments were derived from text structure questions listed in Buehl’s (2009) *Classroom Strategies for Interactive Learning*. Treatment began with instruction in the Goal/Action/Outcome text structure.

Students were introduced to the Goal/Action/Outcome text structure by reading a news article describing the actions of a Slovenian pilot who circumnavigated the globe in a fuel-efficient ultra light plane. During the session, the researcher modeled cognitive thought processes that a reader familiar with the Goal/Action/Outcome structure might embark on when reading a text of this structure. This included statements such as, “I know this is a Goal/Action/Outcome text structure so I can immediately look for a goal or something that is trying to be accomplished. The first sentence mentioned something about flying 62,000 miles around the globe. I have never heard of anyone flying around the world without a great deal of preparation, so this must be the goal. Now if this were my goal, how would I go about accomplishing this?” The researcher then maneuvered participants through a set of text structure specific questions found in Buehl (2009).

On day two, students were led through Buehl’s (2009) History Change Frame learning activity designed to frontload instruction in the Goal/Action/Outcome structure. The History Change Frame activity was put to use in conjunction with a two page section from participants’
social studies textbooks on the development of fall-out shelters in Minnesota during the Cold War. The researcher led students to collaboratively read and identify potential Goal statements located in the text.

On day three, participants completed a Question-Answer Relationship activity modeled after the Question - Answer Relationship instructional plan located in Buehl’s (2009) *Classroom Strategies for Interactive Learning*. The activity was designed to guide students’ comprehension while reading a selection of a Goal/Action/Outcome text. The researcher administered questions designed to engage students in analytical thinking to determine the specific steps that individuals, cities, and states took to properly prepare for potential nuclear fall-out. Upon completion of the Question-Answer Relationship activity, the researcher facilitated a guided discussion that asked students to verbalize their cognitive thought processes on how the Question-Answer Relationship strategy correlated to the Goal/Action/Outcome text structure.

On day four, students were administered a six question performance assessment based on the Goal/Action/Outcome structure questions listed in Buehl (2009). The assessment required students to utilize information located in a selection from their social studies textbooks on the impact of the African American Civil Rights movement in Minnesota. Participants were asked to individually complete the assessment. The researcher reviewed the completed assessments for completeness and accuracy of statements.

On day five, participants became acquainted with the Problem/Solution text structure by using a news article conveying how iPads have helped children with autism communicate effectively with caregivers. Students were guided through structure specific thought processes under direction of the researcher. The researcher made statements such as, “When I read an article that I believe to be a Problem/Solution structure based on the title, I automatically start
asking myself what the potential problem could be. For example, in this article, I noticed that problems associated with communicating with autistic children continued to be mentioned, so that must be the problem,” and, “Now that we’ve identified the problem, we can start looking for potential methods or ways to solve the problem. If we were trying to find a way to communicate with children with autism, how would we go about doing so? Sign language might work. But an electronic device with a few simple commands might be a good solution as well. What do you think?” After guiding students through Problem/Solution thought processes, the researcher probed students for answers to the Problem/Solution questions outlined in Buehl (2009).

On day six, students were guided through a Problem/Solution text selection lifted from their social studies textbook. The section of text, based on the Cold War, articulated the role that General Mills and Betty Crocker played in feeding European refugees after the war. Students were asked to complete an Anticipation Guide prior to reading the selection. The Anticipation Guide was designed to frontload comprehension by fostering thought processes that stimulated discussion and required students to cognitively consider the problems and solutions listed in the text.

On day seven, the researcher invited students to work in pairs to complete an Interactive Reading Guide structured to expand their knowledge of how the creation of the Betty Crocker Cookbook revolutionized the way people prepared food. Students 1 and 3, and Students 2 and 4 paired together to complete the activity. The researcher urged the students to use their metacognition skills to maintain a Problem/Solution frame of mind while reading the text. The two pairs of participants completed the Interactive Reading Guide at their own pace, and stopped to vocalize their understandings when the Interactive Reading Guide asked them to do so.
On day eight, the researcher administered an eight question performance assessment derived from the list of Problem/Solution guiding questions that the students were introduced to on Day Five. Students were asked to read a section on women’s rights protests lifted from their social studies textbook. The researcher checked the assessments for completeness and accuracy of statements.

On day nine, the researcher introduced the participants to the Concept/Definition text frame using a news article describing the ability of a vehicle designed by a Wisconsin high school student to travel 160 miles per gallon of gasoline. The researcher guided participants through specific Concept/Definition thought processes designed to highlight the internal structures of a Concept/Definition text. The researcher made statements such as, “The title of the article leads me to believe that there is going to be a general idea, or concept, that is described here - the fuel efficient car. I can make a guess that if a title of an article mentions a specific concept, or idea, the article is going to provide more details later in the article describing its history, the concept creators, or why it was built. Let’s read further to see what we find out,” and, “We have already identified that the fuel-efficiency of the car is the central idea, or concept of the article, so we need to be looking for ways to define it, or in other words, find more details about the car itself. I see that it was built by a high school student in Wisconsin as part of a Super mileage Vehicle Club. That tells me some of the history behind the concept; I wonder if we will find out more about the creator or creators of the vehicle.” After reading and discussing the article, the researcher led students through Concept/Definition questions described by Buehl (2009).

On day ten, students completed a Concept/Definition Quick Write on a section of text lifted from their Physical Science textbook on the types of heat produced when an engine is
running. To frontload their comprehension, the students were asked to write for one minute each on the following two prompts after choral reading the selection: “The page we read just read reminds me of...” and, “The part of the reading that seems the most important to me is...” The prompts were designed to ensure students used Concept/Definition thought processes to identify the “Who, What, When, Where, and Why” of engine heat and to make connections to the reading. The researcher guided students through a discussion of the text after students completed the Quick Write.

On day eleven, the students completed a Concept/Definition Map described in Buehl (2009) on heat transfer between objects. Students utilized a section of text taken from their science textbook to complete this activity. The researcher guided students to completion of the Concept/Definition Map by furnishing students with guiding questions and statements to help facilitate their understanding of the concept of heat transfer. The researcher reviewed content with students after completion of the Concept/Definition Map, and asked them to respond to several of the structure specific questions listed in Buehl (2009).

On day twelve, participants completed a five question, short-answer Concept/Definition performance assessment devised to gauge the growth of their understanding of the Concept/Definition text structure. The performance assessment required students to read a selection of text from their science textbooks on the movement of molecules when heat is being transferred. The questions on the performance assessment were derived from the Concept/Definition questions listed in Buehl (2009).

On day thirteen, students were introduced to the Cause/Effect text structure using a newspaper article about a boy whose father forced him to wear a t-shirt identifying him as a thief after the boy stole money from him. The researcher read the article aloud to the participants and
explained the Cause/Effect questions listed in Buehl (2009) using metacognitive statements. This included statements such as, “I can make the initial prediction that this is a Cause/Effect article based on the words ‘punishment’ and ‘crime’ in the title of the article. I need to remember that the ‘cause’ in a Cause/Effect article is ‘the reason’ whereas the effect is ‘what happened.’ I also know that when someone is convicted of a crime, it is the natural effect of their actions, so I know that there is a specific event or action that occurred which caused the boy to have to wear a shirt identifying him as a thief. I know that if he did not steal the money he would not have to wear the shirt, so him stealing money could be considered the cause, and having to wear the shirt was the effect.”

On day fourteen, the researcher used a lifted section from the students’ science textbook on the effects of having poor air ventilation systems in a building. To frontload instruction, students initially read the textbook selection to have them build the background knowledge needed to complete a Problematic Situation activity listed in Buehl (2009). The Problematic Situation Activity required students to create a solution or offer suggestions to a school district that is building a new middle school but does not have the funds to purchase an upper-echelon ventilation system. The researcher reviewed the participants’ solutions after they had completed the activity.

On day fifteen, the researcher guided students’ comprehension with an Author Says/I Say activity from Buehl (2009). The activity utilized the same lifted section of text that had been used in the activity from the previous day. The Author Says/I Say approach was designed to have students reflect and draw conclusions on the Cause/Effect statements listed in the text. The researcher facilitated a student conversation after filling out the Author Says/I Say chart to gauge understanding.
On day sixteen, students were administered a four short-answer question performance assessment to gauge student understanding of the Cause/Effect structure. The four short-answer questions were similar to the questions the students were introduced to at the beginning of the week, and were taken from the Cause/Effect list of questions provided in Buehl (2009). The researcher checked the performance assessments for completion and accuracy of statements.

On day seventeen, students were introduced to the Proposition/Support text structure through the use of an editorial in the newspaper proposing that there is more to being a cheerleader than cheering at sporting events. The researcher facilitated understanding by reading the article aloud, followed by guiding the students through the text frame specific questions delineated in Buehl (2009). The researcher facilitated a metacognitive walkthrough of text frame thought processes and statements that participants could use to help themselves identify a Proposition/Support text structure. These statements included things like, “Whenever I think of the word proposition, I immediately notice that the word proposition sounds a lot like the word propose. Whenever I think of the word propose, I think of an idea being offered. Kind of like a wedding proposal, somebody is offering the idea that they get married. If a proposition is an idea that is being offered, the person must have some support or why they think that it is a good idea. Again, the support can be considered reasons why the proposition, or idea, is a good one.” Upon completion of the walkthrough, the researcher guided students through the Proposition/Support questions listed in Buehl (2009).

On day eighteen, the researcher used a researcher-designed Anticipation Guide derived from the activity listed in Buehl (2009) to frontload instruction. The researcher used the same lifted piece of science text used during the Cause/Effect treatment week. The piece of text, on indoor air quality, was used again to help illustrate that the same text could possess
characteristics of multiple text structures. Like the Anticipation Guide used previously in the treatment, the activity was designed to encourage participant discussion before, during, and after reading the selected text.

On day nineteen, the researcher guided students through a Double Entry Diary activity provided in Buehl (2009). The Double Entry Diary was used with the same lifted text used with the Anticipation Guide from the previous day and the Cause/Effect training from the previous week. The Double Entry Diary was designed to ask students to identify and transcribe on the left side of a separate sheet of paper statements that they felt were the most important from the text, and on the right side cognitively consider why they felt those were the most important statements. The researcher led students through a guided discussion to end the intervention for the day.

On day twenty, participants completed a seven question performance assessment that asked them to identify Proposition/Support statements provided in a lifted section of science text and then respond to the text frame specific questions provided in Buehl (2009). The researcher checked the performance assessments for completeness and accuracy of statements.

**Summary**

Research has indicated that explicitly teaching expository text structure to below-grade level readers is an effective method of increasing nonfiction text comprehension. This five-week study was designed to test the effects of explicitly teaching five expository text structures to four at-risk readers in a sixth-grade general education setting. The research was conducted during the four participants’ lunch and study hall four days a week for a duration of 30-35 minutes. The researcher tracked comprehension growth by pre- and posttesting participants using expository
text passages listed in Leslie and Caldwell’s (2010) *Qualitative Reading Inventory* - 5. The results of the procedures and data collection listed above are discussed in the next chapter.
Chapter Four
Results

Introduction

This study examined the comprehension effects of the explicit teaching of expository text structure to sixth grade students. To answer the researcher’s initial question that the targeted teaching of five nonfiction text structures would increase the comprehension abilities of both learning disabled and at-risk readers, the researcher created the instructional framework for this study by combining state mandated social studies and science curriculum with instruction in nonfiction text structure recognition. At the beginning of the study, the researcher obtained the initial reading levels of the participants by administering leveled sight word lists and expository text passages provided in Leslie and Caldwell’s (2010) Qualitative Reading Inventory – 5 (QRI-5). At the conclusion of the treatment, the researcher once again administered expository text comprehension passages from the QRI-5 to identify growth and establish consistent data. The initial guidelines stated by the researcher established that participants had experienced an increase in their ability to comprehend expository text if they had experienced growth in their nonfiction instructional reading levels. The researcher used specific criteria established by the guidelines in the QRI-5 to determine if students’ had increased an instructional level. The researcher did not analyze participant data in terms of percentage of text recalled, or numbers of implicit and explicit comprehension questions correct, as the treatment did not include specific lessons on how to do so. An indepth analysis of the results of treatment is provided below by providing data from each participant before and after treatment.
Pre and Posttesting Results of All Participants

The overall success of the treatment was determined by increases in the instructional levels of participating students. As a whole, the four participating students experienced an average growth of 2.5 instructional reading levels throughout the five-week treatment. Students 2 and 3 experienced the greatest growth by increasing three instructional reading levels, while Students 1 and 4 both exhibited growth of two instructional reading levels. The results of the individual participants are indicated below in Figure 4.1.

Figure 4.1

As previously mentioned, the QRI-5 expository text passages were used to provide a consistency of data pre- and posttreatment. The expository passages allowed the researcher to uniformly gauge student growth and make accurate assessments stating the nonfiction reading ability of the participants. However, in order to fully understand the growth each participant had
made throughout the treatment, an individual analysis was needed. The results from each participant is listed below.

**Student 1.**

Student 1 was a sixth grade student who had been previously diagnosed with dyslexia. He was a member of the general education classroom but benefited from an Individualized Education Program. Student 1 generally produced “C” level work. The researcher began preassessment with Student 1 using the Sight Word lists provided in the QRI-5 to determine the initial reading level of Student 1. Results of the Sight Word lists are given in Figure 4.2.

Figure 4.2

*Results of QRI-5 Sight Word Lists*

The sight word lists consisted of twenty words that each student was required to identify orally. The researcher used results of the sight word lists to determine the initial expository text passage level from QRI – 5 to begin pretesting. Leslie and Caldwell (2010) recommended starting passage administration with a passage at the lowest sight word instructional level of the
student. The scoring of the sight word lists revealed Student 1’s lowest instructional level to be Level 2. Results of the sight word list led the researcher to begin with a Level 2 QRI-5 expository text passage. The participant was administered two expository text passages from the QRI-5. One of the passages was a Level 2 passage on whales and the second was a Level 3 passage on cats. The combination of comprehension questions answered correctly and Student 1’s correct words per minute led the researcher to find the Level 2 passage to be at the student's instructional level and the Level 3 passage was at his frustration level. Results of individual passages are indicated in Figure 4.3.

Figure 4.3

<table>
<thead>
<tr>
<th>Passage Name</th>
<th>Whales</th>
<th>Cats</th>
</tr>
</thead>
<tbody>
<tr>
<td>Readability Level</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>% Total Accuracy/Level</td>
<td>95%/Instructional</td>
<td>98%/Independent</td>
</tr>
<tr>
<td>Retelling % Number of Ideas</td>
<td>24%</td>
<td>21%</td>
</tr>
<tr>
<td># of Explicit Correct</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td># of Explicit Correct w/ Look-Backs</td>
<td>N/A</td>
<td>2</td>
</tr>
<tr>
<td># of Implicit Correct</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td># Implicit Correct w/ Look-Backs</td>
<td>N/A</td>
<td>4</td>
</tr>
<tr>
<td>% Comprehension/Level</td>
<td>75%/Instructional</td>
<td>63%/Frustration</td>
</tr>
<tr>
<td>% Comprehension w/ Look-Backs/Level</td>
<td>N/A</td>
<td>75%/Instructional</td>
</tr>
<tr>
<td>Total Passage Level</td>
<td>Instructional</td>
<td>Frustration</td>
</tr>
</tbody>
</table>
After completion of the treatment, the researcher administered a second round of expository text passages to gauge potential growth in Student 1’s highest instructional reading level. The researcher began posttesting using a Level 3 passage to determine if a Level 3 passage was no longer at the student’s frustration reading level. Student 1 was administered three passages before reaching his new instructional level. A Level 3 passage was provided on where people live, a Level 4 passage was administered on beavers, and a Level 5 passage on octopus. The detailed results of the posttesting are indicated in Figure 4.4.

Figure 4.4

<table>
<thead>
<tr>
<th>Passage Name</th>
<th>People</th>
<th>Beaver</th>
<th>Octopus</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Readability Level</strong></td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td><strong>% Total Accuracy/Level</strong></td>
<td>96%/Instructional</td>
<td>95%/Instructional</td>
<td>95%/Instructional</td>
</tr>
<tr>
<td><strong>Retelling % Number of Ideas</strong></td>
<td>18%</td>
<td>3%</td>
<td>11%</td>
</tr>
<tr>
<td><strong># of Explicit Correct</strong></td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td><strong># of Explicit Correct w/ Look-Backs</strong></td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td><strong># of Implicit Correct</strong></td>
<td>2</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td><strong># Implicit Correct w/ Look-Backs</strong></td>
<td>2</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td><strong>% Comprehension/Level</strong></td>
<td>75%/Instructional</td>
<td>88%/Instructional</td>
<td>63%/Frustration</td>
</tr>
<tr>
<td><strong>% Comprehension w/ Look-Backs/Level</strong></td>
<td>75%/Instructional</td>
<td>88%/Instructional</td>
<td>63%/Frustration</td>
</tr>
<tr>
<td><strong>Total Passage Level</strong></td>
<td>Instructional</td>
<td>Instructional</td>
<td>Frustration</td>
</tr>
</tbody>
</table>
Assessment results indicated that Student 1 had experienced an instructional reading growth of two levels when reading expository text as determined by Leslie and Caldwell’s (2010) QRI – 5. Student 1’s instructional level had increased from a Level 2 to a Level 4.

**Student 2.**

Student 2 was a sixth grade student who was identified with a Specific Learning Disability as established by the Minnesota Department of Education. Student 2 was a member of the general education classroom but benefited from an Individualized Education Program designed to meet his individual learning needs. Student 2 produced “B” level coursework on a regular basis. The researcher began initial assessment with Student 2 by administering the sight word lists provided in the QRI-5. The results of the sight word lists used to find the instructional reading level of Student 2 prior to treatment are given below in Figure 4.5.

Figure 4.5.

<table>
<thead>
<tr>
<th>Sight Word Level</th>
<th>Percent Correct</th>
<th>Automatic</th>
<th>Identified</th>
<th>Total Correct</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 2</td>
<td>95%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Level 3</td>
<td>100%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Level 4</td>
<td>100%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Level 5</td>
<td>90%</td>
<td>90%</td>
<td>95%</td>
<td>95%</td>
</tr>
</tbody>
</table>
The scoring of the Sight Word Lists indicated that Level 5 was Student 2’s highest independent word recognition level, as the participant was able to successfully pronounce 95% of the word list within five seconds. These results led the researcher to begin preassessment using a Level 3 QRI-5 to ensure initial success on the passages. Student 2 completed a Level 3 passage on cats and a Level 4 passage on railroads during preassessment. The combination of correct words per minute and number of comprehension questions answered correctly led the researcher to score the Level 3 passage at his instructional level and the Level 4 passage his frustration level. The detailed results of the assessments are listed in Figure 4.6.

Figure 4.6

<table>
<thead>
<tr>
<th>Passage Name</th>
<th>Cats</th>
<th>Railroads</th>
</tr>
</thead>
<tbody>
<tr>
<td>Readability Level</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>% Total Accuracy/Level</td>
<td>99%/Independent</td>
<td>98%/Independent</td>
</tr>
<tr>
<td>Retelling % Number of Ideas</td>
<td>15%</td>
<td>16%</td>
</tr>
<tr>
<td># of Explicit Correct</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td># of Explicit Correct w/ Look-Backs</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td># of Implicit Correct</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td># Implicit Correct w/ Look-Backs</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>% Comprehension/Level</td>
<td>75%/Instructional</td>
<td>63%/Frustration</td>
</tr>
<tr>
<td>% Comprehension w/ Look-Backs/Level</td>
<td>75%/Instructional</td>
<td>75%/Instructional</td>
</tr>
<tr>
<td>Total Passage Level</td>
<td>Instructional</td>
<td>Frustration</td>
</tr>
</tbody>
</table>
After completion of the treatment, the researcher again sought to determine potential
growth in expository text comprehension by administering leveled expository text passages
provided in QRI-5. The researcher began posttesting using a Level 4 passage to determine if a
Level 4 passage was no longer at Student 2’s frustration reading level. There were three
passages administered during posttesting. There was a Level 4 passage on beavers that scored at
the instructional level, a Level 5 passage on octopus that scored at the instructional level, and a
Level 6 passage on pyramids that scored at the frustration level. The assessment results
indicated that Student 2 had experienced a two level increase in his nonfiction text instructional
reading level throughout treatment. The detailed results of the posttesting have been listed in a
chart in Figure 4.7.
Figure 4.7

<table>
<thead>
<tr>
<th>Passage Name</th>
<th>Beaver</th>
<th>Octopus</th>
<th>Pyramids</th>
</tr>
</thead>
<tbody>
<tr>
<td>Readability Level</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>% Total Accuracy/Level</td>
<td>98%/Independent</td>
<td>98%/Independent</td>
<td>96%/Independent</td>
</tr>
<tr>
<td>Retelling % Number of Ideas</td>
<td>29%</td>
<td>26%</td>
<td>9%</td>
</tr>
<tr>
<td># of Explicit Correct</td>
<td>3</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td># of Explicit Correct w/ Look-Backs</td>
<td>3</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td># of Implicit Correct</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td># Implicit Correct w/ Look-Backs</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>% Comprehension/Level</td>
<td>88%/Instructional</td>
<td>88%/Instructional</td>
<td>63%/Frustration</td>
</tr>
<tr>
<td>% Comprehension w/ Look-Backs/Level</td>
<td>88%/Instructional</td>
<td>88%/Instructional</td>
<td>75%/Frustration</td>
</tr>
<tr>
<td>Total Passage Level</td>
<td>Instructional</td>
<td>Instructional</td>
<td>Frustration</td>
</tr>
</tbody>
</table>

Results showed that Student 2’s greatest instructional level was a Level 3 passage pretreatment and grew to a Level 5 posttreatment.

**Student 3.**

Student 3 was a sixth grade student in a general education classroom. Student 3 generally produced “B” level coursework. The initial assessment of Student 3 began with the administration of the Sight Word lists provided in Leslie and Caldwell’s (2010) QRI-5. The sight word lists were used to determine the instructional reading level of Student 3 at the beginning of treatment. The results from Student 3 are listed below in Figure 4.8.
The data gathered from the sight word lists revealed that the Level 4 exam was Student 3’s lowest instructional word recognition level. The student was able to correctly identify 70% of the listed words within five seconds of being viewed. Although this data would have suggested that the researcher begin with a Level 4 expository text passage, district data from the Minnesota Comprehensive Assessments indicated that Student 3’s skills in fluency and sight word recognition were more of a reading strength of the student, while comprehension was not. Taking this data into consideration, the researcher decided to start with a Level 3 passage to ensure initial student success. Student 3 was able to successfully navigate a Level 3 passage on cats at an instructional level, but results indicated that a Level 4 passage on railroads was at his Frustration level. The results of the preassessments are listed in Figure 4.9.
The researcher sought to determine expository text passage comprehension growth in Student 3 pre- and posttreatment by administering a second group of expository text passages from the QRI-5. The researcher started with the Level 4 passage to determine if a Level 4 passage remained at Student 3’s frustration reading level. The researcher continued to combine the number of comprehension questions answered correctly with the percentage of words read correctly to administer four expository text passages of incrementally greater difficulty until reaching Student 3’s new posttreatment frustration level. A Level 4 passage was scored at the instructional level, a Level 5 passage on octopus was scored at the instructional level, a Level 6 passage on pyramids was scored at the instructional level, and an Upper Middle School level
passage on immigration was scored at the frustration level. Thus, assessments indicated that Student 3 had exhibited a three level gain in his expository text instructional reading level from a Level 3 to a Level 6. Results of the posttests are listed below in Figure 4.10.

**Student 4.**

Student 4 was a male sixth grade student in a general education classroom who generally produced “C” level work. In order to establish baseline achievement data for Student 4, the researcher administered sight word recognition lists provided in Leslie and Caldwell’s (2010) QRI-5. The results of the sight word lists provided the researcher a starting point to begin
administering the expository text comprehension passages given in the QRI-5. The results of the sight word lists are given below in Figure 4.11.

Figure 4.11

The data provided by the administered sight word lists indicated that Student 4’s lowest instructional sight word level was Upper Middle School. Although the data again suggested that the researcher begin with an Upper Middle School text passage, information from the state administered Minnesota Comprehensive Assessments suggested that word identification and fluency were strengths of the student while comprehension was not. The researcher deemed that starting with an Upper Middle School passage may be too high as it may already be at Student 4’s frustration level. This data analysis led the researcher to begin preassessment using a Level 3 passage to provide an initial success. The researcher administered a Level 3 on cats and Level 4 passage on railroads during preassessment. The resulting data showed that for Student 4 a Level
3 passage was at his instructional level and a Level 4 passage was at his frustration level. Preassessment results are listed in Figure 4.12.

In order to determine comprehension growth in Student 4 from pre- to posttreatment, the researcher administered a second set of leveled QRI-5 expository text passages. A Level 4 passage was the first leveled passage administered during posttesting as preassessment indicated that a Level 4 passage was Student 4’s instructional reading level. The researcher continued administering incrementally more difficult passages until Student 4’s new frustration level was reached. A Level 4 passage on beavers was scored at the instructional level, a Level 5 passage on octopus was scored at the instructional level, and a Level 6 passage on pyramids was scored.
at the frustration level. There is a detailed breakdown of the results of the posttests listed below in Figure 4.13.

<table>
<thead>
<tr>
<th>Passage Name</th>
<th>Beaver</th>
<th>Octopus</th>
<th>Pyramids</th>
</tr>
</thead>
<tbody>
<tr>
<td>Readability Level</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>% Total Accuracy/Level</td>
<td>100%/Independent</td>
<td>99%/Independent</td>
<td>98%/Independent</td>
</tr>
<tr>
<td>Retelling % Number of Ideas</td>
<td>24%</td>
<td>35%</td>
<td>11%</td>
</tr>
<tr>
<td># of Explicit Correct</td>
<td>2</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td># of Explicit Correct w/ Look-Backs</td>
<td>4</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td># of Implicit Correct</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td># Implicit Correct w/ Look-Backs</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>% Comprehension/Level</td>
<td>75%/Instructional</td>
<td>88%/Instructional</td>
<td>38%/Frustration</td>
</tr>
<tr>
<td>% Comprehension w/ Look-Backs/Level</td>
<td>100%/Independent</td>
<td>88%/Instructional</td>
<td>63%/Frustration</td>
</tr>
<tr>
<td>Total Passage Level</td>
<td>Instructional</td>
<td>Instructional</td>
<td>Frustration</td>
</tr>
</tbody>
</table>

Postassessment results provided data showing that Student 4 experienced a two instructional level growth expository text comprehension during the treatment phase. Student 4’s instructional level had increased from a Level 3 independent to a Level 5 instructional.

Summary

Overall, the data collected in the study tracked participants’ growth in expository text comprehension throughout the study as a result of text structure training. To determine whether the students had in fact exhibited growth in their ability to read and understand nonfiction text,
participants were administered leveled expository text passages from Leslie and Caldwell’s (2010) QRI-5 as pre- and postassessments. The researcher was able to compare data from pre-and posttreatment to identify growth. The analysis and interpretation of this data, as well as the instructional implications of this study are provided in the next chapter.
Chapter Five
Conclusion

Introduction

The researcher’s initial question was whether or not the targeted teaching of five expository text structures would result in nonfiction comprehension gains of both learning disabled and at-risk readers. Results indicated that the explicit teaching of expository text structures to at-risk middle school students with and without learning disabilities was an effective method for increasing nonfiction reading comprehension. All four participants in the study made gains of a minimum of two reading levels throughout the treatment. Although all four participants exhibited an augmented ability to read expository text, the researcher was not able to determine specific areas of weakness amongst individual participants in their text structure recognition abilities. This resulted from the data that was gathered using the QRI-5 passages not allowing for identification and analysis of the abilities of participants to locate and use key features of individual text structures.

Connections to State Standards

The Common Core English and Language Arts Standards, which have been adopted in the state of Minnesota, were thoughtfully considered when designing this study. Minnesota’s appropriation of the Common Core Standards reflects the need for students to be able to critically read and analyze a wide range of nonfiction texts. This study was designed to meet multiple sixth grade reading and writing benchmarks associated with the Common Core Standards including: analyzing how a particular sentence or paragraph contributes to the overall meaning of a text, tracing and evaluating an argument throughout a text, and citing textual
evidence to support an inference. Therefore, it is evident that the Minnesota state English and Language Arts Standards performed a critical role in the development of this study.

**Connections to Existing Research**

In addition to the state standards, recent research in expository text structure instruction was considered prior to this study being conducted. Although the amount of text participants were able to recall was not tracked as in Meyer and Poon’s (2004) study, the increase in comprehension participants experienced throughout this study paralleled the results of Meyer et al. (2010). Meyer et al. (2010) found that students who were able to receive, extensive, elaborate feedback during text structure training would exhibit positive results on assessment tests. Purcell-Gates et al. (2007) successfully positioned that augmented amounts of authentic reading experiences would result in higher assessment scores. Moreover, the results of the present study coincided with the results of Broer et al. (2002), who resolved that the explicit teaching of nonfiction text structures to sixth grade students would generate an increased understanding of the text. Additionally, these results concurred with the research of Meyer et al. (2002) who determined that using an adult tutor to teach expository text comprehension was a beneficial way to increase expository text comprehension of middle school students.

The results of the present study and its correlation to existing research on the benefits of text structure instruction further proved that the explicit teaching of expository text structures to middle school students can provide a positive effect on reading comprehension. However, in addition to this certitude, it is important to recognize the connections between the results of this study and existing research on the effects of text structure training with at-risk readers.

The research by Williams et al. (2004) successfully queried that using text structure training with at-risk readers resulted in positive changes in their reading comprehension.
Moreover, Williams et al. (2007) opportunely proved that text structure training with at-risk readers could be successfully embedded into content area instruction, without sacrificing depth of content taught. Equally important, Miller and Lingnugaris-Kraft (2002) identified that small group text structure instruction is a proven method to increase the nonfiction comprehension abilities of learning disabled students. Similarly, Stagliano and Boon (2009) found that using nonfiction story mapping was a beneficial method to increase the expository text comprehension of students with learning disabilities. The research by Saenz and Fuchs (2002) found that students with learning disabilities prefer reading narrative vs. expository text, confirming an initial prediction by this researcher that at-risk readers need additional experience and training reading nonfiction texts.

Although the positive correlation of the results of this study with the existing body of research on text structure training is compelling, further comparison to a larger array of existing research is needed to verify results. Because graphic organizers played a prominent role in the present study, it became essential to compare the results of this study with previous studies from this past decade on the use of graphic organizers with the explicit teaching of text structures.

Reynolds and Perin (2009) discovered a positive correlation of the benefits of using graphic organizers to teach expository text structure to middle school students in a general education classroom. In addition to Reynolds and Perin (2009), the present study built off the findings of Ozmen’s (2011) research that showed that the provision of a graphic organizer prior to reading an expository text was more beneficial than providing a graphic organizer postreading. Likewise, the present study expanded upon the research of DiCecco and Gleason (2002) who distinguished that graphic organizers can increase the amount of text students with learning disabilities are able to recall. Meanwhile, the present study corresponded with results of
Williams et al. (2009) who determined that students who receive text structure training were able to exhibit significant gains in assessment examinations.

**Explanation of Results**

All four participants made a minimum gain of at least two instructional levels throughout the course of treatment. The results of the QRI-5 passages indicated that students were able to transfer their knowledge of text structure into multiple settings. Although the participants were able to use their understanding of text structure in multiple situations, the researcher felt that students would have benefited from an increase in time spent on each text structure. This was a result of the researcher reflecting that four intervention sessions was not a sufficient enough time frame to gain a full mastery of the text structure, and therefore ran the risk of having depth of instruction being sacrificed as a means of covering a greater amount of text structures.

In addition, although the text passages provided in the QRI-5 was an excellent tool to level student growth throughout the treatment, the format of the comprehension questions associated with the administered text passages did not allow for the categorical delineation of the knowledge participants gained on specific text structures throughout the intervention. Upon deeper reflection, the researcher would have designed standardized pre- and postassessments for individual text structure to better gauge growth across specific structures.

**Strengths.**

Researcher reflection on the completed research brought to the forefront several significant strengths of the study. First, the small group nature of the treatment allowed the participants an opportunity to take part in a safe, academic discussion sensitive to their learning needs. This was significant as participants generally did not participate in class discussions as judged by informal observations by the researcher throughout the remainder of school day.
Second, the cross-curricular connections made between the treatment and social studies and science content allowed for immediate transfer of structure strategy skills into participants’ content area classes. This was possible because the researcher purposefully used authentic social studies and science passages on content that would be incorporated in their content area classes that same day. Participants voiced that they experienced greater understanding of the content due to the multiple exposures to the subject-specific information.

**Limitations.**

Even though the strengths of the study contributed to the positive outcomes, the research also had several limitations. First, student motivation and attendance became an immediate concern with the study being conducted at the end of the school year. In concordance with this concern, the researcher noticed that conversation and attentiveness to instruction began to dwindle toward the second half of the treatment schedule. Second, recognizing that two students needed to receive intervention twice-per-week during their lunch hour because of conflicting times with their instructional band lessons, the intervention schedule was not ideal. Third, upon further reflection, the design of the study should either have included instruction in fewer text structures or conducted for a span of time longer than five weeks. Although assessment results increased as a result of the intervention, the researcher did not feel that one week was adequate time for participants to reach mastery of each text structure. The researcher felt that by the end of each week, students struggled to complete assigned activities independently which suggested that they would have benefited from increased scaffolding and modeling of metacognitive thought processes by the researcher over a longer time frame.
Recommendations for Further Research

The results of this study on the benefits of explicitly teaching expository text structures to both learning disabled and other at-risk readers is encouraging. However, several recommendations must be offered for future research to help verify the findings of the present study. First, it is recommended that further research be conducted using a larger, more diverse learner population. This would be a sound recommendation as a study encompassing a larger student population would provide more data to help determine whether students of all ability levels could experience similar gains in expository comprehension that would parallel this study.

Second, in addition to using a larger student population, it is recommended that similar research be conducted at different times of the school year, to determine if student gains would increase by having the treatment administered earlier in the school year, in contrast to late spring as was the case in the present study.

Third, along with using a larger student population and administering the tests at different times of the school year, it is recommended that research be done on the explicit teaching of expository text structures using targeted pre- and postassessments indicative of individual text structures designed to provide opportunities to identify specific areas of weakness amongst individual participants. This would allow future researchers to be able to plan effective instruction and assessment opportunities relevant to the needs of specific students.

Summary

Overall, the study confirmed the primary research question that the explicit teaching of expository text structures is able to increase the comprehension abilities of both learning disabled and at-risk readers. Although the results of this study are not conclusive by itself, the results do correlate with the existing body of research on the benefits of providing nonfiction text structure
training to improve reading comprehension. The benefits of text structure training has proven to be a successful tool that all educators can use to increase their students’ comprehension across multiple content areas.
References


Appendix A
Goal/Action/Outcome

History Change Frame

<table>
<thead>
<tr>
<th>Group</th>
<th>What problems did they face?</th>
<th>What changes affected these people?</th>
<th>What did they do to solve their problem</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>
Goal-Action-Outcome, Question-Answer Relationships (QAR) Social Studies p. 270-271

Helpful Hints:

<table>
<thead>
<tr>
<th>“Right-There”</th>
<th>Answer is directly stated in text</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Putting-It-Together”</td>
<td>Answer involves combining text information from two or more sentences</td>
</tr>
<tr>
<td>“Author-and-Me”</td>
<td>Answer found using clues from text &amp; background knowledge</td>
</tr>
<tr>
<td>“On-My-Own”</td>
<td>Answer based solely on background knowledge</td>
</tr>
</tbody>
</table>

QARs During Reading:

“Right-There”
1. What two things did leaders of the world begin worrying about at the end of World War II?

“Putting-It-Together”
1. What was Multi-Purpose Food?

“Author-and-Me”
1. Compare how General Mills providing MPF is similar to the Salvation Army.

“On-My-Own”
1. What kinds of foods would you store if you knew you were going to need to live in your basement for weeks at time?
Goal/Action/Outcome Performance Assessment – S. Studies p. 284

1. What is the goal that is trying to be accomplished?

2. Who is trying to achieve this goal?

3. What steps are taken to achieve the goal?

4. Were these actions successful for achieving this goal?

5. Are there any unexpected outcomes from these actions?

6. Would any other actions have been more effective?
Anticipation Guide for Social Studies Chapter 17, Problem/Solution

Directions:
- Read the following statements concerning problems associated with p.268-269
- Put a check next to each statement with which you agree.
- Be prepared to support your views on each statement by thinking about what you know about the Cold War and family life. Share this information with other members of your group as you discuss the following five statements.

___1. Most families still eat homemade meals every day of the week.
___2. Women should take care of most of the cooking.
___3. Betty Crocker changed the way that Americans look at food.
___4. People want things “quicker and easier” than they were able to in the past.
___5. General Mills still makes many products that we eat today.
1. This section of the textbook will talk about how Betty Crocker helped change what people thought of as “convenience” foods. **Both Partners:** Read paragraphs 1-3 silently. **Individually:** Locate the sentence that tells which product actually changed the way Americans baked. **Both Partners:** Share the sentences that you found and discuss why you chose it.

2. **Both Partners:** Read paragraphs 4,5,6 together. Discuss and write down in the blank area below what you thought was the most important information in those three paragraphs.

3. **Individually:** Write a full paragraph summary of social studies text p. 269 **Both Partners:** Share your summary with your partner when each of you are done writing.
Problem/Solution Performance Assessment – S. Studies p. 289

1. What is the problem?

2. Who has the problem?

3. What is causing the problem?

4. What are negative effects of the problem?

5. Who is trying to solve the problem?

6. What solutions are recommended or attempted?

7. What results from these solutions?

8. Is the problem solved? Do any new problems develop because of the solutions?
Appendix C
Concept/Definition

Concept/Definition Quick Write – Science p. 187, 188

Directions:
- You will have one minute to write as much as you can on the two writing prompts
- You must use the entire minute
- Don’t worry about spelling/grammar/sentence structure, just get your thoughts out!

Prompts:

The page we just read reminds me of…

The part of that reading that seems the most important to me is…
Concept/Definition Map (modeled after Buehl, 2009)

What is it?

What are some examples?

What is it like?

My explanation of this is…
Concept/Definition Performance Assessment:

What is the concept?

What are its critical characteristics?

How does it work?

What does it do?

What are examples of it?
Appendix D
Cause/Effect

Cause/Effect Problematic Situations – Science p. 180

Directions:
Write some possible solutions at the bottom of the page that could be used to solve the situation listed in the box below.

**Situation:** The Byron School Board is planning to build a new middle school. They are gathering design ideas and want to know how to make sure the building has clean air. They want to make sure that they get the most efficient air ventilation system available but they are not sure they are going to have enough money. What should they do?

**Possible Solutions:**

**After discussing other solutions, which one do you think is the best?**
<table>
<thead>
<tr>
<th>I Wonder</th>
<th>The Author Says</th>
<th>I Say</th>
<th>And So</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
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Cause/Effect Performance Assessment – Science p. 180

What happens (or happened)?

What causes it to happen?

Will this result always happen from these causes? Why or why not?

How would the result change if the factors are different?
Appendix E
Proposition/Support

Proposition/Support Anticipation Guide for Science p. 180

Directions:
- Read the following statements concerning problems associated with p.180
- Put a check next to each statement with which you agree.
- Be prepared to support your views on each statement by thinking about what you know about air quality. Share this information with other members of your group as you discuss the following five statements.

___1. Businesses should spend whatever money necessary to make the air their employees breathe is clean.
___2. Employers should provide good health insurance for their employees, even if it means they have to pay their employees less.
___3. Towns and Cities should have more laws on air quality in buildings.
___4. If employees are concerned about the quality of air they breathe, they should just find another job.
___5. Air quality is one of the most important parts of a safe work environment.
Double Entry Diary

Text passage and page number

This is important because…
**Proposition/Support Performance Assessment  p. 180 Science**

What is the general topic or issue?

How is this proposition supported?

Are examples provided to support the proposition?

Is expert verification provided to support the proposition?

Is a logical argument provided to support the proposition?

Does the author make a convincing case for the proposition?

What are the alternative perspectives to the author’s proposition?